



शरीरमाद्यं खलुधर्मसाधनम्

# 65th Annual Report 2020-2021



**All India Institute of Medical Sciences  
New Delhi - 110029**

**65th  
AIIMS  
ANNUAL REPORT  
2020–2021**



शरीरमाद्यं खलु धर्मसाधनम्

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**

**NEW DELHI - 110029**



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# **All India Institute of Medical Sciences**

The All India Institute of Medical Sciences (AIIMS) was established in 1956 as an institution of national importance by an Act of Parliament to develop patterns of teaching in undergraduate and postgraduate medical education in all its branches so as to demonstrate a high standard of medical education to all medical colleges and other allied institutions in India; to bring together in one place educational facilities of the highest order for the training of personnel in all important branches of health activity and to attain self-sufficiency in postgraduate medical education.

The Institute has comprehensive facilities for teaching, research and patient care. AIIMS conducts teaching programs in medical and para-medical courses both at the undergraduate and postgraduate levels and awards its own degrees. Teaching and research is conducted in nearly 100 disciplines. AIIMS is a leader in the field of medical research with over Rs 100 crores in extramural grants received by its researchers in a year. AIIMS also runs a College of Nursing.

Various departments and centres manage practically all types of disease conditions with support from para-clinical departments. AIIMS also runs a 50-bedded hospital and the Comprehensive Rural Health Centre at Ballabgarh in Haryana and provides health cover to nearly 8 lakh people through the Centre for Community Medicine.



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# AIIMS AT A GLANCE

2020–2021

Year of establishment 1956

Teaching Departments and Centres	42+7	Medical graduates	3351
Faculty members (Sanctioned 1099)	743	Postgraduates	11534
Non-faculty staff (Sanctioned 12, 392)	9762	Nursing/paramedical graduates	3570
Undergraduate students	1101	Publications in journals/abstracts	2315
Postgraduate students	1985	Chapters in books/books	327

## Hospital Services

Hospital/Centre	Outpatients (including casualty)	Admission	Surgery (Operations/ procedures)	Beds		
				General	Private	Total
Main Hospital	5,64,962	55,282	28,083	997	165	1162
Dr RP Centre	1,28,979	13,786	18,899	288	22	310
Dr BRAIRCH	82,392	28,225	3650	167	15	182
Cardiothoracic Centre	33,015	2966	1296	226	33	464
Neurosciences Centre	47,002	3116	1513	174	31	
NDDTC*	2,21,947	4445	–	50	–	50
CCM†	2,13,513	9491	951	50	–	50
JPNATC	49,041	8348	3919	243	22	265
CDER	10,131	255	8142	17	–	17
NCI, Jhajjar	48,676	15,048	5667	694	–	694
Outreach outpatients, Badsa, Jhajjar	1,43,196	–	617	–	–	–
<b>Total</b>	<b>15,42,854</b>	<b>1,40,962</b>	<b>72,737</b>	<b>2906</b>	<b>288</b>	<b>3194</b>

\*inclusive of Trilokpuri, Sunder Nagri & Kotla Mubarakpur

†inclusive of PHC Dayal Pur

## Hospital performance indices

Parameter	Main Hospital		Cardiothoracic and Neurosciences Centre		Jai Prakash Narain Apex Trauma Centre	
	2020–21	2019–20	2020–21	2019–20	2020-21	2019-20
Average length of stay (days)	10.4	9.9	13.8	10.5	9	10
Average bed occupancy rate (%)	56.2	85.9	46.7	83.8	67	84
Net death rate (%)	3.0	1.7	6.9	2.6	9	5
Combined crude infection rate (%)	8.9	5.6	–	–	–	–

CCM: Centre for Community Medicine

CDER: Centre for Dental Education and Research

Dr BRAIRCH: Dr B.R. Ambedkar Institute Rotary Cancer Hospital

Dr RP Centre: Dr Rajendra Prasad Centre for Ophthalmic Sciences

JPNATC: Jai Prakash Narain Apex Trauma Centre

NCI: National Cancer Institute

NDDTC: National Drug Dependence Treatment Centre



# 1. Director's Review

I feel privileged to present the Sixty-fifth Annual Report and audited statement of accounts for the year 2020–2021.

All India Institute of Medical Sciences, New Delhi (AIIMS-Delhi) was established in 1956 by an Act of the Indian Parliament to serve as the nucleus for nurturing excellence in medical education and all aspects of health care.

Faced with a global health emergency, AIIMS-Delhi community endured backbreaking work to provide the best care to those affected by COVID-19, while simultaneously launching an intense effort to understand the etiopathogenesis of SARS-CoV-2, develop therapies and deliver cures. Amid the crisis other outstanding work at AIIMS-Delhi continued unabated, as we worked with unwavering commitment to alleviate suffering and improve health and wellbeing for all. The inspired and untiring toil of thousands of faculty members, scientists, nursing personnel, engineering staff, technicians, sanitation and health attendants and students undergird the institute's resilience and sustained brilliance.

I am grateful for and humbled by the work that they do at AIIMS-Delhi each day; and I recognize how fortunate I am to be a part of this extraordinary community.

## Leadership

With support of the Ministry of Health and Family Welfare (MoHFW), Indian Council of Medical Research (ICMR) and National Institution for Transforming India (NITI) Aayog, AIIMS-Delhi played a crucial role in the national efforts related to containment of the COVID pandemic and management of people suffering from COVID-19. AIIMS-Delhi led the process of identification of the need for broader testing capabilities (including rapid antigen test [RAT]), better infection control practices for health care workers, and greater hospital capacity.

AIIMS-Delhi launched collaborative research initiatives to respond to the virus and prepare for future outbreaks by working on the biology of the SARS-CoV-2. AIIMS laboratories worked on development of tests and oversight of laboratory services. Hospital investigators began exploring new therapies. Public health and clinical experts worked together on the epidemiology and development of vaccines. A streamlined Ethics Committee process facilitated studies.

In April 2020, there was a need to rapidly increase COVID-19 testing capacity across the country. AIIMS-Delhi served as a coordinating centre and along with 14 mentor institutions, identified by MoHFW and ICMR, helped upgrade skills of laboratories in several medical colleges on COVID testing. As a result, testing capacity increased to over 2000 laboratories and over 20 lakh tests per day.

The MoHFW started the e-ICU project with the aim of reducing COVID-19 related mortality. Under this project, AIIMS-Delhi organized tele-consultation guidance for doctors from large state-run hospitals on clinical management of COVID-19 cases admitted in intensive care units (ICUs). Thirty video conferences were conducted that covered doctors from 543 institutions across the country.

The Centre of Excellence (CoE) program aimed at capacity building among regional and state centres in a hub and spoke manner. It involved exchange of clinical best practices and subsequent dissemination of knowledge by state CoEs to their respective state facilities. AIIMS-Delhi mentored 28 CoEs nominated by the states.

The National COVID Grand Rounds were conducted by AIIMS in collaboration with Niti Aayog and MoHFW. These involved interactive discussion on clinical cases and evidence-based management of COVID-19 between experts and a live audience consisting of health professionals. Twenty such N-CGRs were conducted and the total viewership on the AIIMS YouTube channels exceeded 2 lakhs.

Information is key to the battle with the pandemic. Sixteen teams of faculty were created to critically review published literature and rapidly upload reasoned summaries on the AIIMS COVID website.

There is a need for widespread vaccination to reduce the spread of SARS-CoV-2 infection, and the severity and mortality due to COVID-19. The nationwide COVID vaccination drive began on 16th January 2021 with the vaccination of Mr. Manish Kumar, a sanitation worker at AIIMS-Delhi, under the watchful eyes of the Union Health Minister, Shri Harsh Vardhan. The Honourable Prime Minister, Shri Narendra Modi, himself took the first dose of COVID-19 vaccine on 1st March 2021, the very day he became eligible for the vaccination. The Prime Minister received the Made-in-India Covaxin developed by Bharat Biotech and ICMR. He tweeted "Took my first dose of the COVID-19 vaccine at AIIMS. Remarkable how our doctors and scientists have worked in quick time to strengthen the global fight against COVID-19. I appeal to all those who are eligible to take the vaccine. Together, let us make India COVID-19 free." This action strongly contributed to the voice against vaccine hesitancy.

AIIMS advised many state governments, including those in Gujarat, Punjab, Himachal Pradesh, Bihar and Delhi on containment of SARS-CoV-2, strengthening medical infrastructure and best practices in management of COVID.

In continuation of its general roles and duties, AIIMS-Delhi provided technical inputs to several other national health programmes and initiatives of the Government of India. The Centre for Community Medicine (CCM) served as the National Institute for HIV Surveillance and supported the National AIDS Control Organization (NACO) in tracking the HIV epidemic in the country. AIIMS Technical support unit for Sample Registration System (SRS) aided India's mortality surveillance in collaboration with Registrar General of India (RGI), Ministry of Home Affairs and Network of Institutions (MINERVA). The institute also supports ICMR's many 'Centre for Advanced Research and Excellence (CARE),' viz. CARE in Virtual Autopsy (Department of Forensic Medicine), CARE in Pancreatic Disease and CARE in Intestinal diseases (Department of Gastroenterology and Human Nutrition), CARE in Neuromodulation (Department of Psychiatry), CARE in Nephrology, CARE in Pulmonology, and CARE in Childhood Neurodevelopmental Disorders (Department of Paediatrics). The CDER was designated the National Centre of Excellence for implementation of National Oral Health Program for MoHFW. The CCM served as the National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A) and spearheaded the Anemia Mukht Bharat campaign. The National Drug Dependence Treatment Centre (NDDTC) initiated the 25 'Addiction Treatment Facility (ATF)' programme with the support of the Ministry of Social Justice and Empowerment (MoSJE).

AIIMS-Delhi also continued to play a leadership role at a global level by housing many WHO Collaborating Centres (WHO CC), viz. the WHO CC for Research and Capacity Building on Community-based Non-Communicable Diseases (NCD) Prevention and Control (CCM), WHO CC on Substance Abuse (NDDTC), WHO CC for Prevention of Blindness (Rajendra Prasad Centre for Ophthalmic Sciences [RPCOS]), WHO CC for Oral Health Promotion (Centre for Dental Education and Research [CDER]), WHO CC for Newborn Training & Research in Newborn Care and WHO CC on Training in Clinical and Laboratory Genetics (Department of Paediatrics), and WHO CC for Training and Research in Tuberculosis (Department of Medicine). The NDDTC also provided technical assistance to the Government of Myanmar to initiate buprenorphine-based opioid dependence treatment.

## Service

Within a week of declaration of the first national lockdown on 25th March 2020, AIIMS-Delhi successfully converted its Jai Prakash Narayan Apex Trauma Centre (JPNATC) and National Cancer Institute (NCI), Jhajjar into a dedicated COVID hospital with more than 1500 beds and scores of clinicians caring for thousands of patients in the months that followed. Later, AIIMS added another 100 beds for the treatment of patients with COVID-19 at its newly commissioned 'Burns and Plastic' block. Importantly, this increased the critical care (intensive care unit) facility for COVID-19 at AIIMS by 30 beds beyond the already available 90 beds (50 at trauma centre and 40 at NCI-Jhajjar).

AIIMS-Delhi set up a task force to develop a management protocol for COVID-19 and constituted several committees for coordination of various activities related to management of patients including resource management committee, human resource committee, diagnostic management committee and medical management committee. All healthcare personnel were trained to handle and use personal protection equipment (PPE) to take care of themselves while caring for patients. AIIMS deployed robots at its advanced COVID-19 ward to help promote physical distancing between health workers and infected patients to reduce the risk of transmission. Patients in isolation wards could also interact with their relatives from time-to-time through this robot. AIIMS also started a post-coronavirus recovery clinic to monitor the recovery process of discharged coronavirus patients.

In view of the COVID-19 pandemic, the Microbiology Department initiated a new laboratory to offer rapid diagnosis (within 90 minutes) for COVID-19, using CBNAAT/TRUENAT systems. This service not only helped in early triage and isolation of infected patients but also contributed immensely to protection of health care workers.

While AIIMS-Delhi was at the forefront of the fight against the COVID-19 pandemic it remained conscious about the medical attention needed by non-Covid patients. We had to suspend our non-essential services and elective procedures in a bid to free up ventilators and intensive care unit (ICU) beds for COVID-19 positive cases on 24th March 2020, in line with MoHFW's directives. Throughout the lockdown, AIIMS ran its emergency department round the clock, and critical services, e.g. at the cancer centre and dialysis units, at full capacity. We responded to the lockdown with agility and introduced teleconsultation services for our patients by early April. A tele-helpline number called COVID-19 National Teleconsultation Centre (CoNTeC) and an email helpline (technicalquery.covid19@gov.in) were also developed to answer queries by doctors and public. AIIMS-Delhi reopened its non-essential health care services on 25th June 2020 in a phased manner, initially with limited outpatient registrations and introduction of interventions/procedures that had low risk of infection. In view of the exigency, AIIMS-Delhi exempted all its patients from paying charges for admission in general wards and medical investigation during the period of the coronavirus pandemic till resumption of normal services.

The AIIMS hospital continued with its high standards and cost-effective services to all patients. The AIIMS main hospital and its centres—Cardiothoracic and Neurosciences Centre (CN Centre), Jai Prakash Narayan Apex Trauma Centre (JPNATC), Dr BR Ambedkar Institute Rotary Cancer Hospital (BRAIRCH), Dr Rajendra Prasad Centre for Ophthalmic Sciences (RPCOS),

Centre for Dental Education and Research (CDER), National Drug Dependence Treatment Centre (NDDTC)—have a total bed strength of 3194. During the year 2020–2021, AIIMS attended to about 15.42 lakh outpatients and 1.42 lakh inpatients and performed over 0.7 lakh surgical procedures at optimal patient care service parameters with average bed occupancy of about 56%, average hospital stay of about 10.4 days; and at a low net death rate of about 3%. AIIMS continues to advance the delivery of healthcare within and outside India, particularly in South and Southeast Asia.

The Department of Laboratory Medicine operationalized a state-of-the-art fully automatic integrated laboratory (SMART Lab) using a Total Laboratory Automation platform in the New Rajkumari Amrit Kaur OPD block. This has facilitated an increase of available test parameters from around 35 last year to 92 (hematology, biochemistry, immunoassays and serology) in the current year. The Department of Microbiology successfully completed the onsite NABL external assessment for continuation of NABL Accreditation as per ISO 15189:2012.

The Union Health Minister, Shri Harsh Vardhan inaugurated the Burn and Plastic Surgery block at AIIMS on 18th January 2021. The block houses a dedicated burns and plastic surgery ward, a 20-bedded emergency unit, an ICU and 6 operation theatres. It has the capacity to treat 50,000 burn emergencies and 5000 admissions per year. It also has provisions for skin banking service, fully equipped physiotherapy unit, and custom-made pressure garments store.

## **Training**

AIIMS-Delhi is committed to safeguard the teaching-learning process and skill development while protecting the health of its academic stakeholders. The Academic Section took several steps to address the challenges posed by the COVID-19 pandemic. These included management of in-house academic programs, professional development programs for physicians and health care workers across the country, as well as educational programs for the general public.

The faculty formulated entirely new curricular approaches that allowed students to continue their studies uninterrupted. Schedules were redrawn to minimize online screen time and provisions were made for recording or live broadcast of lectures on low-band-width platforms so that students with poor network connectivity could view these later. Assessments were carried out online and many were clubbed or deferred to de-stress the students.

A dedicated learning management system, Student Advanced Resources and Learning (SARAL) was extensively used for online delivery of educational content as well as student life cycle management (online applications, thesis submission, etc.). Several online courses were created and delivered on the platform. Storage of didactic content on the SARAL platform allowed for blended learning and flipped classroom model of teaching. Clinical cases were discussed using interactive virtual case discussions.

The SET (Skills, e-Learning, Telemedicine) Facility added an Advanced Airway Training laboratory and Ultrasound Simulation laboratory to its infrastructure. The SET facility created 34 online skill learning modules. Some of these modules were specifically targeted at COVID-19, e.g. advanced cardiac life support [ACLS] training for COVID-19 patients; intubation training for COVID-19 ICUs; clinical management guidelines for mild/moderate COVID; systematic approach to resuscitation of a baby born to COVID-19 suspect mother; and prevention of fogging of goggles in PPE. The telemedicine services conducted more than 700 academic sessions and supported more than 100 examinations. Several webinars were conducted for physicians and nurses on COVID-related care, e.g. webinars on obstetric care and essential reproductive health. Specific webinars were held for Punjab COVID-19 Task force and COVID-19 health care workers. Webinars were also held in collaboration with institutions in SAARC countries and Ain-sham University, Egypt for health care workers; and with Sri Venkateshwara College, Delhi for the public. The AIIMS Telemedicine YouTube channel logged more than 6 lakh views during the year.

The Dr KL Wig Centre for Medical Education Technology and Innovation (CMETi), already a leader in providing innovative virtual learning experiences, helped our faculty to move seamlessly to online professional development courses on the latest COVID-19 developments.

AIIMS-Delhi was the first institution to hold a nation-wide entrance examination (239 cities) within a week of easing of the first lockdown on 11th June 2020 with support from MoHFW and Ministry of Home Affairs, to ensure timely admissions for post-graduate courses despite travel restrictions and other logistic constraints. New standard operating procedures were devised for entrance as well as professional examinations, in consultation with the Academic Section and COVID Task Force of AIIMS. These were later adopted by other examination conduction agencies of our country. All entrance examination for various courses of AIIMS for July 2020 and January 2021 have been completed within prescribed time frames.

AIIMS took its partnership with the public very seriously. The institute had more than 700 references in the print media and the institute faculty had 127 interactions, mostly on the COVID situation, with the media during the year. A book “Till We Win” by AIIMS Director Randeep Guleria, public policy and health systems expert, Chandrakant Lahariya, and vaccine researcher and virologist, Gagandeep Kang gave a definitive account of India’s fight against COVID-19. The book also delved into how learnings from Covid-19 pandemic could be used to further strengthen the Indian health system, besides providing general readers tips on COVID appropriate behaviours.



To prepare for the challenges and opportunities that lie ahead, we continue to creatively build foundations for the future by nurturing a diverse community of leaders committed to alleviating human suffering and promotion of health. With its 7 centres comprising of various teaching departments and facilities and 42 stand-alone Departments, and a manpower of over 10,000 including over 700 faculty members, AIIMS-Delhi produces a large number of medical graduates, specialists (MD/MS), super-specialists (DM/MCh), PhD scholars and allied health and basic sciences experts, including nurses and paramedical professionals. During the year, we enrolled 1179 scholars in various courses. The Institute also provided postgraduate training to 45 short-term trainees. AIIMS-Delhi continued to play a mentorship role for other AIIMS.

Pursuit of excellence requires immersion in collaborative cultures. AIIMS has Memorandum of Understanding (MoU) with the Harvard University, Stanford University and University of Michigan in the USA; University College, London, UK; Deakin University, Monash University and George Institute of Global Health in Australia; Cologne University, Germany; Erasmus University, The Netherlands; and IIT-Kharagpur and IIT-Delhi.

AIIMS-Delhi exposes clinician and science leaders working in healthcare fields to the real-world settings of medicine to new trends in science and healthcare delivery. The Institute offered Continuing Medical Education to thousands of physicians and healthcare professionals to help improve skills, knowledge, and performance. We organized/hosted 69 workshops, symposia, conferences, and training programmes in collaboration with various national and international agencies.

In keeping with Rajkumari Amrit Kaur's vision, AIIMS-Delhi continued to challenge itself to remain the best institution for medical training in the country. AIIMS-Delhi secured the top rank among medical colleges in the National Institutional Ranking Framework (NIRF) of the Ministry of Human Resource Development for 2020; the 2020 edition of the India Today Group ranking of best universities in India; and the QS World University Rankings by Subject 2021.

## **Research**

The Research Section at AIIMS-Delhi has a mandate to encourage science and innovation and build up infrastructure for conducting high quality research. During the year, the Centralized Core Research Facilities (CCRF) and Clinical Research Unit (CRU) became operational. CCRF supports biosafety level 2 and 3 laboratory facilities, that act as an integrated hub of contemporary technologies—genomics, proteomics, bioanalytics and bioinformatics. We have also forged research collaborations with IITs and international universities to allow knowledge-sharing and boost research practices.

The research section initiated several calls for research funding proposals, held workshops and created infrastructure to stimulate research. With the objective of creating a more vibrant research environment, foster cross-domain research, and to lay down the foundations for long-term collaborations, funding calls were given for collaborative projects within AIIMS and with other institutions such as IIT and Translational Health Science and Technology Institute (THSTI). A joint-research seed fund was established for collaborative research between University College, London (UCL) and AIIMS, New Delhi.

AIIMS researchers have 878 extramural grants, worth Rs 155 crores ongoing. These projects employ about 1250 researchers, who are nurtured to become future research leaders. The funding agencies included ICMR, DBT, DST, INSA, CSIR, DRDO, Ministry of Health, WHO, UNICEF, Wellcome Trust, etc. In addition, the AIIMS Research section funded 341 intramural grants worth Rs 16 crores. AIIMS also created an endowed chair: Shobha Seth Wenger' Distinguished Chair in Gynaecologic Oncology under 'Mira Seth Corpus Fund.' Professor Neerja Bhatla, Head of the Department of Obstetrics & Gynaecology is the first recipient of this award.

AIIMS responded to the pandemic with agility. To fast-track research on COVID-19, the Research Section gave two specific calls for intramural projects on 'Research on SARS-CoV-2' and 'Research on Long Term Health Consequences of COVID-19.' Grants were sanctioned to 81 COVID-19 projects and 11 Long COVID projects.

In 2020–2021, the research community at AIIMS contributed significantly to scholarship. During the year the faculty and scientists of the Institute initiated 154 extramural research projects and published over 2000 research papers in national and international journals and over 300 monographs, books and chapters in books.

## **Summing up**

This year called for great sacrifices, but it also evinced medicine's courage and endurance. Addressing our 47th convocation on 11th January 2021, the Union Health Minister, Shri Harsh Vardhan stated that AIIMS-Delhi, has made enormous contributions to patient care, research, and education during the crisis. He stated "as we recover from the COVID pandemic which has shaken us to the core, we must remember the daily battles fought by the AIIMS fraternity. Our doctors are our real heroes." Encouraged by words of appreciation and our faith in the community of excellence at AIIMS, we pledge to continue our unrelenting quest to discover, propagate and provide the best possible care for every human being, for our work is far from done.

**Randeep Guleria**  
**Director**

## 2. The Institute and its Committees

### INSTITUTE BODY

1. **Dr Harsh Vardhan** President  
Minister of Health and Family Welfare  
Nirman Bhawan, New Delhi 110011
2. **Dr Anil Jain, MP (Rajya Sabha)** Member (from 25 March 2021)  
D-244, Anupam Garden, Saiyad Ul Ajaib,  
New Delhi 110068
3. **Professor Ram Gopal Yadav, MP (Rajya Sabha)** Member (up to 25 March 2021)  
8-A, Lodhi Estate, New Delhi 110003
4. **Shri Ramesh Bidhuri, MP (Lok Sabha)** Member  
H.No.179, Sunpath House, Village Tughlakabad  
New Delhi 110044
5. **Shri Manoj Kumar Tiwari, MP (Lok Sabha)** Member  
24, Mother Teresa Crescent Marg, New Delhi
6. **Shri Amit Khare** Member  
Secretary, Department of Higher Education  
Ministry of Human Resource Development  
Government of India, Shastri Bhavan, New Delhi 110001
7. **Shrimati Preeti Sudan** Member  
Secretary (Health and Family Welfare),  
Ministry of Health and Family Welfare  
Government of India, Nirman Bhavan, New Delhi 110001
8. **Professor PC Joshi** Member (Ex-Officio)  
Vice Chancellor, University of Delhi, Delhi 110007  
(from 28 June 2020)
9. **Professor Yogesh Kumar Tyagi** Member (Ex-Officio)  
Vice Chancellor, University of Delhi, Delhi 110007  
(up to 27 June 2020)
10. **Dr Sunil Kumar** Member (Ex-Officio)  
Director General of Health Services  
Government of India, Nirman Bhavan, New Delhi 110001  
(from 13 August 2020)
11. **Dr Rajiv Garg** Member (Ex-Officio)  
Director General of Health Services  
Government of India, Nirman Bhavan, New Delhi 110001  
(up to 12 August 2020)
12. **Dr DS Rana** Member  
Chairman, Board of Management,  
Sir Ganga Ram Hospital, New Delhi.
13. **Dr (Shrimati) Vijay Laxmi Saxena** Member  
Former General Secretary, Indian Science Congress Association,  
(ISCA), Kolkata, West Bengal,  
  
Coordinator Bioinformatics  
Infrastructure Facility Centre of DBT, (Government of India),  
Head, Department of Zoology, Dayanand Girls P.G. College,  
Kanpur, Uttar Pradesh  
7/182, Swarup Nagar, Kanpur 208002, Uttar Pradesh

- |     |   |  |
|-----|---|--|
| 14. | <b>Dr Mahesh B. Patel</b><br>F-001, Shilalekh Tower, Opposite Police Stadium,<br>Shahi Baug, Ahmedabad 380004, Gujarat  | Member                                   |
| 15. | <b>Dr DG Mhaisekar</b><br>Vice Chancellor, Maharashtra University of Health Sciences,<br>Dindori Road, Mhasrul, Nashik 422004, Maharashtra                          | Member                                   |
| 16. | <b>Dr N Gopalakrishnan</b><br>Professor (Nephrology), Madras Medical College,<br>Chennai 600003, Tamil Nadu   | Member                                   |
| 17. | <b>Dr DS Gangwar</b><br>Additional Secretary and Financial Adviser<br>Ministry of Health and Family Welfare<br>Government of India, Nirman Bhavan, New Delhi 110001 | Member                                   |
| 18. | <b>Dr DK Verma</b><br>Professor, Department of Surgery, Indira Gandhi Medical<br>College, Shimla, Himachal Pradesh 171001   | Member                                   |
| 19. | <b>Professor Randeep Guleria</b><br>Director, AIIMS   | Member Secretary                         |
| 20. | <b>Shri Nilambuj Sharan</b><br>Joint Secretary<br>Ministry of Health and Family Welfare<br>Government of India, Nirman Bhavan, New Delhi 110001                     | Special Invitee<br>(from December 2020)  |
| 21. | <b>Shri Sunil Sharma</b><br>Joint Secretary<br>Ministry of Health and Family Welfare<br>Government of India, Nirman Bhavan, New Delhi 110001                        | Special Invitee<br>(up to December 2020) |
| 22. | <b>Professor VK Bahl</b><br>Dean, AIIMS   | Special Invitee                          |
| 23. | <b>Dr DK Sharma</b><br>Medical Superintendent, AIIMS  | Special Invitee                          |

#### GOVERNING BODY

- |    |  |   |
|----|--|---|
| 1. | <b>Dr Harsh Vardhan</b>                            | President                                     |
| 2. | <b>Dr Anil Jain, MP (Rajya Sabha)</b>              | Member (from 25 March 2021)                   |
|    | <b>Professor Ram Gopal Yadav, MP (Rajya Sabha)</b> | Member (up to 25 March 2021)                  |
| 3. | <b>Shrimati Preeti Sudan</b>                       | Member  |
| 4. | <b>Shri Amit Khare</b>                             | Member  |
| 5. | <b>Dr DS Rana</b>                                  | Member  |
| 6. | <b>Dr Sunil Kumar</b>                              | Member (Ex-Officio)<br>(from 13 August 2020)  |
| 7. | <b>Dr Rajiv Garg</b>                               | Member (Ex-Officio)<br>(up to 12 August 2020) |

8.	<b>Dr Mahesh B. Patel</b>	Member
9.	<b>Dr DG Mhaisekar</b>	Member
10.	<b>Dr DS Gangwar</b>	Member
11.	<b>Professor Randeep Guleria</b> Director, AIIMS	Member Secretary
12.	<b>Professor VK Bahl</b> Dean, AIIMS	Special Invitee
13.	<b>Dr DK Sharma</b> Medical Superintendent, AIIMS	Special Invitee

#### FINANCE COMMITTEE

1.	<b>Shrimati Preeti Sudan</b>	Chairperson
2.	<b>Dr Sunil Kumar</b>	Member (Ex-Officio) (from 13 August 2020)
3.	<b>Dr Rajiv Garg</b>	Member (Ex-Officio) (up to 12 August 2020)
4.	<b>Shri Amit Khare</b>	Member
5.	<b>Dr DG Mhaisekar</b>	Member
6.	<b>Dr DS Gangwar</b>	Member
7.	<b>Professor Randeep Guleria</b> Director, AIIMS	Member Secretary

#### STANDING ACADEMIC COMMITTEE

1.	<b>Dr Mahesh B. Patel</b>	Chairperson
2.	<b>Dr Sunil Kumar</b>	Member (Ex-Officio) (from 13 August 2020)
3.	<b>Dr Rajiv Garg</b>	Member (Ex-Officio) (up to 12 August 2020)
4.	<b>Shri Amit Khare</b>	Member
5.	<b>Dr DG Mhaisekar</b>	Member
6.	<b>Dr DS Rana</b>	Member
7.	<b>Dr (Shrimati) Vijay Laxmi Saxena</b>	Member
8.	<b>Professor Randeep Guleria</b> Director, AIIMS	Member Secretary

#### STANDING ESTATE COMMITTEE

1.	<b>Professor Ram Gopal Yadav, MP (Rajya Sabha)</b>	Chairperson
2.	<b>Dr DS Rana</b>	Member
3.	<b>Dr Sunil Kumar</b>	Member (Ex-Officio) (from 13 August 2020)
4.	<b>Dr Rajiv Garg</b>	Member (Ex-Officio) (up to 12 August 2020)
5.	<b>Professor PC Joshi</b>	Member (Ex-Officio) (from 28 June 2020)
6.	<b>Professor Yogesh Kumar Tyagi</b>	Member (Ex-Officio) (up to 27 June 2020)
7.	<b>Dr DS Gangwar</b>	Member
8.	<b>Dr N Gopalakrishnan</b>	Member
9.	<b>Professor Randeep Guleria</b> Director, AIIMS	Member Secretary

#### STANDING HOSPITAL AFFAIRS COMMITTEE

1.	<b>Shri Ramesh Bidhuri, MP (Lok Sabha)</b>	Member
2.	<b>Dr DS Rana</b>	Member
3.	<b>Dr (Shrimati) Vijay Laxmi Saxena</b>	Member
4.	<b>Dr DG Mhaisekar</b>	Member
5.	<b>Dr N Gopalakrishnan</b>	Member
6.	<b>Professor Randeep Guleria</b> Director, AIIMS	Member Secretary

#### STANDING SELECTION COMMITTEE

1.	<b>Dr DS Rana</b>	Chairperson
2.	<b>Dr Sunil Kumar</b>	Member (Ex-Officio) (from 13 August 2020)
3.	<b>Dr Rajiv Garg</b>	Member (Ex-Officio) (up to 12 August 2020)
4.	<b>Dr DG Mhaisekar</b>	Member
5.	<b>Dr Mahesh B. Patel</b>	Member
6.	<b>Shri Amit Khare</b>	Member
7.	<b>Dr N Gopalakrishnan</b>	Member
8.	<b>Professor Randeep Guleria</b> Director, AIIMS	Member Secretary



### 3. Academic Section

**Dean (Acad.)**

VK Bahl (up to 31 July 2020)  
Chitra Sarkar (1 August 2020 to 28 August 2020)  
Anita Saxena (from 29 August 2020)

**Associate Dean**

Rajeev Kumar

**Registrar**

Sanjeev Lalwani

The Academic Section develops policy and plans and executes academic activities at AIIMS, New Delhi. These activities encompass the undergraduate, postgraduate and doctoral programmes for medical, nursing and paramedical courses. These activities are conducted by the undergraduate, postgraduate and paramedical cells.

#### UNDERGRADUATE EDUCATION

The section handles post-admission formalities for new students, develops and revises curricula and administers teaching programmes including internal assessment of undergraduate students admitted to various courses. The courses include MBBS, BSc (Hons) Medical Technology in Radiography, Ophthalmic Techniques, Operation Theatre Technology, BSc Dental Hygiene, BSc Dental Operating Room Assistant (DORA), BSc Nursing (Post-certificate) and BSc (Hons) Nursing courses.

#### Bachelor of Medicine and Bachelor of Surgery (MBBS)

The pattern of education in MBBS course was reviewed and re-structured in July 2004. The MBBS course is of 5½ years duration and comprises of 3 phases and internship. The details are as follows:

Phase	Duration (years)	Training
First	One	Pre-clinical
Second	One-and-a-half	Para-clinical
Third	Two	Clinical
Internship	One	Compulsory rotation in various departments

At present, 125 Indian students are admitted every year to the MBBS course (51 General category, 34 Other Backward Classes, 12 Economically Weaker Section (EWS) category, 19 Scheduled Caste and 9 Scheduled Tribe). For persons with disabilities (PWD), 5% reservation was provided on a horizontal basis. Seven foreign national students are also admitted each year. Beginning 2020, these admissions are made based on merit through the National Eligibility Entrance Test (NEET) conducted by the National Testing Agency.

As on 31 March 2021, 523 MBBS students including 73 interns were on rolls. Nine meritorious MBBS students were awarded scholarships for securing first, second and third positions in the first, second and final phase of professional examinations.

#### Paramedical and Nursing Education

In 2020–2021, 98 students (38 General category, 10 EWS Category, 15 Scheduled Caste, 7 Scheduled Tribe and 26 Other Backward Classes, 2 Foreign Nationals) were admitted in BSc (Hons) Nursing course. For BSc Nursing (Post-certificate) course, 45 students (21 General category, 8 Scheduled Caste, 3 Scheduled Tribe, 9 Other Backward Classes, 3 EWS and 1 foreign national candidates) were admitted.

Students admitted to various BSc courses were:

Course	General	SC	ST	OBC	EWS	Total
Ophthalmic Techniques	9	2	2	5	2	20
Medical Technology in Radiography	5	1	1	3	1	11
Operation Theatre Technology	1	1	1	2	1	6
Dental Hygiene	1	1	0	2	1	5
Dental Operating Room Assistant	2	2	1	3	2	10

The number of students on rolls in these courses as on 31st March 2021 were:

Course	Number of students
<b><i>Nursing</i></b>	
BSc Nursing (Post-basic)	78
BSc (Hons) Nursing	323
<b><i>Paramedical</i></b>	
BSc (Hons) Ophthalmic Techniques	74
BSc (Hons) Medical Technology in Radiography	39
BSc Operation Theatre Technology	31
BSc Dental Hygiene	11
BSc Dental Operating Room Assistant	22

## POSTGRADUATE EDUCATION

The Academic Section looks after all activities pertaining to admission and training of postgraduate students including junior and senior residents. It handles all activities related to Fellowship, PhD, DM, MCh, MD, MS, MDS, MCh/DM (Direct 6 years course), M Biotechnology (MBiotech) and MSc courses in different disciplines.

Admissions to all postgraduate courses for Indian nationals as well as sponsored candidates are made through an All-India Entrance Examination held twice a year for all postgraduate courses except MSc, MSc Nursing and MBiotechnology courses, for which the examination is held once a year. Foreign nationals are admitted under the sponsored category through the same entrance examination. In 2020–21, 748 students were admitted in various courses. The number of postgraduate and doctoral students on roll on 31 March 2021 was 1966.

### Admissions in various courses

S. No.	Name of course	July 2020	January 2021	Total
1	MSc/MBiotech/MSc Nursing (August)	76	*	76
2	MD/MS/MDS/MCh/DM (Direct 6 years)	260	186	446
3	DM/MCh	96	105	201
4	PhD	53	37	90
5	Fellowship	17	22	39
	<b>Total</b>	<b>502</b>	<b>350</b>	<b>852</b>

\*Admissions are done once in a year.

### Postgraduate students on rolls

S. No.	Name of course	Number of students on roll
1	PhD	295
2	DM	363
3	MCh	174
4	Fellowship programme	49
5	MD	766
6	MS	115
7	MDS	67
8	MSc/MBiotech/MSc Nursing	156
	<b>Total</b>	<b>1985</b>

**Subject-wise distribution of PhD students on rolls**

S. No.	Subject	Open	Sponsored
1	Onco-Anaesthesiology and Palliative Medicine (Dr BRA IRCH)	–	1
2	Anaesthesiology, Pain Medicine & Critical Care (JPNATC)	1	1
3	Anatomy	14	–
4	Biochemistry	48	–
5	Biophysics	24	–
6	Biotechnology	12	–
7	Cardiac Biochemistry	2	–
8	Centre for Community Medicine	4	1
9	Centre for Integrated Medical Research	1	–
10	Clinical Neuro Psychology	1	–
11	College of Nursing	–	1
12	Community Ophthalmology (Dr RP Centre)	1	–
13	Dermatology & Venereology	4	–
14	Division of Forensic Pathology & Molecular DNA (JPNATC)	1	–
15	Endocrinology and Metabolism	2	–
16	Forensic Medicine	3	–
17	Gastroenterology and Human Nutrition Unit	7	–
18	Laboratory Medicine	3	–
19	Laboratory Oncology	13	–
20	Medical Oncology (Dr BRA IRCH)	10	–
21	Medical Physics (Dr BRA IRCH)	2	1
22	Microbiology	6	1
23	Neuro-anaesthesiology	–	1
24	Neuroradiology	1	–
25	Neurology	11	–
26	Neuro-psychology	1	–
27	Neurosurgery	1	–
28	Nuclear Magnetic Resonance	6	1
29	Obstetrics and Gynaecology	1	–
30	Ophthalmology (RPC)	2	–
31	Ocular Biochemistry (Dr RP Centre)	1	–
32	Ocular Pathology (Dr RP Centre)	3	–
33	Ocular Pharmacology (Dr RP Centre)	3	–
34	Paediatric Surgery	2	1
35	Paediatrics	4	1
36	Pathology	15	–
37	Pharmacology	17	–
38	Physiology	21	–
39	Psychiatry (Addiction Psychiatry)	3	–
40	Psychiatry (Clinical Psychology)	1	–
41	Psychiatry	2	–
42	Pulmonary Medicine and Sleep Disorders	4	–
43	Radiodiagnosis	–	1
44	Reproductive Biology	12	–
45	Stem Cell	3	–

S. No.	Subject	Open	Sponsored
46	Surgery	2	–
47	Surgical Oncology	–	1
48	Surgery (JPNATC)	1	–
49	TII	4	3
	<b>Total</b>	<b>280</b>	<b>15</b>

**Subject-wise distribution of DM students on rolls**

S. No.	Subject	Open	Sponsored
1	Addiction Psychiatry (NDDTC)	11	1
2	Cardiac Surgical Intensive Care	5	–
3	Cardiac Anaesthesiology	14	1
4	Cardiology	23	4
5	Clinical Haematology	10	2
6	Clinical Pharmacology	3	1
7	Anaesthesiology and Critical Care	20	1
8	Endocrinology	8	3
9	Gastroenterology	21	3
10	Haemato-Pathology	8	3
11	Infectious Diseases	10	1
12	Medical Genetics	7	1
13	Medical Oncology	26	1
14	Neonatology	9	2
15	Nephrology	8	2
16	Neuro-Anaesthesiology and Critical Care	17	2
17	Neurology	34	–
18	Neuroimaging and Interventional Neuroradiology	6	3
19	Onco-Anaesthesia, Dr BRAIRCH	18	–
20	Paediatric Cardiology	5	1
21	Paediatric Nephrology	3	1
22	Paediatric Neurology	9	–
23	Paediatric Pulmonology and Intensive Care	3	3
24	Paediatric Oncology	9	3
25	Pulmonary, Critical Care and Sleep Medicine	12	1
26	Reproductive Medicine	5	3
27	Therapeutic Medicine	5	–
28	Cardiovascular Radiology and Endovascular Interventions	11	–
	<b>Total</b>	<b>320</b>	<b>43</b>

**Subject-wise distribution of DM (6 years course) on rolls**

S. No.	Subject	Open	Sponsored
1	Infectious Diseases	12	–
	<b>Total</b>	<b>12</b>	<b>–</b>

### Subject-wise distribution of MCh students on rolls

S. No.	Subject	Open	Sponsored
1	Breast, Endocrine and General Surgery	12	1
2	Cardiothoracic and Vascular Surgery	25	1
3	Gastrointestinal Surgery	11	3
4	Gynaecologic Oncology	6	3
5	Head-Neck Surgery and Oncology	7	1
6	Minimal Access Surgery and General Surgery	14	3
7	Neurosurgery	17	2
8	Paediatric Surgery	5	1
9	Plastic and Reconstructive Surgery	15	–
10	Surgical Oncology	15	2
11	Trauma Surgery and Critical Care	15	6
12	Urology	8	1
	<b>Total</b>	<b>150</b>	<b>24</b>

### Subject-wise distribution of MCh (6 years course) on rolls

S. No.	Subject	Open	Sponsored
1	Neurosurgery	10	–
2	Paediatric Surgery	4	–
	<b>Total</b>	<b>14</b>	<b>–</b>

### Subject-wise distribution of Fellowship Students on rolls

S. No.	Subject	Open	Sponsored
1	Bariatric and Metabolic Surgery	1	–
2	Clinical Research Methodology and Evidence Based Medicine	3	–
3	Anaesthesiology –Pain Medicine	4	1
4	Spine Surgery	4	–
5	Skull Base and Cerebrovascular Surgery (NS)	2	–
6	Paediatric Surgery (NS)	2	–
7	Advanced Gastrointestinal Endoscopy	2	–
8	Minimal Invasive Urology (Laparoscopic and Robotics)	2	–
9	GI Radiology	2	–
10	Thoracic Radiology	2	–
11	Paediatric Radiology	2	–
12	Minimally Invasive Gynaecological Surgery	2	–
13	Gastroenterology-Pancreatology	1	–
14	Gastroenterology-Inflammatory Bowel Diseases	2	–
15	Gastroenterology-Hepatology	1	–
16	Neuro-Critical Care	2	–
17	Aortic Surgery	2	1
18	Maternal Foetal Medicine (MFM)	1	–
19	Arthroscopy	2	–
20	Joint Replacement	1	–
21	Musculoskeletal Oncology	1	–
22	Pelvic–Acetabular Trauma	1	–
	<b>Total</b>	<b>42</b>	<b>2</b>



**Subject-wise distribution of MD/MS/MDS students on roll**

S. No.	Subject	Open	Sponsored
1.	Anaesthesiology	69	3
2.	Anatomy	13	–
3.	Biochemistry	15	–
4.	Biophysics	14	–
5.	Community Medicine	26	1
6.	Conservative Dentistry and Endodontics	11	1
7.	Dermatology and Venereology	21	3
8.	Emergency Medicine	40	2
9.	Forensic Medicine	11	1
10.	Geriatric Medicine	21	3
11.	Hospital Administration	8	2
12.	Infectious Disease–DM (direct 6 years course)	18	–
13.	Laboratory Medicine	11	–
14.	Medicine	61	3
15.	Microbiology	14	–
16.	Neurosurgery–MCh (direct 6 years course)	11	–
17.	Nuclear Medicine	19	3
18.	Obstetrics and Gynaecology	44	3
19.	Ophthalmology	122	3
20.	Oral and Maxillofacial Surgery	14	1
21.	Orthodontics	14	1
22.	Orthopaedics	20	3
23.	Otorhinolaryngology (ENT)	22	3
24.	Paediatric Surgery–MCh (direct 6 years course)	8	–
25.	Paediatrics	34	3
26.	Palliative Medicine	17	2
27.	Pathology	30	3
28.	Pedodontics and Preventive Dentistry	14	1
29.	Pharmacology	16	–
30.	Physical Medicine and Rehabilitation	10	2
31.	Physiology	20	–
32.	Prosthodontics	10	–
33.	Psychiatry	32	3
34.	Radiodiagnosis	30	–
35.	Radiotherapy	16	3
36.	Surgery	64	3
37.	Transfusion Medicine	7	2
38.	<b>Total</b>	<b>927</b>	<b>58</b>

**Subject-wise distribution of MSc students on rolls**

S. No.	Subject	Open	Sponsored
1	Anatomy	9	–
2	Biochemistry	10	1
3	Biophysics	6	–
4	Pharmacology	11	–

S. No.	Subject	Open	Sponsored
5	Physiology	10	–
6	Biotechnology	22	1
7	Nuclear Medicine Technology	22	2
8	Reproductive Biology	10	1
9	Cardiovascular Imaging and Endovascular Technology	3	–
<b>Total</b>		<b>103</b>	<b>05</b>

#### Subject-wise distribution of MSc (Nursing) students on rolls

S. No.	Subject	Open	In-service candidate/FN
1	Cardiological/CTVS Nursing	5	2
2	Neurosciences Nursing	4	2
3	Paediatric Nursing	5	1
4	Psychiatric Nursing	6	2
5	Oncological Nursing	4	2
6	Nephrological Nursing	4	2
7	Critical Care Nursing	5	4
<b>Total</b>		<b>33</b>	<b>15</b>

#### TRAINING PROGRAMMES

There is a provision for short term, long term and elective training for students and employees of various organizations in India as well as abroad. During 2020-2021, 45 Indian national underwent short-term training. Due to the COVID-19 pandemic, training programmes were suspended during the year and therefore the number of candidates is much lower than in previous years.

The Academic Section organized 7 Orations and gave permission for 69 conferences/workshops to be organized during the year.

#### COMMITTEE MEETINGS

The Academic Section organized meetings of the Academic Committee, Staff Council, Dean's Committee, Faculty and Research Presentations as per details given below:

S. No.	Committee	Number of Meetings
1	Academic	1
2	Staff Council	0
3	Dean's Committee	2
4	Faculty (General Discussions)	7
5	Research Presentations	1

#### The SARAL platform



The SARAL platform was extensively used during 2020-2021, both for online delivery of educational content as well as student management. The entire undergraduate teaching schedule was moved online with content being uploaded by the

faculty. A number of online courses were created and delivered on the platform. These courses included live interaction, quiz and certificate generation. Some of these were extensively used to train manpower in managing COVID-19. All newly joined residents were required to undergo online training before joining duties in COVID areas. The Foundation course for resident doctors was also converted into online modules with faculty creating short videos to cover all aspects of the 5-day course.

In addition, the student management system was activated to manage day-to-day activities including student applications and thesis.

The screenshot displays the AIIMS Saral website interface. At the top, there is a navigation bar with the AIIMS logo and the text 'Saral' in a large, stylized font. Below the navigation bar, there are several sections:

- Student Management Area:** A section with a 'To Do' list and a grid of icons for 'Form Application', 'Send Queries', 'Enroll', 'Track', 'Online and Workshop', 'Recruitment', 'HRM', 'IMS', and 'LTC'.
- Learning Area:** A section with a photo of students in a classroom setting.
- SET (Skills, e-Learning, Telemedicine) Facility:** A section with a photo of students in a laboratory setting and a description of the facility.
- COVID-19 Urology Residents:** A section with a list of faculty names, a subject, and a date range.
- COVID 19 Training Module:** A section with a title and a description of the training module.
- COVID 19 Open Resources:** A section with a list of faculty names, a subject, and a date range.
- Foundation Course:** A section with a title and a description of the foundation course.
- Presentation skills, Journal clubs, Seminars:** A section with a title and a description of the presentation skills course.

## The COVID-19 pandemic

The Academic Section, AIIMS New Delhi took a number of steps to address the challenges posed by the COVID-19 pandemic. These include both management of academic programs as well as initiating training programs for physicians and paramedical staff across the country. It also included a number of educational programs for the general public.

### Changes in academic programs

All classes and demonstrations shifted online with didactic content on the SARAL platform and multiple video-conferencing platforms. Schedules were redrawn to minimize online screen time and provision made for recording or live broadcast of lectures on low-band-width platforms so that students with poor network connectivity could view these later.

The flipped classroom model of teaching was employed using the *SARAL* platform and clinical cases were discussed using interactive virtual case discussions. Assessments were also carried out online and many were clubbed or deferred to de-stress the students. Student life-cycle management include applications, submissions of thesis and protocols etc. were shifted online on the SARAL platform to minimize physical interactions.

### Literature review updates

The rapidly changing information on the pandemic generated a large amount of published literature and it was important that this was critically reviewed for appropriate use. Sixteen teams of faculty were created to review published articles, perform a critical analysis with scientific reasoning. This was further peer-reviewed rapidly and uploaded on the AIIMS COVID website.



### Nation-wide training and mentorship for COVID-19 management

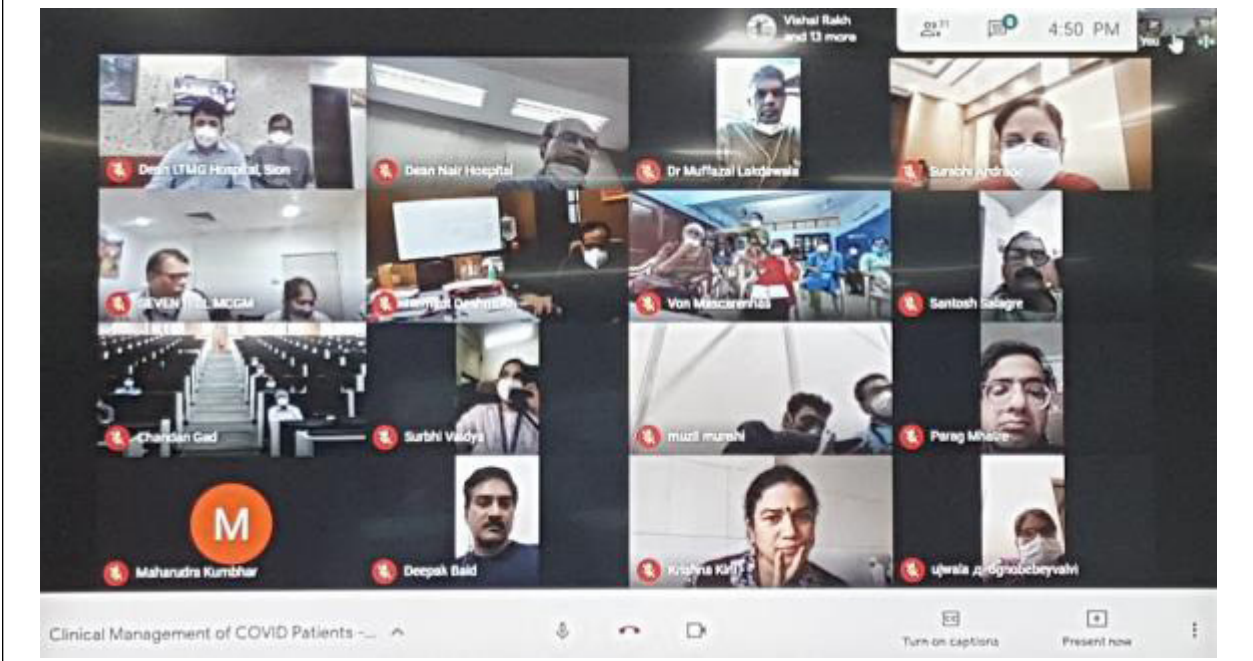
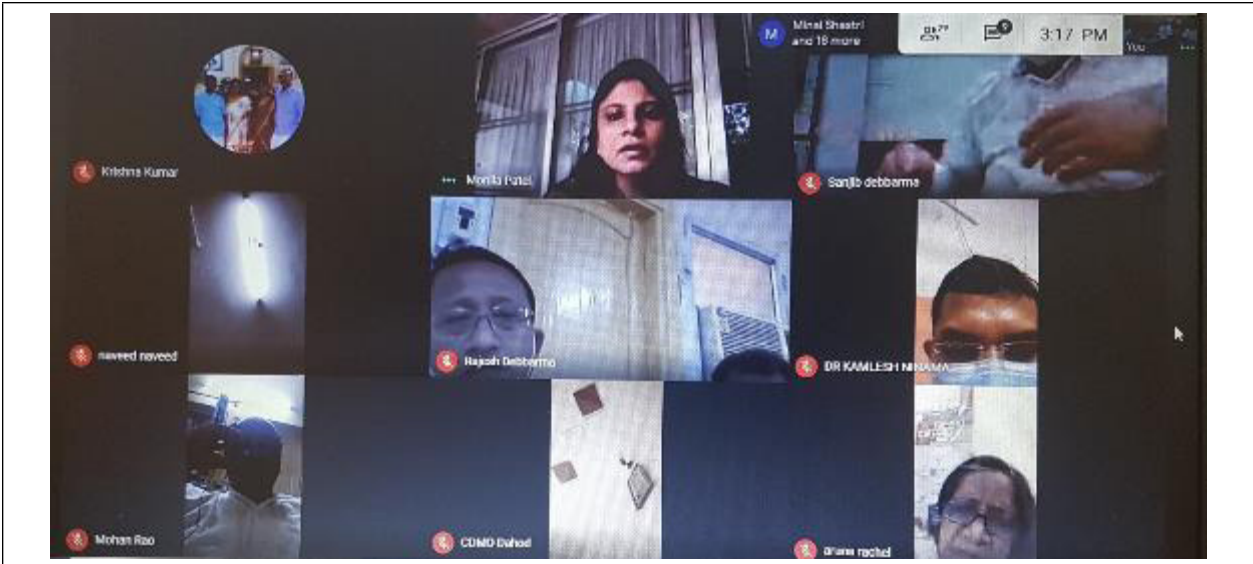
The Academic Section coordinated a number of academic and training activities for managing COVID-19 across the country.

#### 1. Mentorship for increasing testing capacity in medical colleges:

In April 2020, there was a need to rapidly increase COVID-19 testing capacity in medical colleges across the country. With the support of the Ministry of Health and Family Welfare and the Indian Council of Medical Research, 14 mentor institutions were identified across the country which further trained colleges in their regions for testing. A live, online dashboard was created for monitoring progress of colleges and as a result, testing capacity increased to over 1000 laboratories and over 10 lakh tests per day









### 3. National COVID Grand Rounds:

In collaboration with Niti Aayog and Ministry of Health and Family Welfare, the National COVID Grand Rounds included clinical case-discussion and topic presentations for evidence-based management of COVID-19. Panellists included doctors from India and abroad and were transmitted live with Q&A for doctors logged on to view the program. Over 1500 live attendees viewed some of the sessions and the total viewership exceeded 2,00,000 on the AIIMS YouTube channels. Twenty such N-CGRs were conducted, each lasting 90-120 minutes.




**All India Institute of Medical Sciences, New Delhi**  
**National Grand Rounds on COVID-19**

National Grand Rounds on COVID-19 will include presentation of cases and discussion on their management by a panel of experts. This will be followed by a short summary on a clinically relevant topic. Physicians attending the live web transmission of the CGR through the link provided below will be able to ask questions to the experts.



**Live chat**  
Top chat 1.6K



### 4. Center of Excellence (CoE) program:

The CoE program aimed at capacity building among regional and state centres in a hub and spoke manner. They aimed at exchange of clinical best practices and subsequent dissemination of knowledge by state CoEs to their respective state facilities. In the first phase, 28 CoEs were nominated by the states.





### SET (Skills E-learning and Telemedicine) Facility

#### *Management Committee*

- Professor R Guleria, Director, AIIMS: Chairman
- Professor A Saxena, Dean (Academic): Co-Chairman
- Professor A. K. Deorari
- Professor M. K. Singh
- Professor A. Shariff
- Professor Ashish Suri
- Professor Arti Vij
- Professor Rajeev Kumar, Assoc Dean (Acad)
- Professor Sanjeev Lalwani, Registrar- Member Secy
- Professor Ambuj Roy, Facility Co-ordinator Incharge

#### *Administrative Unit*

- Professor A. K. Deorari, Chairman, Skills (Dry & Wet Lab) Facility
- Professor M. K. Singh, Chairman, E- Learning Facility
- Professor A. Shariff, Chairman, Telemedicine Facility
- Professor Ambuj Roy, Facility Co-ordinator In Charge
- Mr Adarsh Kumar Sharma, Chief Technical Officer
- Mr Kushal Kumar, Administrative Officer
- Ms Archna Sharma, Store Officer





## Objectives

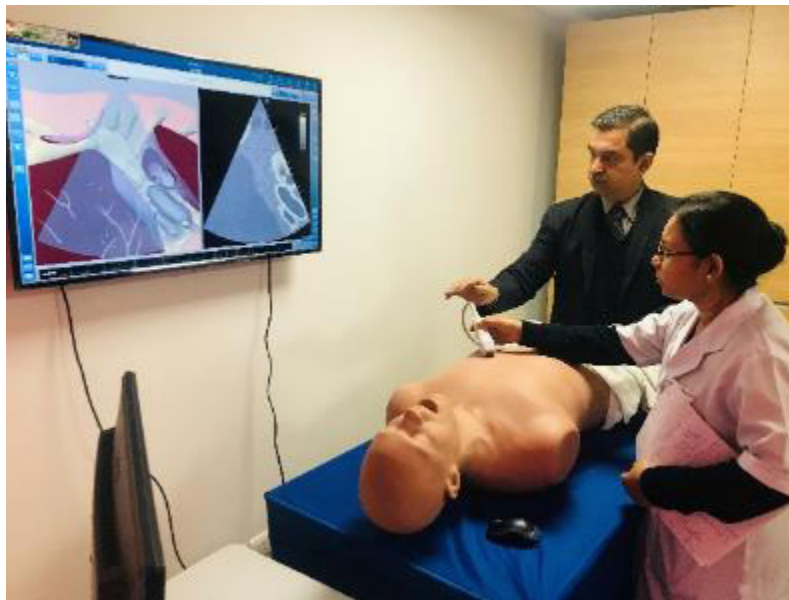
- Establish skills facility- Dry lab, wet lab, simulation-based learning
- Establish e-platform for online learning
- Telemedicine facility to collaborate between institutes all over India

## New Facilities added in 2020-21

- **Advanced Airway Training Laboratory**



- **Ultrasound Simulation laboratory**



## Activities in various areas

### Skill lab

#### 1. Undergraduate students

- Skill-based learning for undergraduate students which is integrated in the curriculum
- The program starts in 4th semester using blended online and hands-on teaching methodology
  - Number of skill training sessions: 20
  - Number of students attending the various sessions: 349

#### 2. Nursing students

- Skill training program for college of nursing students: 7
- Number of students attended: 320

### 3. Postgraduate students

- Airway intubation training program (Covid & Non Covid related)
  - Total number conducted: 07
  - Total residents enrolled: 63
- Paediatric Emergencies training program for residents
  - Total number conducted: 01
  - Total residents enrolled: 40
- Normal labour and Episiotomy
  - Total number conducted: 04
  - Total residents enrolled: 44
- CuT insertion Pelvic examination
  - Total number conducted: 04
  - Total residents enrolled: 52
- PPH drill
  - Total number conducted: 01
  - Total residents enrolled: 10

### 4. MCh/DM/Superspeciality training courses

- CPR Training Program
  - Total number conducted: 01
  - Total delegates enrolled: 31
- BLS and ACLS Provider Course (AHA Accredited)
  - Total number conducted: 01
  - Total delegates enrolled: 19
- USG simulation training program
  - Total number conducted: 02
  - Total delegates enrolled: 40
- Difficult airway intubation training
  - Total number conducted: 24
  - Total delegates enrolled: 110

### 5. Faculty training programs (Training of trainers)

- Recording for various modules
  - Total number conducted: 12
  - Total delegates enrolled: 18

## Covid related activities at the skill Lab

### ACLS Training for Covid-19 patients



## Intubation training for Covid-19 ICUs



## Systematic approach to resuscitation of a baby born to Covid-19 suspect mother



### Wet lab

*Cadaveric Training Workshops (for Faculty/MCh students/fellowship students)*

1. **Surgical dissection on simulated tissue**
  - Total number conducted: 11
  - Total delegates enrolled: 60
2. **Basic Laparoscopic skill course**
  - Total number conducted: 2
  - Total delegates enrolled: 10
3. **Advanced endoscopic procedures**
  - Total number conducted: 03
  - Total delegates enrolled: 13
4. **Electro surgery & surgical stapler**
  - Total number conducted: 1
  - Total delegates enrolled: 6



5. **Thyroplasty**
  - Total number conducted: 1
  - Total delegates enrolled: 14
6. **ATLS Scenario training course**
  - Total number conducted: 01
  - Total delegates enrolled: 10
7. **For Thesis (Cautery used on Animal tissue)**
  - Total number conducted: 03
  - Total delegates enrolled: 03
8. **MD Examination (Paediatric)**
  1. Total number conducted: 01
  2. Total delegates enrolled: 20
9. **MD Examination (Emergency)**
  3. Total number conducted: 03
  4. Total delegates enrolled: 19
10. **Internal Examination (Surgical Discipline)**
  - Total number conducted: 01
  - Total delegates enrolled: 20
11. **Video conference**
  - Total number conducted: 01
  - Total delegates enrolled: 04
12. **Video Recording (Anaesthesia)**
  - Total number conducted: 01
  - Total delegates enrolled: 03
13. **Endotrainer**
  - Continuous training program
  - Total residents attended: 96

### Skill Training at WET Lab during Covid-19





### **E-learning**

The faculty involved with SET facility have created learning modules for skill learning. Each module which is hosted online consists of standard operating procedures for the skill, audio-video file and multiple-choice questions to learn about the skill.

### **Number of modules created: 34**

Distribution of skill modules for undergraduate skill learning

#### **4th and 5th Semester**

- Hand washing
- IM Injection
- PV exam
- Pap smear
- IV cannulation
- Pulse oximeter use

#### **6th Semester**

- Bag and mask
- Chest Compression- Adult
- Chest Compression-Children
- Neonatal intubation
- Basic suturing
- Cu-T insertion
- Endometrial Aspiration

#### **7th Semester**

- LMA Insertion
- Arterial blood sampling
- Endotracheal Intubation
- Glucometer Use
- Gloving and Gowning
- Fracture stabilisation

#### **8th Semester**

- Adult NG tube insertion
- Diagnostic LP
- Ascitic tap
- Cervical collar application
- Tru-cut Biopsy
- Normal Vaginal Delivery
- Episiotomy repair
- Neonatal OG feeding
- Neonatal LP

## Internship

- ICD Insertion
- Urinary Catheterisation
- Needle Thoracentesis
- CVC insertion
- PICC insertion
- BLS and ACLS

## COVID related training modules-

- Endotracheal intubation in COVID patients
- CPR in COVID patients
- How to prevent fogging of goggles in PPE
- Clinical management guidelines for Mild/moderate COVID

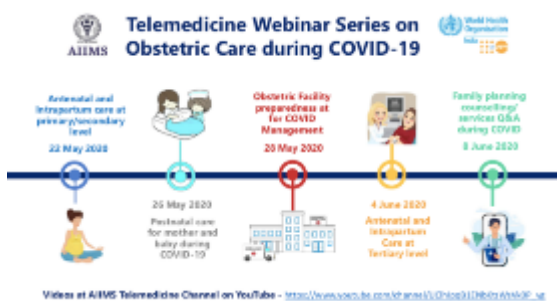
## Telemedicine Services

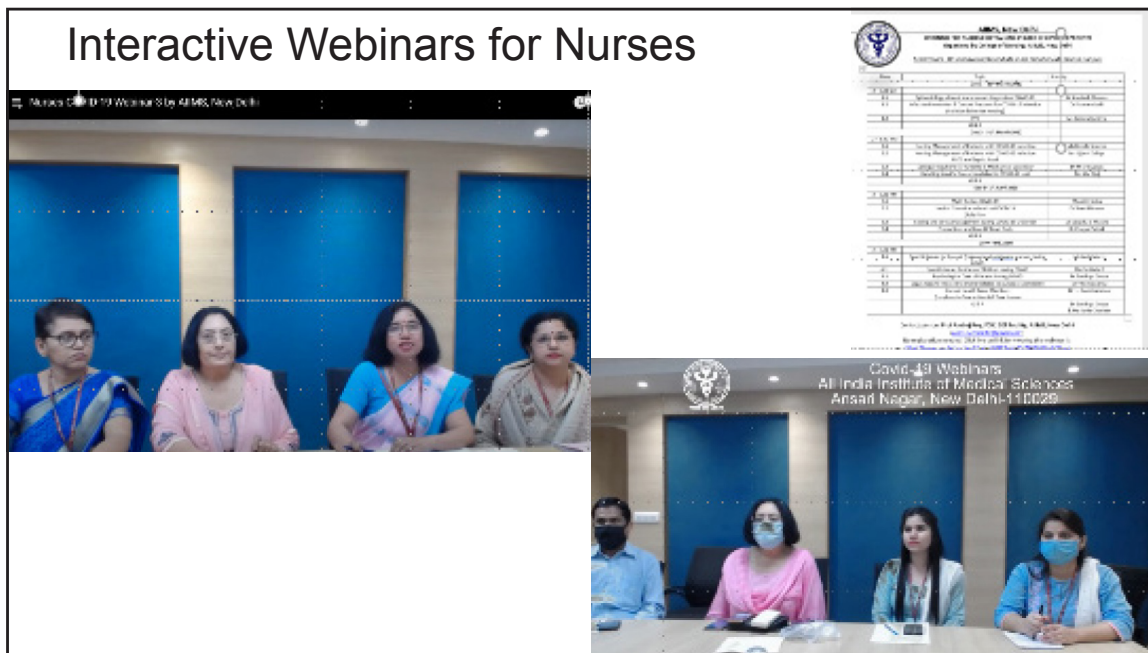
• Tele consultation	140
• Tele Conference	62
• Tele CME	90
• Tele Evidence	02
• Academic Live Transmission	199
• Seminars	30
• Webinars	86
• Journal clubs	15
• Workshops	20
• OBS Recordings	41
• Examinations	101

## Covid related activities

- Webinars for Physicians
- Webinars for Nurses
- Webinars on Obstetric care
- Webinars with Punjab Covid-19 Task force
- Webinars with SAARC Countries
- Webinars with Ain-sham University, Egypt
- Webinars with Punjab Covid-19 HCWs
- Webinar Series On Maintaining Essential Reproductive Health Services During COVID-19
- Webinars for Public organized with Sri Venkateshwara College, Delhi

*Had over 6 lac views on AIIMS Telemedicine YouTube channel*





## RESEARCH

### Ongoing

1. Comparison of King **vision** video laryngoscope **channelled and non-channelled blades with direct** laryngoscope for intubation in mannequin by medical students: A randomized mannequin study.
2. Effectiveness and perceived usefulness of a consolidated skill-based learning program amongst medical interns: A mixed methods study
3. Resuscitation practices in in-patient areas at All India Institute of Medical Sciences: A checklist based prospective, observational data collection study

### Completed

1. Comparing the effect of traditional versus simulation teaching methods on neonatal resuscitation in terms of knowledge, skills and self-confidence of nurses: A randomized controlled trial
2. Impact of simulation based teaching on knowledge of performer, actual conduct of aerosol generating procedures and self-confidence while handling patients with Covid-19.
3. Randomized trial to study the impact of simulation based learning over conventional training on knowledge and self-efficacy of nursing students in Pediatric Medicine and Surgery wards.
4. Remote trainer guided deliberate practice vs self-directed video based training for retention of CPR skills: A randomized, comparative, assessor blinded simulation study
5. Role of low fidelity simulation in acquisition of midwifery skills among nursing students: A mixed method approach

### Faculty contributing to various academic activities at the SET Facility

S. No.	Name	Department
1.	Dr Seenu V	Surgical Disciplines
2.	Dr Rashmi Ramachandran	Anaesthesiology, Pain medicine and Critical care
3.	Dr Thilaka Muthiah	Anaesthesiology, Pain medicine and Critical care
4.	Dr Manpreet Kaur	Anaesthesiology, Pain medicine and Critical care
5.	Dr Devalina Goswami	Anaesthesiology, Pain medicine and Critical care
6.	Dr Dalim Baidya	Anaesthesiology, Pain medicine and Critical care
7.	Dr Nishant Kumar	Anaesthesiology, Pain medicine and Critical care
8.	Dr Abhishek N	Anaesthesiology, Pain medicine and Critical care
9.	Dr Parin Lalwani	Anaesthesiology, Pain medicine and Critical care

S. No.	Name	Department
10.	Dr Shreya B Shah	Anaesthesiology, Pain medicine and Critical care
11.	Dr Nishkarsh Gupta	Onco Anaesthesiology
12.	Dr Rakesh Garg	Onco Anaesthesiology
13.	Dr Vinod	Onco Anaesthesiology
14.	Dr Gyanendra Pal Singh	Neuro Anaesthesiology
15.	Dr Prabudh Goel	Paediatric Surgery
16.	Dr Anu Sachdeva	Paediatrics
17.	Dr Rajni Sharma	Paediatrics
18.	Dr Jhuma Sankar	Paediatrics
19.	Dr Narendra Bagri	Paediatrics
20.	Dr K. Aparna Sharma	Obstetrics and Gynaecology
21.	Dr Juhi Bharti	Obstetrics and Gynaecology
22.	Dr Jyoti Meena	Obstetrics and Gynaecology
23.	Dr Vidushi Sinha	Obstetrics and Gynaecology
24.	Dr Archana	Obstetrics and Gynaecology
25.	Dr Anubhuti Rana	Obstetrics and Gynaecology
26.	Dr Deepali	Obstetrics and Gynaecology
27.	Dr Kusum	Obstetrics and Gynaecology
28.	Dr Rinchen	Obstetrics and Gynaecology
29.	Dr Ravneet Kaur	Centre for Community Medicine
30.	Dr Harshal Salve	Centre for Community Medicine
31.	Dr Hemanga K. Bhattacharjee	Surgical Disciplines
32.	Dr Suhani	Surgical Disciplines
33.	Dr Mohit Joshi	Surgical Disciplines
34.	Dr Kamlesh Kumari Sharma	College of Nursing
35.	Dr Smita Das	College of Nursing
36.	Ms Levis Murray	College of Nursing
37.	Dr Arvind Kumar	Medicine
38.	Dr Ranveer Singh Jadon	Medicine
39.	Dr Upendra Raj	Medicine
40.	Dr Akshay Kumar	Emergency Medicine
41.	Dr Prabhjot Singh	Urology
42.	Dr Rishi Nayyar	Urology
43.	Dr Brusabhanu Nayak	Urology
44.	Dr RK Yadav	Nephrology



# STUDENTS' WELLNESS CENTRE

## Professor-in-Charge

Pratap Sharan  
Department of Psychiatry

## Clinical Psychologist

Dr Anamika Sahu                      Ms Kalpana  
Ms Aishwarya Raj (Contractual)      Ms Divyani Khurana (Contractual)

## HIGHLIGHTS

The Students' Wellness Centre (SWC) is dedicated to the wellness of all undergraduate students, postgraduate students, research scholars, and tenured researchers and residents at AIIMS, Delhi. The SWC conducted various workshops on topics related to mental health and wellness to enable participants to cope better and become resilient. The centre also conducted focus group discussions with residents in various departments to get an understanding of issues faced by the students and residents and help solve them. The SWC has also started tele- and online psychotherapy for students and residents under quarantine due to the COVID-19 pandemic. The SWC also started a meditation group and e-SWC activity clubs for engaging scholars and improving positive mental health.

## EDUCATION

1. Various lectures were delivered to BSc (Hons) 1st year Nursing students and PC 1st year Nursing students by the Student Wellness Team during the year.
2. Various lectures related to wellness were delivered to postgraduate trainees by the SWC Team during Wellness workshops.
3. Various lectures on 'communication with patients with chronic and terminal illness' for nursing staff

## CMEs/Workshops/Symposia/National and International Conferences

- **The 'White Coat and Other Stories' by SWC, AIIMS and Scientific Society of AIIMS Students Association: New Delhi/Online: 12 episodes**
- Wellness volunteer program: Wellness Buddies workshop conducted by SWC team on 3rd May 2020.
- eSWC Workshop on Stress Management. SWC, AIIMS. New Delhi/Online (4 sessions), 14 July 2020; 21 July 2020; 17 November 2020; 24 November 2020
- Workshop: Omega: Dealing with Death. SWC, AIIMS. New Delhi/Online; 15 September 2020
- Symposium on "Mental Health and Substance Abuse", SWC and Academic Section, AIIMS. JLN Auditorium, AIIMS, New Delhi; 27 August 2020
- The Resident Wellness Programme. Foundation Course. SWC and Academic Section, AIIMS, JLN Auditorium, AIIMS, New Delhi (6 sessions), 17 September 2020, 1 October 2020; 22 October 2020; 26 November 2020; 15 March 2021, 22 March 2021
- Workshop on training Undergraduate Peer mentors. SWC, AIIMS and AIIMS Students Association; AIIMS, New Delhi/Online; 21 November 2020
- Self-Enrichment Workshop for MBBS Students (Batch 2020). SWC and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020
- Orientation cum question & answer session for the parents' of AIIMS MBBS students (Batch-2020). SWC and Academic Section, AIIMS, New Delhi/Online; 31 March 2021

## Lectures delivered

### Dr Anamika Sahu

1. Mental Health. Wellness volunteer program: Wellness Buddies workshop conducted by SWC team on 3rd May 2020.
2. Concepts of stress and stress management. eSWC Workshop on Stress Management. SWC, AIIMS. New Delhi/Online (4 sessions), 14 July 2020; 21 July 2020; 17 November 2020; 24 November 2020

3. Emotional wellness and safety nets. The Resident Wellness Programme. Foundation Course. SWC and Academic Section, AIIMS, JLN Auditorium, AIIMS, New Delhi (6 sessions), 17 September 2020, 1 October 2020; 26 October 2020; 26 November 2020; 15 March 2021, 22 March 2021
4. Emotional wellness and safety nets. Self-Enrichment Workshop for MBBS Students (Batch 2020). SWC and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020

#### **Ms Kalpana Singh**

1. Mental health services. Wellness volunteer program: Wellness Buddies workshop conducted by SWC team on 3rd May 2020.
2. Exercise, nutrition, and sleep. eSWC Workshop on Stress Management. SWC, AIIMS. New Delhi/Online (4 sessions), 14 July 2020; 21 July 2020; 17 November 2020; 24 November 2020
3. Life work balance. The Resident Wellness Programme. Foundation Course. SWC and Academic Section, AIIMS, JLN Auditorium, AIIMS, New Delhi (6 sessions), 17 September 2020, 1 October 2020; 22 October 2020; 26 November 2020; 15 March 2021, 22 March 2021
4. Life work balance. Self-Enrichment Workshop for MBBS Students (Batch 2020). SWC and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020
5. Clinical psychology. Lectures for BSc (Hons.) Nursing Students. College of Nursing (3 February, 10 March, 17 March 2021)

#### **Ms Aishwarya Raj**

1. Learning how to relax. eSWC Workshop on Stress Management. SWC, AIIMS. New Delhi/Online (4 sessions), 14 July 2020; 21 July 2020; 17 November 2020; 24 November 2020
2. Say No to Harassment. The Resident Wellness Programme. Foundation Course. SWC and Academic Section, AIIMS, JLN Auditorium, AIIMS, New Delhi (6 sessions), 17 September 2020, 1 October 2020; 22 October 2020; 26 November 2020; 15 March 2021, 22 March 2021
3. Ice-breaking session. Self-Enrichment Workshop for MBBS Students (Batch 2020). SWC and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020
4. Learning how to relax. Self-Enrichment Workshop for MBBS Students (Batch 2020). SWC and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020
5. Prevention of Sexual Harassment. Self-Enrichment Workshop for MBBS Students (Batch 2020). SWC and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020

#### **Ms Divyani Khurana**

1. Say No to Harassment. The Resident Wellness Programme. Foundation Course. SWC and Academic Section, AIIMS, JLN Auditorium, AIIMS, New Delhi (6 sessions), 17 September 2020, 1 October 2020; 22 October 2020; 26 November 2020; 15 March 2021, 22 March 2021
2. Mindfulness and positive psychology. eSWC Workshop on Stress Management. SWC, AIIMS. New Delhi/Online (4 sessions), 14 July 2020; 21 July 2020; 17 November 2020; 24 November 2020
3. Ice-breaking session. Self-Enrichment Workshop for MBBS Students (Batch 2020). SWC and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020
4. Hello AIIMS. Ice-breaking session. Self-Enrichment Workshop for MBBS Students (Batch 2020). SWC and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020
5. Prevention of Sexual Harassment. Self-Enrichment Workshop for MBBS Students (Batch 2020). SWC and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020

## **RESEARCH**

### **Departmental projects**

#### ***Ongoing***

1. COVID-19 pandemic and mental health: Development of a Chatbot paradigm for psychological wellbeing
2. A multigroup correlational study on the mental health correlates and uncertainty during COVID-19 pandemic

## **Collaborative projects**

### ***Ongoing***

1. Development of Multidimensional scale and Counselling Module for General Practitioners for the management of psychosocial and behavioural impacts during COVID-19 pandemic among different population groups in India, Medicine.
2. Development of a symptom scale for Indian patients with Medically Unexplained Physical Symptoms, Medicine.
3. Neuronal activity in patients of pain predominant MUPS-an FMRI based follow up study, Medicine.
4. Assessment of Quality of life of patients with the diagnosis of Li-Fraumeni Syndrome using a qualitative approach, College of Nursing.

## **PUBLICATIONS**

**Journals: 9**

## **CARE FOR SCHOLARS**

### ***Services***

**Face to face counselling:** Students Wellness Centre in Gents Hostel (Opposite Hostel 7) and Ladies Hostel (Hostel 19)

**E- helpline:** wellness@aiims.edu; wellness@aiims.ac.in

**M-helpline (24\*7):** 9999865729, 999965730)

### **Caseload:**

- More than 300 cases are registered with SWC during the year.
- The SWC provided counselling and field support (e.g. helping students approach their guides, coordinate research meetings).

### **Positive Mental Health**

- eSWC Activity groups for: arts, comedy, culinary arts, dance, mentorship, music, quiz, photography, writing, etc.
- eSWC Yoga and Meditation Group
- Booklets/Pamphlets

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Anamika Sahu** is a member of the editorial board of Indian Journal of Psychological Medicine (IJPM) (2020 onwards); and a peer-reviewer for Archives of Mental Health (AMH) and Journal of Mental Health and Human Behaviour (JMHHB).

## 4. Examination Section

### Dean (Examinations)

Subrata Sinha (up to 31 September 2020)

KK Deepak (from 1 October 2020)

### Associate Dean (Examinations)

Naval K Vikram

### Assistant Controller of Examinations

MK Singh

### Finance and Chief Accounts Officer

Padam Singh

AIIMS was the first institution to hold a nation-wide entrance examination (239 cities) within the first week of un-lockdown 1.0 on 11 June 2020 with support from MoHFW and MHA, to ensure timely admissions for postgraduate courses despite travel restrictions and other logistical constraints. New standard operating procedures were devised for entrance as well as professional examinations, in consultation with the Academic Section and Covid Task Force of AIIMS. These were later adopted by other Examination Conducting agencies of our country. All entrance examination for various courses of AIIMS for July 2020 and January 2021 have been completed within the time frame.

In addition to the entrance examinations,

1. A combined recruitment examination for Nursing Officers (**NORCET**) for all AIIMS as per decision of CIB and direction of MoHFW.
2. Combined PG entrance examination for INIs (**INICET**) were conducted.
3. In-house examination for various Professional Courses (Undergraduate, Postgraduate, Super specialty, fellowship) have been completed within regular timeframe. **Online Digital System** was developed for management of thesis evaluation and conduct of professional examination (e-STEMM) in addition to computerization of professional examinations.
4. **Recruitment examinations** for 18 type of posts under Group B & C were also held nationwide.

During the period under review (2020-21), the Examination Section conducted the following Professional and Entrance Examinations:

### POSTGRADUATE AND UNDERGRADUATE PROFESSIONAL EXAMINATIONS

#### Undergraduate examinations

S. No.	Month/Year	Examination	No. of candidates			
			Appeared	Absent	Passed	Fail
1.	May-June 20	BSc (Post-Basic) Nursing Phase II	24	01	23	-
2.	-do-	Final MBBS (Supplementary)	15	01	14	-
3.	August 2020	BSc (Hons) Nursing Phase-IV	60	-	60	-
4.	-do-	BSc (Hons) Medical Technology in Radiography Phase III	10	-	07	03
5.	-do-	Bachelor of Optometry Phase III	16	-	12	04
6.	October 2020	BSc in Dental Hygiene Ph-I	03	-	03	-
7.	-do-	BSc in Dental Hygiene Ph-II	02	-	02	-
8.	-do-	BSc in Dental Operating Room Assistant Phase I	07	-	07	-
9.	-do-	BSc in Dental Operating Room Assistant Phase II	04	-	04	-
10.	-do-	BSc in O.T.T. Phase I	08	01	06	01
11.	-do-	BSc in O.T.T. Phase II	17	01	13	03

S. No.	Month/Year	Examination	No. of candidates			
			Appeared	Absent	Passed	Fail
12.	-do-	Bachelor of Optometry Phase I	21	01	13	07
13.	-do-	BSc (Hons) Medical Technology in Radiography Phase I	11	-	07	04
14.	-do-	BSc (Hons) Medical Technology in Radiography Phase II	10	02	08	-
15.	-do-	BSc (Post-Basic) Nursing Phase I	30	01	27	02
16.	-do-	Bachelor of Optometry Phase II	15	03	06	06
17.	October-November 2020	BSc (Hons) Nursing Phase I	81	-	65	16
18.	-do-	BSc (Hons) Nursing Phase II	70	-	70	-
19.	-do-	BSc (Hons) Nursing Phase-III	73	-	73	-
20.	-do-	Second MBBS (Supplementary)	27	03	21	03
21.	December 2020	First MBBS (Supplementary)	08	-	08	-
22.	-do-	First MBBS Professional	115	06	92	17
23.	-do-	Second MBBS Professional	107	05	78	24
24.	-do-	Final MBBS Professional	74	02	67	05
25.	February 2021	Final MBBS (Compartmental)	02	-	02	-
26.	March 2021	First MBBS (Supplementary)	18	02	06	09+01 NE
27.	-do-	Bachelor of Optometry (Supplementary) Phase I	08	-	06	02
28.	-do-	Bachelor of Optometry (Supplementary) Phase II	09	-	08	01
29.	-do-	Bachelor of Optometry (Supplementary) Phase III	04	-	01	03
30.	-do-	BSc (Hons) Medical Technology in Radiography (Supplementary) Phase I	04	00	-	-
31.	-do-	BSc (Hons) Medical Technology in Radiography (Supplementary) Phase II	02	00	-	-
32.	-do-	BSc (Hons) Medical Technology in Radiography (Supplementary) Phase III	04	00	-	-
33.	-do-	BSc (Hons) Nursing Phase I (Supplementary)	14	00	-	-
34.	-do-	BSc (Hons) Nursing Phase II (Supplementary)	04	00	-	-
35.	-do-	BSc (Hons) Nursing Phase III (Supplementary)	03	00	-	-
36.	-do-	BSc (Hons) Nursing Phase IV (Supplementary)	01	00	-	-
37.	-do-	BSc (Post-Basic) Nursing Phase I (Supplementary)	02	00	-	-
38.	-do-	BSc (Post-Basic) Nursing Phase II (Supplementary)	01	00	-	-
39.	-do-	BSc in O.T.T. Ph-I	01	00	-	-
40.	-do-	BSc in O.T.T. Ph-II	05	00	-	-
<b>Total</b>			<b>890</b>			

## Postgraduate examinations

S. No.	Month/Year	Examination	Number of candidates			
			Appeared	Absent	Passed	Fail
1.	June 2020	MD	157	01	155	01
2.	-Do-	MS	25	-	23	02
3.	-Do-	MDS	12	-	12	-
4.	-Do-	Fellowship programme	15	-	14	01
5.	-Do-	M. Biotechnology	12	-	10	02
6.	December 2020	MD	83	04	77	02
7.	-Do-	MS	14	-	14	-
8.	-Do-	MDS	08	-	08	-
9.	-Do-	Fellowship programme	20	-	18	02
10.	-Do-	MBiotechnology	03	01	02	-
11.	May 2020	DM	58	-	57	01
12.	-Do-	MCh	30	-	30	-
13.	-Do-	MSc Nursing-II	26	-	26	-
14.	-Do-	MSc courses	43	-	42	01
15.	-Do-	MSc Nursing-I	25	-	25	-
16.	December 2020	DM	65	-	64	01
17.	-Do-	MCh	35	01	34	-
18.	-Do-	MSc courses	02	-	02	-
19.	-Do-	MSc Nursing-II	02	-	02	-
<b>Total</b>			<b>635</b>			

## ENTRANCE EXAMINATIONS FOR UNDERGRADUATE AND POSTGRADUATE COURSES

S. No.	Courses	Date of Examination	Number of candidates	
			Applied	Appeared
1.	MD/MS/MDS (AIIMS) July Session 2020	11.06.2020	38144	28127
2.	DM/MCh/Fellowship programme/MD/(Hosp Admn) (July Session 2020)	11.06.2020	3896	3138
3.	Fellowship Programme July 2020 session	11.06.2020	143	92
4.	Online BSc (Hons) Nursing 2020	21.08.2020 (Morning)	9697	6105
5.	Online BSc Nursing (Post-Basic) 2020	11.06.2020 (Morning)	489	352
6.	Online BSc (Hons) Paramedical Courses 2020	21.08.2020 (Morning)	4200	2151
7.	Online MSc Courses 2020	21.08.2020 (Morning)	785	534
8.	Online MSc Nursing 2020	11.06.2020 (Morning)	2236	1794
9.	Online MBiotechnology Entrance Examination 2020	21.08.2020 (Evening)	576	378
10.	Senior Residents Recruitment Examination, July 2020 Session	21.08.2020	1662	1224
11.	PhD July Session 2020	21.08.2020	761	590
12.	Senior Residents Recruitment Examination January 2021	01.02.2021	1007	669
13.	MD/MS/MDS (AIIMS) January 2021 Session	20.11.2020	81748	74194
14.	DM/MCh/MD/(Hosp Admn) January 2021 session	20.11.2020	5375	3723
15.	PhD January 2021 Session	12.03.2021	486	275
16.	Fellowship Programme January 2021 session	20.11.2020	221	129
17.	BSc (Hons) Nursing (RAK)	21.08.2021	1427	1231
18.	MSc Nursing (RAK)	21.08.2021	322	181
<b>Grand Total</b>			<b>153175</b>	<b>124887</b>

**Candidate passed in PhD Viva-Voce: 62**  
**EXAMINATION FOR RECRUITMENT**

S. No.	Name of Examination	Online CBT Exam	Number of candidates	
			Applied	Appeared
1	Assistant Warden	20.11.2020	26	07
2	Nursing Officer Recruitment Common eligibility Test (NORCET-2020)	08.09.2020	104194	94130
3	Junior engineer (Civil)	20.11.2020	925	419
4	Junior engineer (AC & R)	20.11.2020	96	49
5	Junior Engineer (Electrical)	20.11.2020	485	229
6	Jr. Hindi Translator	20.11.2020	92	42
7	LDC Skill Departmental	23.12.2020	18	12
8	Medical Laboratory Technologist	21.08.2020	1747	1270
9	Medical Social Service Officer Gd-II	21.08.2020	307	203
10	Nuclear Medical Technologist	20.11.2020	15	08
11	Operation Theatre Assistant	21.08.2020	1854	1389
12	Pharmacist Gd-II	20.11.2020	1836	871
13	Programmer	20.11.2020	836	351
14	Sanitary Inspector Gd-II	20.11.2020	107	21
15	Store Keeper (Drugs)	08.09.2020	1396	947
16	Store Keeper (General)	08.09.2020	260	147
17	Stenographer (Direct)*	21.08.2020	2070	1107
18	Technician (Radiology)	21.08.2020	1140	885
		<b>Total</b>	<b>117404</b>	<b>102087</b>

\*Stenographer Skill Test conducted from 01.02.2021 to 06.02.2021

**Overall Details of Examinations:**

1. Details of Undergraduate Professional Examination
  - a. Number of Entrance Exams conducted: 40
  - b. Number of candidates appeared: 890
2. Details of Postgraduate Professional Examination
  - a. Number of Entrance Exams conducted: 19
  - b. Number of candidates appeared: 635
3. Details of Entrance Examination for Academic Courses
  - a. Number of Entrance Exams conducted: 18
  - b. Number of Applicants: 153175
  - c. Number of candidates appeared: 124887
  - d. Candidate Passed in Ph.D. Viva-Voce: 62
4. Details of Recruitment Examination
  - a. Number of Examination conducted: 18
  - b. Number of Applicants: 117404
  - c. Number of candidates appeared: 102087

**Entrance Examinations conducted**

1. AIIMS PG Entrance Examination for admission to MD/MS/MDS courses was conducted on 11th June 2020 for July 2020 session at 250 Centres (Delhi 24, Outstation 226) and INI-CET for PG courses of INIs was conducted on 20th November 2020 for January 2021 session at 582 center (Delhi/NCR-58 Outstation-524) respectively. The results were declared on 17 June 2020 and 27 November 2020, respectively



2. Selections for various Post-Doctoral (super-specialty) courses viz. DM/MCh/MD (Hospital Administration) for July 2020 and January 2021 sessions and Departmental Assessment were made from 22-24 June 2020 for July 2020 session and 2-4 December 2020 for January 2021 session.
3. The Institute has also conducted online test for the Post of Senior Residents/Senior Demonstrators for July 2020 session on 21 August 2020 and January 2021 session on 1 February 2021, respectively.
4. Selections of candidates for registration to PhD programme for January 2020 and July 2020 and Departmental Assessment was done 23 January 2020 and 1 September 2020.
5. BSc (Hons) Nursing Entrance Examination was held in Delhi and 6 AIIMS (Bhopal, Bhubaneswar, Jodhpur, Patna, Raipur and Rishikesh) on 21 August 2020 in CBT online mode.
6. The Entrance Examination for admission to MSc and MBiotechnology courses was held on 20 August 2020 in Delhi in online mode.
7. The Entrance Examination for admission to MSc Nursing course was introduced from the year 2005. This examination was held on 11 June 2020 in Delhi and outstation in CBT online mode. The admission was made by allotment of seats on merit basis through counseling.
8. BSc Nursing (Post-Basic) Entrance Examination was held in Delhi and Outstation in CBT online mode on 11th June 2020 followed by personal assessment of candidates on 8th July 2020.
9. The Entrance Examination for admission to Para-Medical courses, viz. BSc (Hons) in Bachelor of Optometry and BSc (Hons) Medical Technology in Radiography, BSc Course in Dental Operating Room Assistant (DORA), BSc course in Dental Hygiene, BSc course in Operation Theatre Technology (OTT), Medical Laboratory Technology (MLT), BSc in Operation Theatre and Anesthesiology Technology (OTAT), BSc in Medical Technology and Imaging Therapy for August 2020 session were held in Delhi and Outstation in CBT online mode on 21 August 2020.
10. The Entrance Examination for fellowship programme for July 2020 session and January 2021 session were conducted in Delhi on 11 June 2020 and 20 November 2020, respectively.

**Participation in other events:**

1. The Examination Section introduced online counseling for admission to AIIMS-PG, MBBS, BSc (Hons) Para-Medical, MSc (Nursing) courses with the participation of Faculty and Staff of Academic Section. Examination Section also actively participated in the personal assessment for BSc (Nursing) Post-Certificate course.
2. Examination Section is also providing technical expertise to various Universities and Institutions in India for conduct of their Entrance Examinations.



## 5. General Administration

### Deputy Director (Administration)

Subhasish Panda (up to 19 February 2021)

Vishal Chauhan (from 3 March 2021)

### Deputy Secretary

Dhirendra Verma (up to 2 June 2020)

R Gopinath (from 3 December 2020)

The General Administration, including the Personnel and Establishment Security, Estate, Engineering Services Department, Stores, Coordination, Parliamentary matters, grievances, etc. of the Institute, are controlled and supervised by the Deputy Director (Administration). There are various branches looking after the above mentioned areas. Each branch is headed by a Senior Officer with supportive officers and staff members. A brief description of the Officers/Staff looking after the various branches are given below:

### Chief Administrative Officer

Shri Deo Nath Sah

### Superintending Engineer

#### AIIMS Campus

Shri Manjul Rastogi (up to 31 December 2020)

Shri Vinod Kumar Sharma (officiating) (from 1 January 2021)

### AIIMS, Jhajjar Campus

Hridesh Kumar

### Executive Engineers

Vidya Bhushan

Joginder Malhotra (up to 31 December 2020)

Vinod Kumar Sharma

Harpal Singh

Ashok Kumar (from 1 February 2020) D Vijay Raghwan (from 1 February 2020)

### Chief Security Officer

Satyendra Kumar

### Deputy Chief Security Officer

Deepak Kumar

RS Rawat

### Senior Administrative Officer

Lalit Oraon

Renu Bhardwaj (up to 31 August 2020)

BS Gill

Rajendran Pillai G (from 5 December 2020)

Raj Kumar (7 September 2020 to 28 February 2021)

Anita Tete (from 1 March 2021)

### Administrative Officer

SL Chamoli

Nikhil Bhatnagar

Raj Kumar (up to 6 September 2020)

Rajendran Pillai G (up to 4 December 2020)

Anita Tete (up to 28 February 2021)

BK Singh

R Santhosh Kumar (from 21 August 2020)

RK Sharma (from 21 August 2020)

Bhoop Singh (from 10 September 2020)

Uttam Chand (from 7 December 2020)

Joginder Kumar (from 5 December 2020)

Latha Paulose (from 5 December 2020)

Vimal Thakral (from 5 December 2020)

Saroj Pant

Narender Kumar Gupta (up to 31 May 2020)

Vipin Prakash

Kushal Kumar

### Assistant Administrative Officer

Bhoop Singh (up to 9 September 2020)

RK Sharma (up to 20 August 2020)

R Santhosh Kumar (up to 20 August 2020)

Nirmala Jacinta Kujur

Uttam Chand (up to 6 December 2020)

CP Sadana (up to 31 August 2020)

Vimal Thakral (up to 4 December 2020)

Latha Paulose (up to 4 December 2020)

Asha Dogra (up to 30 September 2020)

Vidya Sagar

Kishan Lal  
Joginder Kumar (up to 4 December 2020)  
Rajesh Kumar  
Sanjay Nandhi  
Narender Kumar Gupta  
Sudesh Soni  
Renu Bhasin  
Santosh Manocha (Khosla)  
Devi Prasad (from 19 October 2020)  
Ashok Kumar (from 23 October 2020)

Kamal Chandra Bhatt  
Saroj Kumari Lal  
Surjit Singh (up to 31 October 2020)  
Suresh Kumar  
Ishwar Dutt Sharma (up to 31.12.2020)  
Shakuntala Rawat  
Naresh Nangia  
Sohanbir  
Gyan Chand (from 19 October 2020)

**Senior Stores Officer**

Rakesh Kumar  
Narender Kumar (from 31 December 2020) Bhawani Ram (from 31 December 2020)

**Store Officers**

Narender Kumar (up to 30 December 2020) Kamal Singh  
Archana Sharma Bhawani Ram (up to 30 December 2020)  
Manohar Arya

Responsibilities of the Establishment Section and General Administration include recruitment, service matters, conducting meetings of the statutory committees, management of estate and property, purchase of equipment, materials and consumables, security arrangements, employees' welfare, etc.

The total strength of sanctioned staff of the Institute is 13,491. Positions filled as on 31 March 2021 were 10,505 which includes the staff of all Centres, Main Hospital and Director's officer (D.O.). The number of group-wise sanctioned strength and staff in-position is mentioned below:

S. No.	Category/Group	Sanctioned Strength	In-position
1.	Faculty	1099	743
2.	Group A (non-faculty)	665	510
3.	Group B	7390	5770
4.	Group C & erstwhile Group D	4337	3482
	<b>Total</b>	<b>13491</b>	<b>10505</b>

**Composition of SC/ST/OBC/Women Cell at AIIMS, New Delhi**

**Liaison Officer For SC/ST/PWD employees**

Dr Rajpal, Professor of Ophthalmology, Dr RP Centre, AIIMS

**Liaison Officer for OBC**

Dr Rakesh Yadav (up to 10 September 2020) Professor, Department of Cardiology  
Dr Rashmi Ramachandran (from 11 September 2020 to 27 January 2021), Professor,  
Department of Anaesthesiology  
Dr Dayananad Sharma (from 28 January 2021), Professor and Head, Department of Radiotherapy

**Senior Administrative Officer**

Anita Tete

Further, during the year (1 April 2020 to 31 March 2021), the details of the complaints/representations received in this office are given below:

Total number of representations received: 32  
Total number of cases resolved/disposed off: 24  
Total number of cases under consideration: 8

## 6. Hospital

### Medical Superintendent

DK Sharma

### Department of Hospital Administration

#### Professor and Head

Sidhartha Satpathy

#### Professors

IB Singh

Sanjay Kumar Arya

#### Additional Professors

Nirupum Madaan

Anoop Daga

Amit Lathwal

Mahesh R

#### Associate Professors

Angel Rajan Singh

Parmeshwer Kumar

Vijaydeep Sidharth

#### Assistant Professors

Abdul Hakim

Jitender Sodhi

Vikas H

Sheetal Singh

Laxmi Tej Wundavalli

Kanika Jain

Anant Gupta

### Bed Complement

Bed Category	Main Hospital	Centre for Dental Education and Research	Cardiothoracic and Neurosciences Centre
General	836	17	317
ICU	92	–	74
Observation	69	–	09
Private Ward	165	–	64
<b>Total</b>	<b>1162</b>	<b>17</b>	<b>464</b>

### Hospital Performance Indices

Parameters	Main Hospital		CNC		CDER		Inference
	2020-21	2019-20	2020-21	2019-20	2020-21	2019-20	
Average length of stay (days)	10.4	9.9	13.8	10.5	5.1	5.0	<i>Indicates effective utilization of beds of regular admissions</i>
Average bed occupancy rate (%)	56.2	85.9	46.7	83.8	19.7	69.6	<i>Indicates fair occupancy.</i>
Net death rate (%)	3.0	1.7	6.9	2.6	0.0	0.05	<i>Indicates low mortality rate despite the fact that large number of critically ill patients are admitted</i>
Combined crude infection rate (%)	8.9	5.6	–	–	–	–	

## 6.1 Medical Records Department

### Officer Incharge

Mahesh R

### Chief Medical Officer (Acting)

Sandeep M Singh

### Medical Record Officers

Roshan Lal-II

### COVID-19 (PANDEMIC)

During the Covid-19 outbreak (Pandemic) many people have been affected and lost their lives. This situation put all healthcare professionals under tremendous pressure at work. In the midst of this pressure, the commitment of every health care worker including Medical Record Section was to save lives in every way possible.

The role of the Section was to accumulate Covid-19 data from various Covid Centres of AIIMS, i.e. NCI Jhajjar, JNPA Trauma Center and from the wards of Main Hospital to compile and send to several agencies and departments of government for e.g. IDSP, DGHS, DC South, Death Audit Committee, Healthcare workers, line listing and uploading the information on Covid-19, Data management portal, etc. daily including on Sundays and gazetted holidays.

### COURT ATTENDANCE

1. A total of 31 summons/notices were received in the Medical Record Section (Main Hospital) from various Courts of Delhi and outside Delhi. The concerned doctors/ consultants (as per case) and staffs from the Medical Record Department were deputed to attend the court on behalf of AIIMS Hospital to depose/settle the case.

### Aid in Medical Education and Research

1. Approximately 6342 Medical Case Records (Case Sheets) were retrieved and issued to the Residents authorized by the concerned Consultants for research, education and other official purposes.

### Computerization and Digitization of Medical Records

1. Digitization of Inpatient medical records of Main Hospital has been going on since 2014 for easy retrieval of records. Over 1.31 crore images of case records of patients have been scanned for future reference.

### In-patient Services

1. The yearly statistical health bulletin at a glance of Main Hospital, Centre for Dental Education and Research (CDER) and Cardiothoracic and Neurosciences (CN) Centre of AIIMS are given in Table I.
2. The AIIMS hospital has maintained its tradition of services and quality of patient care in spite of increasing number of patients who visited the hospital from all over India as well as from abroad. A total of 61,619 patients were admitted during the year in various clinical units of Main Hospital, CN Centre and CDER. The details of patient load as per Department-wise, State-wise and Gender-wise, Admissions, Discharges and Average Length of Stay are given at Tables II, III and IV, respectively. The details of deaths as per department-wise and its indices are given at Table V.
3. A total of 39,034 Surgical Procedures (Major and Minor) were performed during the year in various Surgical Disciplines of Main Hospital, CN Centre and CDER (Table VI).
4. Medical Record of indoor patients are systematically classified and categorized for easy retrievals for the purposes of Education, Research/Thesis, Presentation, Insurance, Court Cases etc. These records are stored in Compactors according to C.R. Numbers. All the In-patient records of Main Hospital, CN Centre and CDER are maintained separately by Medical Record Section of the Main Hospital.

### Central Admission Office and Hospital Enquiry

1. The Central Admission Office & Enquiry (CAO&E) of AIIMS functions round the clock for 365 days without a break.
2. All admissions to the inpatient areas of Main Hospital, CN Centre and CDER are made through this office. It functions like the heart of the Institute performing important functions like patient registration for initiation of Admission Slip (Face-Sheet) and issuing of attendant passes, etc.

3. The Admission Office also gives information to several ministries as well as to higher authorities of AIIMS about the hospitalization of VIPs/VVIPs.
4. In addition, the office also functions as a general enquiry providing prompt and accurate information regarding the patients and the Institute. The staff working there are on shift duties and the office is manned by Junior Reception Officer, Junior Medical Record Officer and Medical Record Technicians, etc.

### Outpatient Department and Specialty Clinics

1. A total number of **5,64,962 patients** attended various General Outpatient Departments (OPDs), Specialty Clinics and Emergency Department of the Main Hospital, AIIMS (Table VII).

### Other Activities

S. No.	Name of activity	Number
1.	Amendments made in the Inpatients Records during the year	768
2.	Amendments made in the Birth Records during the year	306
3.	Amendments made in the Death Records during the year	476
4.	Admission and other charges exempted for indigent patients and patients admitted under JSSK Scheme in Main Hospital and CDER	12574
5.	Admission and other charges exempted for indigent patients and patients admitted under JSSK Scheme in CN Centre	335

The statistical data for the year 2020-2021 (Annual Report) has been prepared/compiled by Mr Rajbir Singh, Medical Record Technician under the supervision of Medical Record Officer.

**Table I. Yearly Statistical Health Bulletin**

S. No.	Item	Main Hospital		CN Centres		CDER	
		2020-21	2019-20	2020-21	2019-20	2020-21	2019-20
1.	Total Patient Admitted	55282	120110	6082	20127	255	1948
	a. Adults and Children	53691	117621	-	-	-	-
	—Regular	18934	33555	4653	12489	237	864
	—Short	34757	84066	1429	7638	18	1084
	b. Newborn infants	1591	2489	-	-	-	-
	Regular	1591	2489	-	-	-	-
2.	Short	00	00	-	-	-	-
	Patients discharged (including LAMA, absconded, discharge on request and deaths)	52152	116565	5512	19662	248	1933
	a. Adults and Children	50587	114023	-	-	-	-
	—Regular	17163	32894	4210	12247	231	868
	—Short	33424	81129	1302	7415	17	1065
	b. Newborn infants	1565	2542	-	-	-	-
3.	—Regular	1565	2542	-	-	-	-
	—Short	00	00	-	-	-	-
	Total days of care	228096	431711	59573	136559	1187	5405
	a. Adults and Children	215284	410275	-	-	-	-
	—Regular	181860	329146	58271	129144	1170	4340
	—Short	33424	81129	1302	7415	17	1065
b. Newborn infants	12812	21436	-	-	-	-	
—Regular	12812	21436	-	-	-	-	
—Short	00	00	-	-	-	-	

S. No.	Item	Main Hospital		CN Centres		CDER	
		2020-21	2019-20	2020-21	2019-20	2020-21	2019-20
4.	Average length of stay of regular patients	10.4	9.9	13.8	10.5	5.1	5.0
	a. Adults and Children	10.6	10.0	-	-	-	-
	b. Newborn infants	8.2	8.4	-	-	-	-
5.	Total patient care days (as per daily census)	224221	342644	77558	139190	1223	4318
	a. Adults and Children	222311	339382	-	-	-	-
	b. Newborn infants	1910	3262	-	-	-	-
6.	Daily average number of patients (as per daily census)	614	939	212	381	03	12
	a. Adults and Children	609	930	-	-	-	-
	b. Newborn infants	05	09	-	-	-	-
7.	Average bed occupancy	56.2	85.9	46.7	83.8	19.7	69.6
	a. Adults and Children	55.7	85.1	-	-	-	-
	b. Newborn infants	0.5	0.8	-	-	-	-
8.	Births in Hospital	1588	2489	-	-	-	-
	a. Male	828	1296	-	-	-	-
	b. Female	759	1189	-	-	-	-
	c. Intersex	01	04	-	-	-	-
9.	Total inpatient deaths (including newborns)	2369	3073	504	697	00	01
	a. Deaths under 48 hours	842	1148	134	191	00	00
	b. Deaths over 48 hours	1527	1929	370	506	00	01
	c. Gross death rate (%)	4.5	2.6	9.1	3.5	0.0	0.05
	d. Net death rate (%)	3.0	1.7	6.9	2.6	0.0	0.05
10.	Total attendance in casualty	95184	149550	-	-	-	-
	Deaths	1863	1835	-	-	-	-
	Brought dead	1082	1271	-	-	-	-
11.	OPD attendance including special clinics (Main Hospital)	469778	1894052	-	-	-	-
	New cases	215664	687314	-	-	-	-
	Old cases	254114	1206738	-	-	-	-

**Table II. Department-wise admissions (Main Hospital, CN Centre and CDER)**

Department	Admission		Discharges (including LAMA, absconded or deaths)		Total days of care		Average length of stay of regular admissions
	Regular	Short	Regular	Short	Regular	Short	
Anesthesiology (Pain Clinic)	00	69	00	61	00	61	0.0
Dermatology and Venereology	150	431	139	427	19088	427	13.7
Endocrinology and Metabolism	156	19	144	25	2312	25	16.1
Gastroenterology and Human Nutrition	1352	1221	1253	1132	15298	1132	12.2
Gastrointestinal Surgery and Liver Transplantation	327	75	304	47	5731	47	18.9
Geriatric medicine	899	94	781	98	7920	98	10.1

Department	Admission		Discharges (including LAMA, absconded or deaths)		Total days of care		Average length of stay of regular admissions
	Regular	Short	Regular	Short	Regular	Short	
Haematology	537	7830	492	7581	9341	7581	19.0
Medicine I	1095	80	985	65	11320	65	11.5
Medicine II	1091	106	944	95	10341	95	11.0
Medicine III	1121	97	989	84	9773	84	9.9
Nephrology	583	6803	465	6650	5738	6650	12.3
Newborn	1591	00	1565	00	12812	00	8.2
Neonatal ICU (NICU)	50	01	09	00	64	00	7.1
Nuclear Medicine	220	109	213	94	364	94	1.7
Obstetrics and Gynaecology I	1096	312	1055	258	8050	258	7.6
Obstetrics and Gynaecology II	1194	364	1131	349	10283	349	9.1
Obstetrics and Gynaecology III	1134	427	1127	396	8655	396	7.7
Oncology (Main)	253	00	229	00	1237	00	5.4
Orthopaedics I	409	370	468	283	3634	283	7.8
Orthopaedics II	590	536	520	464	5836	464	11.2
Otorhinolaryngology I	190	84	201	74	1887	74	9.4
Otorhinolaryngology II	218	99	219	82	2305	82	10.5
Otorhinolaryngology III	179	73	163	68	1403	68	8.6
Paediatrics I	586	1224	539	1218	5148	1218	9.6
Paediatrics II	446	468	432	455	5822	455	13.5
Paediatrics III	1187	8754	824	8617	7723	8617	9.4
Paediatric Surgery	816	418	752	408	9102	408	12.1
Physical Medicine and Rehabilitation	00	00	01	00	33	00	33.0
Psychiatry	185	00	132	03	3907	03	29.6
Pulmonary Medicine and Sleep Disorders	669	1684	571	1616	5731	1616	10.0
Plastic and Reconstructive Surgery	56	17	43	12	673	12	15.7
Radiotherapy	02	00	00	00	00	00	0.0
Rheumatology	07	956	03	915	23	915	7.7
Surgical Disciplines I	390	133	355	123	3744	123	10.5
Surgical Disciplines II	385	103	352	77	4030	77	11.4
Surgical Disciplines III	305	91	331	64	3581	64	10.8
Surgical Disciplines IV	482	152	459	136	4196	136	9.1
Urology	574	1557	538	1447	4747	1447	8.8
<b>Total (Main)</b>	<b>20525</b>	<b>34757</b>	<b>18728</b>	<b>33424</b>	<b>194672</b>	<b>33424</b>	<b>10.4</b>
Cardiology	1898	329	1760	311	19740	311	11.2
Cardiothoracic and Vascular Surgery	736	03	673	02	11086	02	16.5
Neurology I	486	274	389	288	3845	288	9.9
Neurology II	333	122	324	98	3481	98	10.7
Neurology III	320	207	269	193	4111	193	15.3
Neurosurgery I	438	267	376	230	8241	230	21.9
Neurosurgery II	415	227	391	180	7132	180	18.2

Department	Admission		Discharges (including LAMA, absconded or deaths)		Total days of care		Average length of stay of regular admissions
	Regular	Short	Regular	Short	Regular	Short	
Neuroradiology	27	00	28	00	635	00	22.7
<i>Total (CNC)</i>	<b>4653</b>	<b>1429</b>	<b>4210</b>	<b>1302</b>	<b>58271</b>	<b>1302</b>	<b>13.8</b>
CDER	237	18	231	17	1170	17	5.1

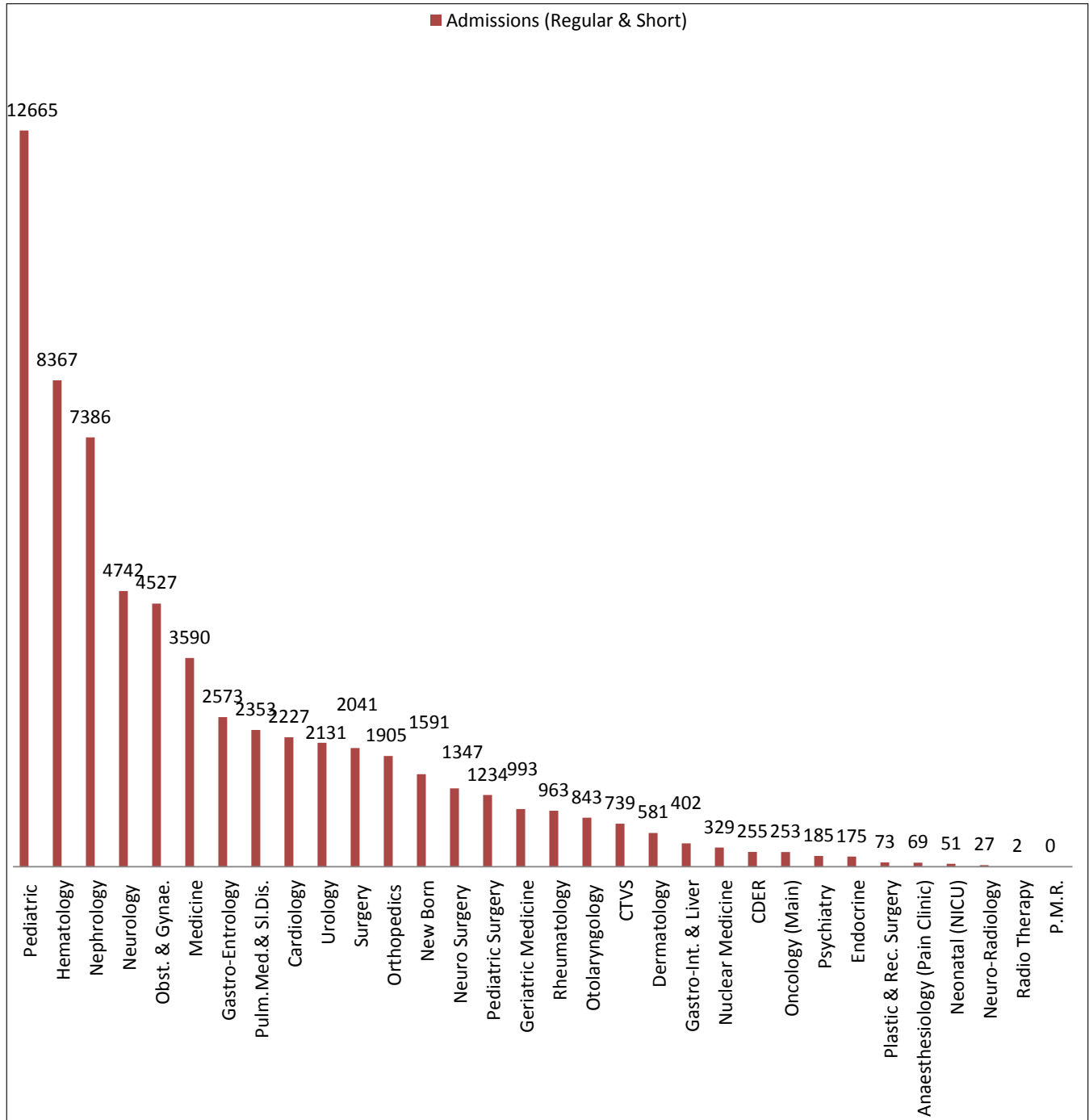


Fig 1. Department-wise average length of stay



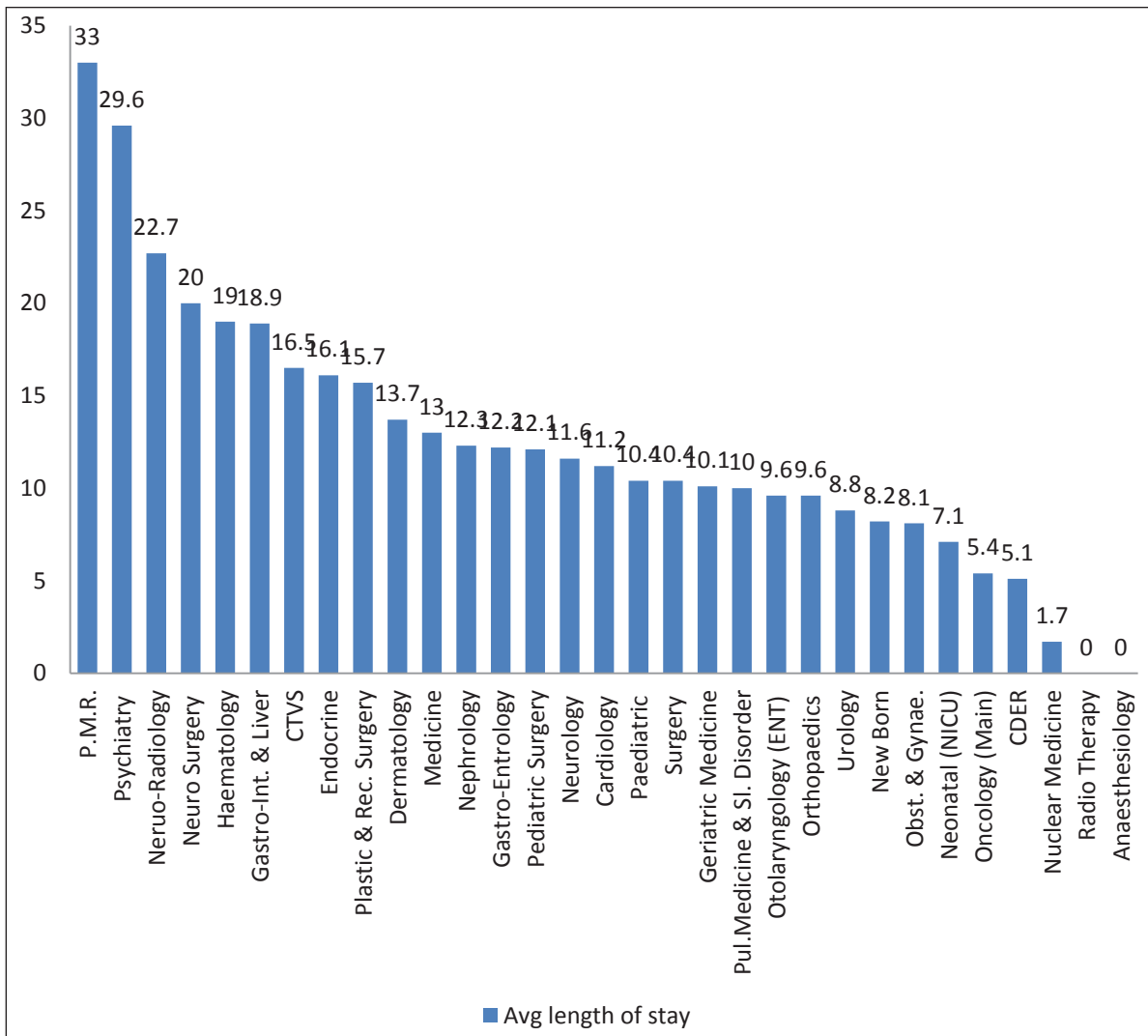
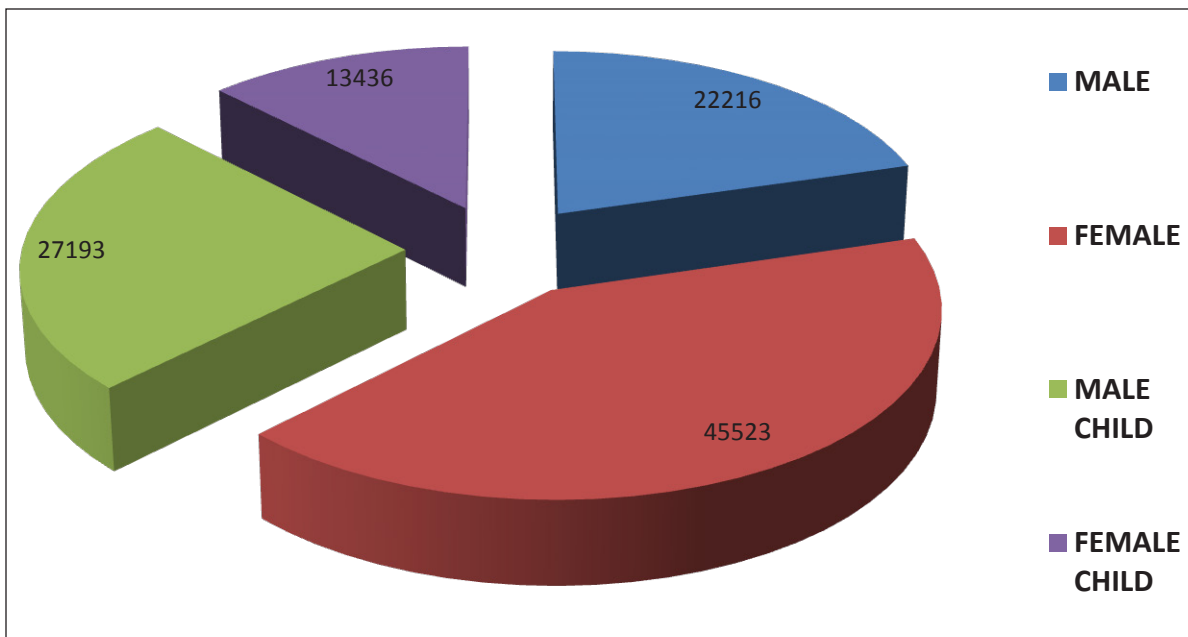


Fig 2. Gender-wise inpatients in Main Hospital, CN Centre and CDER



**Table III. Department-wise deaths in Main Hospital and CN Centre**

Department	Discharges	Total deaths	Deaths under 48 hours	Deaths over 48 hours	Gross death rate (%)	Net death rate (%)
Anesthesiology (Pain Clinic)	61	00	00	00	0.0	0.0
Dermatology and Venereology	566	04	00	04	0.7	0.7
Endocrinology and Metabolism	160	07	03	04	4.4	2.5
Gastroenterology and Human Nutrition	2385	362	141	221	15.2	9.8
Gastrointestinal Surgery and Liver Transplantation	360	53	05	48	14.7	13.5
Geriatric medicine	879	324	111	213	36.9	27.5
Haematology	8073	175	69	106	2.2	1.3
Medicine I	1050	261	94	167	24.9	17.5
Medicine II	1039	298	109	189	28.7	20.3
Medicine III	1073	250	108	142	23.3	14.7
Nephrology	7115	60	13	47	0.8	0.7
Newborn	1565	49	19	30	3.1	1.9
Neonatal ICU (NICU)	09	0	00	00	0.0	0.0
Nuclear Medicine	307	0	00	00	0.0	0.0
Obstetrics and Gynaecology I	1313	02	00	02	0.2	0.2
Obstetrics and Gynaecology II	1480	03	00	03	0.2	0.2
Obstetrics and Gynaecology III	1523	04	00	04	0.3	0.3
Oncology (Main)	229	92	46	46	40.2	25.1
Orthopaedics I	751	01	00	01	0.1	0.1
Orthopaedics II	984	01	00	01	0.1	0.1
Otorhinolaryngology I	275	01	00	01	0.4	0.4
Otorhinolaryngology II	301	03	00	03	1.0	1.0
Otorhinolaryngology III	231	01	00	01	0.4	0.4
Paediatrics I	1757	36	09	27	2.0	1.5
Paediatrics II	887	50	16	34	5.6	3.9
Paediatrics III	9441	59	18	41	0.6	0.4
Paediatric Surgery	1160	35	06	29	3.0	2.5
Physical Medicine and Rehabilitation	01	00	00	00	0.0	0.0
Psychiatry	135	00	00	00	0.0	0.0
Pulmonary Medicine and Sleep Disorders	2187	131	36	95	6.0	4.4
Plastic and Reconstructive Surgery	55	00	00	00	0.0	0.0
Radiotherapy	00	00	00	00	0.0	0.0
Rheumatology	918	00	00	00	0.0	0.0
Surgical Disciplines I	478	27	07	20	5.6	4.2
Surgical Disciplines II	429	26	10	16	6.1	3.8
Surgical Disciplines III	395	24	09	15	6.1	3.9
Surgical Disciplines IV	595	21	11	10	3.5	1.7
Urology	1985	09	02	07	0.5	0.4
<b>Total (Main hospital)</b>	<b>52152</b>	<b>2369</b>	<b>842</b>	<b>1527</b>	<b>4.5</b>	<b>3.0</b>
Cardiology	2071	156	83	73	7.5	3.7
Cardiothoracic and Vascular Surgery	675	151	22	129	22.4	19.8

Department	Discharges	Total deaths	Deaths under 48 hours	Deaths over 48 hours	Gross death rate (%)	Net death rate (%)
Neurology I	677	46	06	40	6.4	6.0
Neurology II	422	36	07	29	8.5	7.0
Neurology III	462	31	06	25	6.7	5.5
Neurosurgery I	606	48	07	41	7.9	6.8
Neurosurgery II	571	35	03	32	6.1	5.6
Neuroradiology	28	01	00	01	3.6	3.6
<b>Total (CNC)</b>	<b>5512</b>	<b>504</b>	<b>134</b>	<b>370</b>	<b>9.1</b>	<b>6.9</b>
<i>CDER</i>	<b>248</b>	<b>00</b>	<b>00</b>	<b>00</b>	<b>0.0</b>	<b>0.0</b>

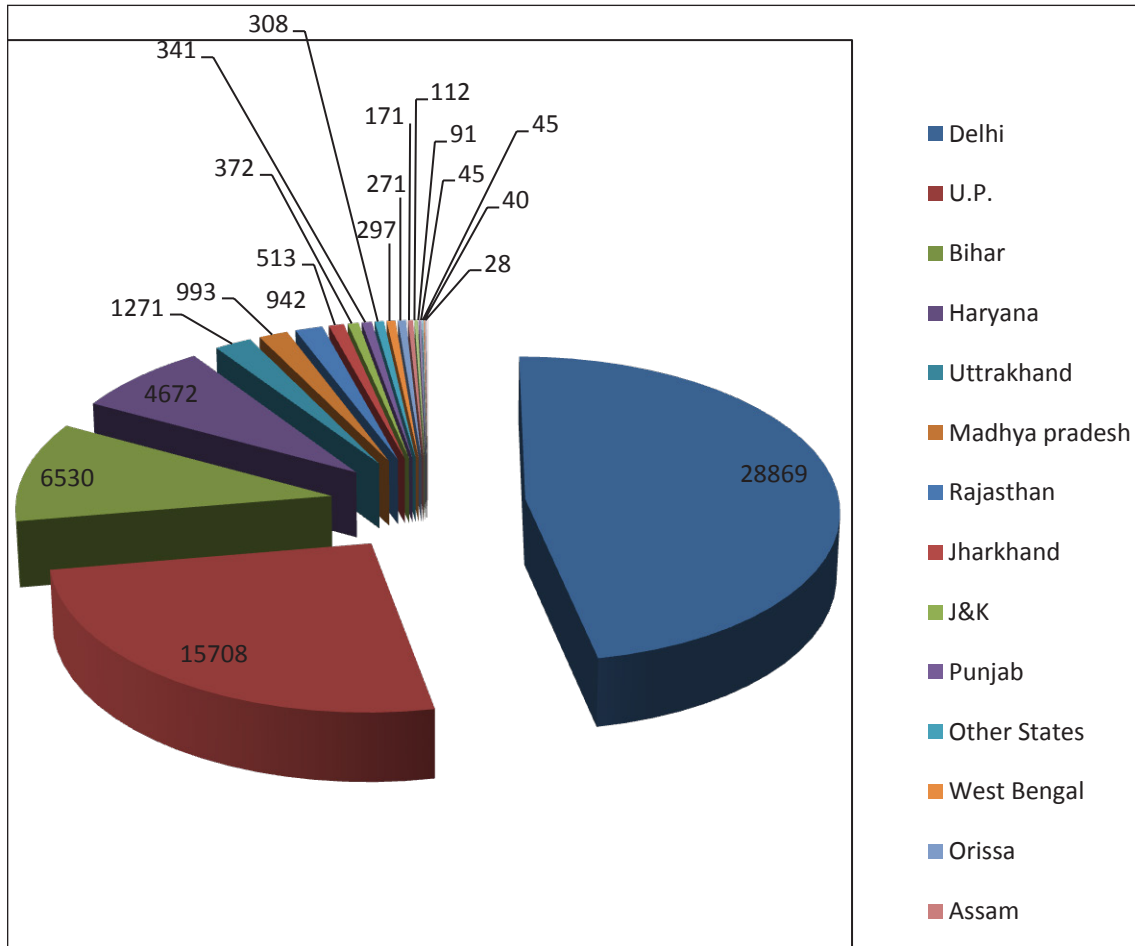


Fig 3. Geographical distribution of inpatients (Main Hospital, CN Centre and CDER)

Table IV. Surgical procedures done in the Main Hospital, CDER and CN Centre

Department	Major	Minor		TOTAL
		Inpatient cases	Outpatient cases	
Surgical Disciplines I	354	50	1132	1536
Surgical Disciplines II	284	52	765	1101
Surgical Disciplines III	257	29	854	1140
Surgical Disciplines IV	398	92	900	1390
Gastrointestinal Surgery and Liver Transplantation	259	01	00	260
Urology	469	228	3917	4614
Obstetrics	941	50	00	991

Department	Major	Minor		TOTAL
		Inpatient cases	Outpatient cases	
In vitro fertilization	00	236	00	236
Gynaecology I	212	87	00	299
Gynaecology II	210	80	00	290
Gynaecology III	306	149	00	455
Foetal Medicine	00	319	00	319
Otorhinolaryngology I	243	31	2143	2417
Otorhinolaryngology II	236	49	2382	2667
Otorhinolaryngology III	189	25	2376	2590
Orthopaedics I	410	209	00	619
Orthopaedics II	587	1206	00	1793
Paediatric Surgery	640	84	00	724
Casualty	55	122	00	177
Plastic and Reconstructive Surgery	325	18	2106	2449
Anaesthesiology (Pain Clinic)	07	77	00	84
Physical Medicine and Rehabilitation	00	00	63	63
Dermatology and Venereology	00	00	1869	1869
<b>Total (Main hospital)</b>	<b>6382</b>	<b>3194</b>	<b>18507</b>	<b>28083</b>
Cardiothoracic and Vascular Surgery	1296	00	00	1296
Neurosurgery I	632	101	00	733
Neurosurgery II	681	99	00	780
<b>Total (CNC)</b>	<b>2609</b>	<b>200</b>	<b>00</b>	<b>2809</b>
<i>Dental Surgery/CDER</i>	<b>204</b>	<b>14</b>	<b>7924</b>	<b>8142</b>

**Table V. Attendance in outpatients and specialty clinics**

Medical Disciplines		New Cases	Old Cases	Total
Medicine	General OPD	8464	12439	20903
	a) Obesity and metabolic disorders	00	00	00
	b) Infectious disease clinic	125	159	284
Rheumatology	General OPD	2037	3876	5913
	a) Rheumatology clinic	03	1189	1192
Geriatric Medicine		2012	5193	7205
Pulmonary Medicine and Sleep Disorders	General OPD	2305	3334	5639
	a) Sleep disorder	05	03	08
	b) Lung cancer	72	23	95
	c) ILD - PAH	15	19	34
	d) Combined pulmonary surgery	02	01	03
Nuclear Medicine		889	4019	4908
Endocrinology and Metabolism		4473	9230	13703
Nephrology	General OPD	3124	9293	12417
	a) Transplant clinic	09	1732	1741
	b) RTCC	99	93	192
Haematology		2788	5662	8450
Gastroenterology		7812	10643	18455
Paediatrics	General OPD	7831	15042	22873
	a) Well baby	00	00	00

Medical Disciplines		New Cases	Old Cases	Total
	b) Follow up TB	00	00	00
	c) Renal clinic	00	00	00
	d) Paediatric neurology	00	00	00
	e) Paediatric chest clinic	00	00	00
	f) High risk neonatal	00	00	00
	g) Genetic and birth defects clinic	00	00	00
	h) Oncology clinic	00	00	00
	i) Child development clinic	00	00	00
	j) Endocrinology clinic	00	00	00
	k) Neurocysticercosis clinic	00	00	00
	l) PCSC	00	00	00
	m) Rheumatology clinic	00	00	00
	n) Myopathy clinic	00	00	00
	o) Paediatric gastroenterology clinic	00	00	00
	p) Autism	00	00	00
Dermatology and Venereology	General OPD	7422	9844	17266
	a) STD (Dermatology surgery)	116	108	244
	b) Allergy clinic	27	28	55
	c) Leprosy	26	50	76
	d) Psoriasis	10	49	59
	e) Dermo-Surgery	62	46	108
	f) Vitiligo	18	38	56
	g) Photo Therapy	06	17	23
	h) Photo Dermatology	01	06	07
	i) Paediatric Dermatology	08	07	15
Psychiatry	General OPD	5247	12886	18133
	a) Child guidance	237	56	293
<b>Surgical disciplines</b>		<b>New cases</b>	<b>Old cases</b>	<b>Total</b>
Surgery		8685	8682	17367
Plastic Surgery		3794	6627	10421
Urology		1645	2665	4310
Gastrointestinal Surgery and Liver Transplantation		1299	2219	3518
Paediatric Surgery	General OPD	2590	5531	8121
Anesthesiology	a) Pain Clinic	80	335	415
	b) Pre-anesthesia clinic	775	231	1006
Orthopaedics	General OPD	10731	18139	28870
	a) Physiotherapy	5663	5367	11030
	b) Occupational Therapy	256	718	974
	c) Hydrotherapy	266	1052	1318
	d) Tuberculosis	01	00	01
	e) Scoliosis	42	70	112
	f) Hand clinic	23	27	50
	g) Congenital talipes equinovarus	18	150	168
	i) Sports clinic	00	00	00
	j) Fragility fracture clinic and Liaison services	01	03	04
	j) Bone and soft tissue sarcoma clinic	00	00	00

Medical Disciplines		New Cases	Old Cases	Total
Otorhino-laryngology (ENT)	General OPD	7441	8462	15903
	a) Audiology	00	00	00
	b) Speech	544	347	891
	c) Hearing	11	12	23
	d) Voice	13	07	20
	e) Vertigo	00	00	00
	f) Rhinology	00	00	00
	g) H.N.& R.	07	03	10
Obstetrics and Gynaecology	General OPD	9302	12692	21994
	a) In vitro fertilization	00	01	01
	b) Family welfare	1231	390	1621
	c) Antenatal	30	03	33
	d) Endo-gynaecology	00	00	00
	e) High risk pregnancy	156	00	156
Radiotherapy		219	326	545
Physical Medicine and Rehabilitation	General OPD	3054	4652	7706
	a) Prosthetics & Orthotics	391	908	1299
	b) Disability Evaluation Clinic	00	20	20
	c) OPD (PT Section)	00	1912	1912
	d) OPD (OT Section)	00	803	803
	e) OPD (MSSO)	282	267	549
Others	1. Emergency/Casualty	65743	29441	95184
	2. Employees Health Scheme	99609	66408	166017
	3. Nutrition	2260	00	2260
<b>Grand Total</b>		<b>281407</b>	<b>283555</b>	<b>564962</b>

## 6.2 Dietetics

**Chief Dietician**  
Dr (Mrs) Parmeet Kaur

### HIGHLIGHTS

A manual entitled “Nutrition Standards for Hospital Diets” was developed and printed in July 2020. The comprehensive development of nutrition standards of various kind of indoor hospital diets served to General Ward and Private Ward patients is a new process and has not undertaken earlier in a comprehensive manner earlier in Indian hospitals. Nutrition standards for Hospital Diets (NSHD) for over 8 regular diets, 30 disease- specific therapeutic diets and 8 hospital-based feeds for patients on enteral nutrition support was undertaken by a team of dietitians from AIIMS, New Delhi. Regular diet standards were formulated according to the recommended nutritional allowances by National Institute of Nutrition, Indian Council of Medical Research, India. Disease- specific therapeutic diets were planned as per available national and international guidelines. The type, quantity and serving sizes of food items along with target energy and nutrient values for each diet were determined. NSHD are intended to be utilized by dietitians, doctors, food service managers and policy makers to ensure best practice for food service in a hospital.

Provided immunity boosting diets to Covid-19 indoor hospital dieted general ward and private ward patients.  
Co-ordinated to provide attendants/family members of Covid-19 indoor hospital dieted general ward and private ward patients.  
Provided oral high protein supplements to healthcare workers/professionals serving at AIIMS, New Delhi.



## CME/Workshop/Symposia/National & International Conferences

### Lectures delivered

#### Parmeet Kaur

1. Solving India's Protein Paradox, ET Edge unwired, 28 August 2020, Goregaon, Mumbai, online
2. Extempore Fiesta, Indian Dietetic Association, Delhi Chapter, 10 September 2020, New Delhi, online
3. Healthy Recipes, FM, Rainbow, Aakashwani, New Delhi, 30 December 2020, New Delhi
4. Women's Nutrition for better Health, Mission Shakti, 2020, State Project implementation unit (SPIU) UP and Bundelkhand Institute of Engineering and Technology (BIET), Jhansi, 16 January 2021, Jhansi (online)
5. Being Women, Indian Dietetic Association, Delhi Chapter, 8 March 2021, New Delhi (online)
6. Nutrition Screening Tools in Critical Care, Indian Dietetic Association, Delhi Chapter, 25 March 2021, New Delhi (online)

## PUBLICATIONS

### Journals: 2

## PATIENT CARE

The therapeutic dietary needs of approximately 2300 indoor patients are provided every day. There are various kinds of diets provided to the patients based on the disease and dietary requirements calculated on the basis of nutritional screening and assessment done by dietitians in their respective wards. The yearly data of different kind of diets sent to the indoor patients of main hospital and centers, in a day are as follows:

Type of Diet	Number of patients/annum
Normal	2,27,629
Private ward	46,064
Semisolid	31,143
Therapeutic	58,494
Kitchen-based enteral feed	40,652
Commercial formulas	2675
Guest house	189
<b>Total</b>	<b>4,06,846</b>

In addition Nutrition counseling OPD is also run in the Main Hospital. The approximate no of indoor and OPD patients counseled in 2020-2021 are as follows:

Gender	Nutrition counseling		
	Outdoor	Indoor	Total
<b>Male</b>	1143	2536	3679
<b>Female</b>	1117	2446	3563
<b>Total</b>	<b>2260</b>	<b>4982</b>	<b>7242</b>

## 6.3 Hospital Billing Section

The donations received and payments made to patients during financial year 2020-2021 are:

Donations received from donors:	Rs 28,40,267.86
(Bank interest, donations, poor fund boxes and donations received online by RTGS)	
Payments made (310 patients):	Rs 9,90,354.00

(The amount disbursed to poor patients is from donations received from donors during the year as well as from the previous balance lying in the ‘AIIMS POOR FUND ACCOUNT’).

## 6.4 Nursing Services

**Chief Nursing Officer**  
Ms Kamlesh Chandelía

Nursing service is an integral part of AIIMS, which aims at high quality nursing care to the patients and community. Professional nurses work in an environment that encourages professionalism and expertise in providing comprehensive patient care with the members of allied disciplines in the hospital.

### Staff strength

The main stratum of workforce in AIIMS is the well-trained professional nurses from different departments. Staffing in nursing service is based on SIU (Staff Inspection Unit) norms at AIIMS.

Staff Strength in Hospital and Centres	
Chief Nursing Officer	1
Nursing Superintendent	6
Deputy Nursing Superintendent (DNS)	36
Assistant Nursing Superintendent (ANS)	200
Senior Nursing Officer	963
Nursing Officer	3204
<b>Total</b>	<b>4410</b>

### Continuing Nursing Education

Nursing staff education is carried out throughout the year by in-service and continuing education programs to update the clinical knowledge of practicing nurses thereby aiming at improving standard of nursing care at AIIMS.

### Nursing in-service education (NIE) program

A well-structured in-service education program has been initiated since January 2011. Initially it started with twice a week class of one hour each, which was later on increased to thrice in a week. Two classes in a week are conducted for the bedside nurses (Nursing Officer and Senior Nursing Officer), whereas one class in a week is for senior nurses (Sister In-charges and above).

Facilitator: Ms. Kamlesh Chandelía  
Mentor: Ms. Hanumati Devi  
Educators: Ms. Rebecca J Herald  
Ms. Srinithya Raghavan  
Ms. J Subbulakshmi

### I. Clinical Teaching

Clinical teaching was initiated in AB, C and D wings of the main hospital with an objective of upgrading standard of nursing care and solving practical issues in the area itself. This initiative was started since 2015, with active participation of bedside nurses and supervisory nursing personnel of the clinical areas.

From August 2018 onwards clinical teaching was handed over to the ANS incharge of the respective wards.

### II. In Service Education Weekly Classes

Due to the COVID 19 pandemic, offline classes were not taken. All the in-service classes were conducted on an online platform. NIE sessions were conducted thrice a week so that maximum nurses would benefit from these sessions. The session on **COVID Appropriate Behavior** was repeated over few months, so that each and every nursing personnel becomes aware of it. Other Online sessions included:

- Medicine and equipment audit
- Muscle relaxants
- Management of patient with COVID19

- Care of patient on ventilator
- Non-invasive ventilation
- Preoperative management

### **III. Teaching of Healthcare personnel regarding donning and doffing of PPE:**

The NIE team along with the Hospital Infection Control Team was involved in teaching of donning and doffing of PPE for all healthcare personnel with effect from February 2020. Along with teaching of donning and doffing of PPE, healthcare personnel were also shown a presentation on COVID 19 with special emphasis on mode of transmission, prevention and control and management of patient with COVID 19. Sessions were also taken for doctors, nurses and para-medical personnel so that instead of being fearful of the pandemic they should feel confident to nurse a COVID 19 patient.

### **IV. COVID 19 Awareness Training**

With effect from May 2020, fully structured awareness training was planned for every cadre of health professionals working at AIIMS. This training was planned with Faculty AIIMS, Hospital Infection Control Team and NIE Team. The sessions included

- SMS Namely Social Distancing, Mask, Hand Sanitization
- Practical Session on golden steps of Hand washing
- Types of mask and proper procedure of donning and doffing of mask and usage of N95 mask given for 20 days
- Exercises for strengthening respiratory muscles and simple yog mudras for mental relaxation
- Strategies for reducing mental stress related to fear of COVID 19
- Healthy diet

Multiple sessions were planned for the following groups of employees at AIIMS, New Delhi

- Doctors
- Nurses
- MBBS students
- Nursing Students
- Office staff of all departments
- Security Guards
- Hospital and Sanitary attendants of clinical areas
- Housekeeping sanitation staff of academic departments/New RAK OPD
- Patient Care Managers and Coordinators (PCMs and PCCs) of all OPDs/all other areas.
- AB-PMJAY staff
- Multi-Tasking staffs (MPS)
- For all staff of departments posted in COVID facility
- Laboratory services staff of all centres
- Technical staff of all centres
- Staff of Telephone exchanges/paging
- Staff of Police Posts
- Bank, Railway Staffs
- Staff of transport services/DTC
- Staff of hostel section (Mess contractors)
- Staff of Engineering services

### **V. COVID-19 Special Training Course for Nursing Officers**

In light of the increasing number of COVID-19 cases, a need was felt to retrain all nursing officers working in both COVID and non-COVID areas in infection control practices. AIIMS, New Delhi conducted an online course (Basic and Advanced) with Quiz with dedicated 90-120 minutes session. On completion of this course, a certificate could be generated by the participants.

This was a completely online course, with an online discussion forum. Online interactive virtual meeting sessions were planned for discussions with mentors and clarification of doubts. The mentors for the course were faculty members from AIIMS, Faculty from College of Nursing, Educators from Nursing Education team and Infection Control Nurses.

This course was made compulsory for all nursing personnel working in the main hospital and centres of AIIMS, New Delhi. This course was organized under the chairpersonship of Professor AK Deorari with the collaboration of SET facility AIIMS, New Delhi.

## **VI. Workshop on Patient Safety**

Ten workshops on patient safety were planned by College of Nursing AIIMS for Clinical Nurses for the curriculum requirement of MSc and Post-certificate BSc Nursing students. These workshops were held during 15-26 March 2021 on an online platform. A total of 383 nurses were nominated by the office of the Chief Nursing Officer from Main Hospital and from the centres.

## **VII. Vigilance Report**

The report of all the above NIE activities was sent to the Vigilance cell on a monthly basis from the Office of the Chief Nursing Officer.

## **VIII. Nursing Services Manual**

On 12 January 2021, the first edition of Nursing Services manual was released by Hon'ble. Director Professor Randeep Guleria. This manual is first of its kind to be compiled since the inception of AIIMS in 1956. Under the able guidance of the Chief Nursing Officer, Mrs Kamlesh Chandelia, the manual was published by the office of the Chief Nursing Officer, creating a landmark in the history of nursing services at AIIMS. This manual provides guidance on all the issues encompassing job responsibilities, code of conduct, nursing organization, leave rules, ward management and information on various aspects of nursing services. This manual is aimed at standardizing the administrative policies and procedures with respect to nursing services, assisting in training new staff and having information readily available to the nursing fraternity. The manual was uploaded on AIIMS website on 25 February 2021.

## **IX. Standard Operative Procedure on Suctioning:**

An SOP on suctioning was developed by the NIE team in collaboration with Department of ENT. Posters were made with the help of CMETi and same were displayed at strategic points in the ENT ward.

## **X. Resource Person for Upcoming Geriatric Hospital in Ahmedabad**

NIE team was invited by faculty of Geriatric Medicine as resource personnel to provide valuable inputs for nursing services for an upcoming Geriatric facility in Ahmedabad on 24 February 2021.

## **XI. Research study conducted**

A qualitative study to explore the psychological experiences of nurses worked in COVID 19 care areas in tertiary care Hospital by Ms. Rebecca Herald, Ms. Srinithya Raghavan, Ms. J Subbulakshmi, Ms. Kamlesh Chandelia, Dr Deepika Khakha, Dr DK Sharma.

## **XII. Assistance in research projects**

During COVID 19 pandemic in 2020, a number of projects were taken up by various departments to study the response of Health Care Workers towards COVID 19. A number of research projects were also conducted on Nursing Personnel working at AIIMS hospital to study their physical and psychological responses while caring for COVID 19 patients. NIE team helped the College of Nursing AIIMS and Department of Psychiatry in liaisoning such projects. Since, all the projects were done on an online basis, a database was generated by NIE team of all nursing personnel with their Names, Mobile Number and E-mail Id, which was forwarded to the project coordinators for facilitating these projects.

## **XII. Vision/Activities planned for the upcoming year**

- Periodical workshop on Soft Skills for clinical nurses.
- Half day workshops with hands on for the Pediatric, Intensive care unit and Emergency Nurses.
- One day School health Programme.
- Training programme for the sanitation workers.
- Standard Operating Procedures for Nurses: Procedure Manual
- Standard Operating Procedures for operation Theatre.

## **INFECTION CONTROL NURSES ACTIVITIES**

### **Infection Control Core Committee, Main hospital, 2020-2021**

Dr DK Sharma	Medical Superintendent, AIIMS, Chairman
Dr Arti Kapil	Professor, Department of Microbiology
Dr Rakesh Lodha	Professor, Department of Pediatrics
Dr Rashmi Ramachandran	Professor, Department of Anaesthesia
Dr Anoop Daga	Additional Professor, Hospital Administration
Dr Piyush Ranjan	Additional Professor, Department of Medicine
Dr Karan Madan	Associate Professor, Department of Pulmonary Medicine
Dr Gagandeep Singh	Associate Professor, Department of Microbiology
Dr Hitender Gautam	Associate Professor, Department of Microbiology
Dr Nishant Verma	Associate Professor, Department of Microbiology
Dr Sarita Mahapatra	Associate Professor, Department of Microbiology
Dr Jhuma Sankar	Associate Professor, Department of Paediatrics
Dr Pankaj Jorwal	Associate Professor, Department of Medicine
Ms. Meena Kumari	NS, Infection control
Ms. Elpreda M Victor	(till February 2021) Senior Nsg Officer, I/C. ICN
Ms. Evangelin Vasanth	Senior Nursing Officer, Infection Control
Ms Betty Maria Binu	Senior Nursing Officer, Infection Control
Ms. Kiran Singh	Senior Nursing Officer, Infection Control
Ms. Poonam Anand	Senior Nursing Officer, Infection Control
Ms. Sangeeta R. Kumble	Senior Nursing Officer, Infection Control
Mr Dhawal Dwivedi	Nursing Officer, Infection Control
Mr Kunj Bihari Gauttam	Nursing Officer, Infection Control
Ms. Priya. M	Nursing Officer, Infection Control
Ms. Muthuselvi. S	Nursing Officer, Infection Control
Ms. R Evangeline	Nursing Officer, Infection Control
Ms. Tsering Lamo	Nursing Officer, Infection Control
Ms. Niveda. P	Nursing Officer, Infection Control
Mr. Gurpreet Singh	Nursing Officer, Infection Control

HICCOM core committee meets periodically to discuss day-to-day activities and interventions. HICCOM administrative rounds are conducted periodically with infection control core committee, identified problems discussed and rectified.

### **Activities of HICCOM**

- HICCOM (Hospital Infection Control Committee) conducted training program for all health care workers, cadre wise regarding COVID appropriate behavior and practices. Total **5232** health care workers attended the sessions
- The ICN took session on chemical hazards and infection control practices in pediatric ward and ICU, organized by College of Nursing, AIIMS for a group of **35** in-service nursing personnel
- SOPs on Needle stick injury and Spill management protocols and Disinfectant solution in the form of charts were distributed and displayed in all clinical areas of AIIMS
- All ICNs took active participation in organizing and conducting KayaKalp-2020-2021 rounds
  1. Sensitization on hand hygiene, PPE, spill management and needle stick injury protocols were emphasized to sanitary attendants and hospital attendants
  2. Sessions were conducted for Biotic workers on hand hygiene, PPE, immunization, spill management & needle stick injury protocols, personal hygiene, loading of BMW trolleys according to the BMW rules

### **COVID-19 Teaching and Demonstration Activities**

ICNs were actively involved during COVID pandemic to contain the COVID-19 cases. ICNs under the guidance of HICCOM AIIMS organised and conducted training on infection control, prevention and standard precautions for all health care workers since 2020. HICC AIIMS developed dynamic guidelines from time to time and the ICNs are emphasizing these in all clinical areas.

ICNs conducted training classes on standard precautions, Respiratory etiquettes and PPE donning and doffing for all health care workers from 8th floor to ground floor of main hospital. All wards of AB, C and D wings including ICUs, HDUs, day care units, private wards, new Private ward block all three floors, Emergency services, OPD block and New RAK OPD areas were covered.

ICNs are involved in teaching and training session on Hospital infection control related practices in the context of COVID 19 (Ready Reckoner) in all the areas of hospital which includes levels of PPE, standard precaution, disinfection, other infection prevention activities and COVID 19 waste management.

ICNs are involved in training regarding COVID appropriate behavior for Residents, undergraduate students, Nurses, OT & Lab technicians, office staff, sanitary attendants, Hospital attendants, security guards, ambulance drivers and maintained the attendance of all training schedules till date.

ICNs are attending HICCOM meeting whenever required by HICCOM core group members and are involved in sensitizing the dynamic guidelines on environmental cleaning to increase the frequency of disinfection of all surfaces (Low touch and high touch areas), disinfection of items, correct dilution of disinfectant solutions, terminal disinfection of COVID facility, proper fogging guidelines, transportation of samples from COVID facility, handling of linen used for patients in COVID facility, cleaning of lift each time patient is transported and management of Biomedical waste in COVID facility and maintaining the record of number of bags handed over to Biotic team and its proper transportation.

On request of HICCOM team ICNs are emphasizing on use of 1% Sodium Hypochlorite solution for mopping, damp dusting of all surfaces in all non-COVID wards.

Information sheet was distributed regarding preparation of 1% NaOCl solution in different quantities in all clinical areas.

Special attention was given in COVID facilities for educating and re-emphasizing on donning and doffing for nurses, HA and SAs as they keep changing time to time and the use of PPE judiciously when and where required.

A routine monitoring of infection control and prevention practices checklist in all clinical areas was maintained by all ICNs.

Training and teaching given to ICNs of National cancer institute, AIIMS, Jhajjar regarding infection control practices and procedures.

#### Data of staff trained on standard precautions and respiratory etiquette for COVID 19 prevention and control

Faculty	Residents and interns	Nursing staff	Store and office staff	HA/SA/PCM/PCC	Laboratory/ECG/OT technicians	Ambulance drivers	Security guards
215	1107	1205	71	852	157	25	1600

**Total staff trained: 5232**

#### Activities of Infection Control Nurses:

1. Collection of data on total HCAs in ICUs/HDUs, Surgical areas on BSI, RTI (VAP), SSI, UTI, CSF/others infections etc. Data analysis carried out monthly wise for all Surgical units and all ICUs and the Performa of data analysis is distributed to all concerned professor in-charges of surgical units and ICUs.
2. Individual area rounds conducted by Infection Control Nurses on daily basis by using checklists and whenever need arises, onsite training programmes were conducted in the clinical areas and problems were rectified after discussing with the HICCOM core committee members.
3. Surveillance activities: collection of samples (environmental culture, sterility and In-use samples) from different areas of hospital for Surveillance purpose on monthly basis. Reports are collected and distributed to all respective areas to reinforce proper protocols as per the hospital policy.

#### Annual Health Care Associated Infection (HCAI) Rate

Area	Total Major Surgeries/Admissions	HCAI	%
Surgical Units	4049	229	5.6
ICUs	3411	438	12.8

**Combined HCAI rate:**  $\frac{229 + 438}{7460} \times 100 = 8.9\%$



### Surveillance Samples collected during April 2020- March 2021 (Main Hospital, AIIMS)

Monthly surveillance and data for surgical units and ICUs calculated and submitted to MRD section. Annual combined data analysis of surgical units and ICUs calculated and distributed to Dr Arti Kapil Professor in-charge, Microbiology Hospital infection Control, Professor DK Sharma, Medical superintendent, Ms Kamlesh Chandelia, Chief Nursing Officer, Dr Anoop Daga, officer in-charge infection control from hospital administration and to Medical Record section.

Total Environmental and Sterility Samples	Total In-use Solutions Samples	Total Sterile Samples		Total Unsterile Samples	
		Environmental and Sterility Samples	In-use solutions Samples	Environmental and Sterility Samples	In-use solutions Samples
2899	888	2400	798	499	90

- Management of outbreaks monitored and educated the HCWs about the precautions.
- Maintaining the manual and online report for daily basis reporting and also a dedicated register for reporting Incident and intervention.
- Ministry of health and family welfare has launched “**Kaya-Kalp**” -Clean hospital campaign under Swachh Bharat Abhiyan. Clean and Green AIIMS campaign guidelines have been formulated. AIIMS is uniquely poised to lead this movement of Kaya-Kalp transformation by being the agent of change and adopting these guidelines.

## 6.5 Medical Social Welfare Unit

**Chief Medical Social Service Officer**  
BR Shekhar

**Supervising Medical Social Service Officer**  
Pankaj Kumar

### Introduction

The foundation of Medical Social Welfare Unit in AIIMS was laid in 1960 when the first Medical Social Worker was appointed in the main hospital. The Medical Social Welfare Unit is working under the supervision of Medical Superintendent from the very beginning. The integration of Medical Social Services has yielded positive results as it provides social, psychological and financial support for patients and alleviated distress while receiving treatment. The Medical Social Welfare Unit, Main Hospital has 14 Medical Social Service Officers (MSSOs) taking care of OPDs and Wards of 20 important departments in the main hospital. In addition to a team of MSSOs, there are 13 part-time social guides (PTSG) and one hospital attendant working under the Unit for patient care and guidance.

**Our motto: “Committed to patients, committed to AIIMS”**

### Our Objectives:

1. To create a Therapeutic-Network among the doctor, paramedical staff, the patient, the family and the community.
2. To facilitate a Holistic-Healing leading towards a complete physical, psychological, social and vocational rehabilitation.
3. To ensure the protection of the basic human rights of the patients.
4. To facilitate the various services for the poor and indigent patients.
5. To coordinate with the Hospital Administration and treating faculties to facilitate the basic patient welfare services.
6. To impart Training & Orientation of Medical Social Work to the Social Work Students.
7. To conduct & coordinate the Research studies initiated by our unit and other departments of AIIMS.

Designation	Number of staff
Medical Social Service Officer Gr. I	2
Medical Social Service Officer Gr. II	10

## HIGHLIGHTS

### **Coordination and implementation of AB-PMJAY scheme in AIIMS**

Ayushman Bharat Prime Minister Jan Arogya Yojna (AB- PMJAY), a programme of Government of India was launched on 23 September 2018 by Hon'ble Prime Minister. AIIMS is a signatory and participant in the implementation of this programme and a dedicated office for the same has been created near gate no. 1 in AIIMS.



**Ayushman Bharat Team**

The Medical Social Welfare Unit is coordinating the implementation of this scheme in AIIMS with a team of Pradhan Mantri Arogya Mitra (PMAM) & PCM under the leadership of Medical Superintendent. The MSSO is the key person to implement this scheme and the team of Medical Social Welfare Unit, under the supervision of Chief MSSO has made it sure that this pioneer program reaches to maximum beneficiaries smoothly.

This dynamic center facilitates Beneficiary Identification, Golden Card generation, Treatment package selection, Pre-authorization of the package, Surgical & Medical treatment, Claim initiation, reporting, networking and grievance redressal. A consolidated data of patients benefitted under AB-PMJAY from 1 April 2020 to 31 March 2021 is shown in the table below:

Total Walk-in	4986
BIS request raised	930
Total Surgical case	835
Total Medical case	698
Special approval case	33
<b>Total cases</b>	<b>52482</b>

### **Financial Assistance to poor and indigent patients for treatment**

1. Received Rs 28,40,267 in AIIMS Poor Fund.
2. Helped 310 poor patients for Rs. 9,90,354 through AIIMS MS poor fund.
3. Facilitated the help of Rs 1,00,000 to poor and indigent patients through MSSO Poor Fund
4. Rs 6,84,82,950 availed from Rashtriya Arogya Nidhi (RAN) Umbrella Scheme of MoHFW for 177 BPL patients to get treatment of life-threatening diseases.
5. Arranged financial assistance from following Corporate Social Responsibility (CSR)/Trust/NGOs:

Fiem Foundation	Rs 10,82,700 for 7 patients
Relaxo Footwears	Rs 1,44,000 for 1 patient
Roshni Foundation	Rs 34,5400 for 6 patients
Baij Nath Bhandari Trust	Rs 111800 for 3 patients
Jawahar Bhawan Trust	Rs 372220 for 15 patients
Sahu Jain Trust	Rs 25,000 for 2 patients
Sewa Prakalp Mahila Mandal Trust	Rs 122000 for 4 patients
Yuvraj Singh Foundaion	Rs 5,00,000 for 1 patient
Dwarka Prasad Trust	Rs 3,00,000
Gopal Foundation	Medicines for cancer patients

### Free medicines and other donations for poor & indigent patients:

1. Free medicines worth Rs 7,00,000 to 5000 OPD patients through voluntary donation at MSWU.
2. Free medicines/surgical items through poor patient proforma to approximately 1200 admitted patients in AIIMS.

### Exemptions of hospital levy charges and railway concession

1. Exemptions of different hospital levy charges including CT, MRI, PET & HLA etc. of approximately 9000 BPL/poor patients.
2. Railway Concession facility provided to approximately 5000 outstation patients.

### Counseling and guidance:

1. Counseled and guided approximately 32000 patients for referrals services, healthcare schemes like AB PMJAY, RAN etc, financial assistance, Dialysis centres etc.



### Rehabilitation and referral through casualty:

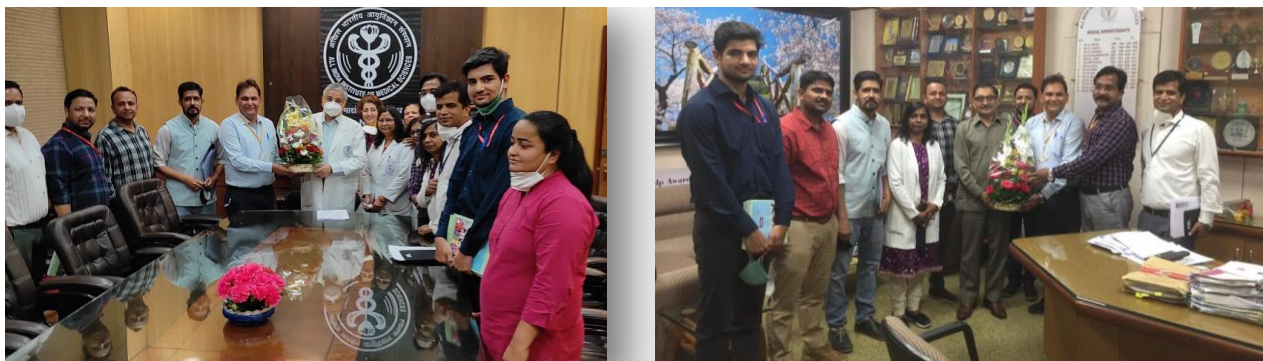
Rehabilitated approximately 350 patients: Medico-Legal Cases (MLC) and Non-MLC/Unknown/Unattended/ Destitute/ Orphan.

1. Facilitated shifting of approximately 2000 patients to Safdarjung hospital and other government hospitals for admission through Casualty MSSO due to non-availability of beds.
2. Facilitated the referral of patients to private hospitals for free treatment under EWS category as per the Hon'able High Court Order.

### Special Celebrations:

Diwali Celebration in AB-5 ward on 13 November 2021: The Medical Social Welfare Unit organized a Diwali-Puja and gift distribution in Pediatric Surgery ward.

### Other Activities



**Social Work Celebration in AIIMS**

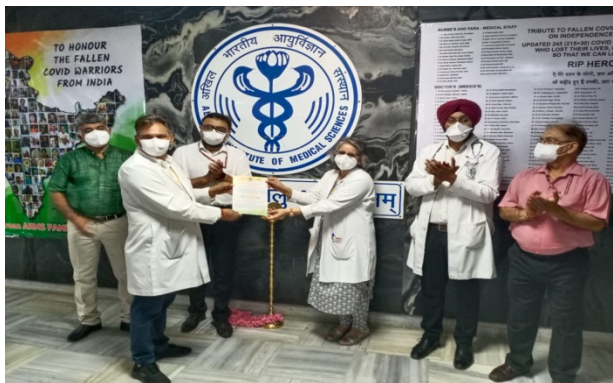
Celebrated World Social Work Day on 23 March 2021 by submitting a report on Covid relief work done by the MSW Unit to the Director, Medical Superintendent, Deputy Director (Administration), Faculty members and staff.

Displayed a comprehensive poster of Medical Social Welfare Unit title on 'Medical Social Welfare Services during Covid-19 in the 65th Institute Day Celebration and exhibition in September 2020.



## Mega Blood Donation Drive

The event was a big success with record blood donation on a single day held on 3 February 2021. Medical Social Welfare unit created awareness and motivated people to come forward and participate in the event on a large scale. Every blood donor was given a hand sanitizer as a token of appreciation from MSW Unit.



## Contribution by MSSOs during COVID-19 Pandemic

1. The Medical Social Services in Department of **Emergency Medicine: AIIMS & AB-PMJAY** office continued its operations **24x7** and did not stop operations even for a single working day despite many MSSO getting infected with the COVID-19.
2. The MSSOs posted in JPNATC started **Video-Conferencing (VC)** between COVID-19 patients and their relatives:
  - i) **1437 Video Conferencing** done between patients and their relatives
  - ii) MSW Unit contacted **100%** patients relatives for VC
  - iii) **63.36%** patients' relatives attended the VC with their loved ones
  - iv) On an average **10** patients relatives came for the VC everyday
3. Special financial support provided for **transportation to all the poor-indigent patients** after discharge during the lockdown.
4. **Survey of Eight Patient's Shelter Homes** and coordination of Tele-consultation in AIIMS during lockdown.
5. **Orientation sessions** were taken for patients & attendants on Sanitization & Social distancing in Dharmashala and masks were distributed.
6. **Sanitization** of AIIMS premises was done by CRPF personnel on request by MSW Unit
7. Installation of **Four UV Sanitization Chambers** by CSR of Signify-Philips.
8. Total **415** eeZee RUSF Boxes (Ready to use Therapeutic Food) were received and distributed among Corona warriors.



9. **Blankets** to poor-indigent patients were distributed throughout the winter season.
10. Donation & Distribution of approx **20,000** Masks in OPDs, Vishram Sadan and Rain-basera
11. Distribution of **5000** units of Medineem-Soap to patients and attendants.
12. Approximately **7000** pairs of Shoes & Slippers were received from CSR of Bata and distribute among Corona warriors (Group-D staff) of AIIMS for motivation and support.



13. Donation of **51,000** Units of Colgate-Palmolive Sanitizers (worth approx. Rs 40 Lakhs) to AIIMS through MSW Unit.
14. Donation of Rs **4.5 Lakhs** to AIIMS for PPE Kit purchase.
15. Installation of Two **Canopies** (worth approx. **Rs 2.5 Lakhs**) for Wheelchairs & Trolleys in new RAK OPD.
16. Trauma ED **Rehabilitation**: Approx **350** patients (Unknown/Without attendant) have been rehabilitated who were admitted under Trauma Emergency.



**Shoes & Slippers distribution to Covid warriors**

#### **Teaching & Training by Medical Social Welfare Unit:**

1. Mr BR Shekhar and Mr Vivek Kumar Singh gave a session on “Public Relations and Medico Social Services “in 96th training course on Hospital Administration for senior Hospital Administrators organized by National Institute of Health & Family Welfare (NIHFW) on 12 February 2021.
2. Mr B R Shekhar took a session on “Role of Social Workers in hospital setting’in ‘COVID-19 pandemic: Present challenges and way forward’ organized by ISS, Agra on 19 May 2020.
3. Mr Aftab Alam Shah served as Convener in an International Panel Discussion - Social Work in Healthcare during Pandemics: Indian and Global Perspective organized by AIAMSWP & Kerala Association of Professional Social Workers on 18 July 2020.
4. Mr Abhishek Rajput served as a Panelist in the webinar ‘Scope & challenges of Social Work profession’ organized by AIAMSWP on 11 July 2020.
5. Mr Vivek Kumar Singh served as Panelist in the webinar ‘How to go outdoor with safety during Covid pandemic’ organized by Vishvas News on 27 June 2020.
6. Mr BR Shekhar gave Welcome address in ‘Future Living with COVID-19 as public health issues’ organized by AIAMSWP on 21 Aug 2020.
7. Mr BR Shekhar gave Welcome address in ‘Approaches and challenges for person with disability during Pandemic: Perspective of Social Worker’ organized by AIAMSWP on 25 July 2020.
8. Mr BR Shekhar gave Welcome address in ‘Scopes & Challenges of Social Work profession during COVID-19’organized by AIAMSWP on 11 July 2020.
9. Dr Kirti Arya delivered technical session on the topic “Health Policy and Unorganized Workforce” in A Trans-Disciplinary One Week National e-Faculty Development Programme (e-FDP) on Unorganised Sector: A roadmap to Self-Reliant India organized by Department of Commerce, Rajiv Gandhi University, Arunachal Pradesh on 28 August, 2020.



10. Dr Kirti Arya delivered session on the topic “*Community-Based Healthcare: Reflection, Challenges and Way Forward from the purview of Medical SocialWork Professional*” in the webinar “Medical Social Workers and Community Outreach” organized by AIIMS Medical Social Service Officers Association (AMA), New Delhi, and Department of Social Work, Madras Christian College (MCCSWD), Chennai on 17 September, 2020
11. Dr. Kirti Arya delivered session on “*Health Policy and Implementation Challenges in Contemporary India*” to the students of MA(Social Work), Department of Social Work, Rajiv Gandhi University, Arunachal Pradesh on 9 December 2020.
12. Dr Kirti Aryadelivered session on “*Significance and Scope of Ayushman Bharat: Social Security in India*” to the students of Master of Public Health (MPH), Public Health Program, Symbiosis Institute of Health Sciences, Pune on 5 March 2021.
13. Dr. Kirti Arya served as Co-convenor in an International Panel Discussion - Social Work in Healthcare during Pandemics: Indian and Global Perspective organized by AIAMSWP & Kerala Association of Professional Social Workers on 18 July 2020.

### **Social Work Training**

**Concurrent Field Work:** Imparted Concurrent Field Work throughout the year to 2 students of from Delhi School of Social Work (DSSW).

### **Educational activities**

#### **CMEs/Workshops/Symposia/National and International Webinars attended by MSSO**

1. Society after COVID-19 Pandemic: Where will we stand
2. Future Living with COVID-19 as public health issues
3. Approaches and challenges for person with disability during Pandemic: Perspective of Social Worker
4. Social work in health care during Pandemic: Indian and Global perspective
5. Mental health consideration in the context of COVID-19
6. Scopes & Challenges of Social Work profession during COVID-19
7. Role of counseling during COVID-19 Pandemic
8. Myths & Realities during COVID-19 Pandemic
9. Social stigma & Public health during times of COVID-19
10. COVID-19 Pandemic: Risk & Resilience in family functioning
11. Re-thinking Research and Contemporary Development Priorities: Learning Essentials for a Sustainable Future.
12. Promoting Mental Health during COVID-19 Crisis
13. Global Health Crisis and Socio-Economic Impact of Covid-19: A Geographical Perspective
14. Disaster Risk Reduction with Special Reference to Earthquake, Flood, Landslide, Fire and other Emergent Hazards.
15. International Day against Drug Abuse and Illicit Trafficking
16. Scope & Challenges of Social Work Professionals
17. Situating the Life of Tribes in Times of Covid-19
18. Approaches and Challenges for Person With Disability (PWD) during Pandemic: Perspective of Professional Social Workers
19. COVID-19 Pandemic: Experience from the lens of warriors and survivors.
20. Guidance for Financial Assistance through Various Financial Schemes for the Patient Treatment in Hospitals: Role of Medical Social Work Professionals”
21. SAKSHAM (Empowering organizations) Certification completed from SPJIMR, Mumbai, 23-24 January 2021 and 30-31 January 2021 through online session.





**SAKSHAM workshop participants**

**SIGNIFICANT EVENTS**

1. The Department related Parliamentary standing Committee on Health and Family Welfare examined “The Allied and Healthcare Professions Bill, 2018. The committee interacted with various stakeholders. The committee had invited Mr B.R Shekhar, Chief MSSO to appear before the committee in the Rajya Sabha. As a result of submitted representation to include Medical Social Work Profession in the bill and the committee accepted all the recommendations and it became ‘**Allied and Healthcare Professions Act 2021**’ giving a very significant space to Medical Social Workers leading the way to form National Commission.
2. Dr Kirti Arya, MSSO Secured First Prize in Member’s Category of the First AIAMSWP National Elocution Competition organized on the occasion of World Social Work Month 2021, held on 21 March 2021.

**PUBLICATIONS**

**Journals: 3**

**6.6 Main Blood Bank**

**Patient Care Services provided**

**Donation Room**

1.	Total collection	38675
2.	Voluntary Donors	7327
3.	Replacement Donors	30291
4.	Aphaeresis procedure	1057
5.	Total Voluntary donors Camps organised	59
6.	TPE	135
7.	PBSC	13

**Routine Lab and Emergency Counter**

1.	Total patient Request Received	43675
2.	Total Blood Group (ABO & Rh) performed (Donor + Patients)	84549
3.	Total X-match (Emergency & Routine) performed	38918
4.	Total ICT performed	1833
5.	Total DCT performed	1804
6.	Total Titre (ICT+ABO) performed	206
7.	Total Antibody Screening performed	84549

**Issue/Discarded**

1.	Total PRBC units Issued	35962
2.	Total PRBC Issued to outside hospital	1226
3.	Total units discarded due to TTI reactive status	1399
4.	Total Surplus Plasma issued to Plasma Fractionation Centre	3627 litres & 979 ml

**Special Procedure Laboratory**

1.	Minor Grouping	2322
2.	Cross Matching Discrepancy	640
3.	Gr. Discrepancy	59
4.	AB Identification	780
5.	Anti Sera Q.C.	14
6.	Transfusion Reaction Work up	72

**Component Laboratory**

1.	Platelet concentrate	34133
2.	Fresh Frozen Plasma	14799
3.	LIQUID Plasma	22925
4.	Cryoprecipitate	450
5.	Red Blood Cells	38928
6.	Component QC	364
7.	Buffy Coat	18336

**Infection Laboratory**

1.	HIV Test	38675
2.	HBV Test	38675
3.	HCV Test	38675
4.	VDRL	38675
5.	Malaria Parasite	38675
6.	NAT (Main+CNC+Trauma Centre)	48875

## 7. College of Nursing

### Professor cum Principal

Latha Venkatesan (from 31.10.2021)

### Associate Professor cum officiating Principal

Sandhya Gupta (up to 31.10.2021)

#### Associate Professors

Deepika C Khakha	Kamlesh K Sharma	Shashi Mawar
Poonam Joshi	L Gopichandran	Sibi Riju
Aditi P Sinha	Pragya Pathak	Ujjwal Dahiya
Rimple Sharma	Cecilia MS	Manju Amit Kumar Rajora
Levis Murry	Y Surbala Devi	Smita Das
Ajesh Kumar TK	Milan Tirwa	Muthuvenkatachalam S

#### Assistant Professor

Gita Razdan

#### Tutors

Kiran Singh Simak	Gayatri Batra	Sucheta	Babita Sahoo
Philomina Thomas	Meena Ara	Seema Sachdeva	Anubha Devagourou
Neelima Raaj	Nemkholam	Hansaram	Monika Sabharwal
Mamta Choudhary	Manita Dalal	Suman Dabas	Savita

### Students Admitted in 2020-21

Course	Sanctioned strength	Students admitted	Current strength (New Admissions)
B.Sc (Hons) Nursing	96 + 5 foreign	96	94
B.Sc (P.B.) Nursing	50	50	44
M.Sc Nursing	36 + 1	37	23
a. Critical Care Nursing	6	6	05
b. Oncological Nursing	5	5	03
c. Pediatric Nursing	5	5	03
d. Neurosciences Nursing	6	6	02
e. Nephrological Nursing	5	5	03
f. Cardiological/CTVS Nursing	5	5	03
g. Psychiatric Nursing	5	5	04
<b>Total</b>	<b>188</b>	<b>184</b>	<b>161</b>

### Current students' strength

Course		I year	II year	III year	IV year	Total
BSc (Hons) Nursing	Regular	94	75	75	72	325
	Irregular					
BSc (Post-Basic) Nursing	Regular	44	29	NA	NA	74
	Irregular					
MSc Nursing	Regular	23	25	NA	NA	48
	Irregular					
<b>Total</b>		<b>161</b>	<b>130</b>	<b>75</b>	<b>81</b>	<b>447</b>

## Students Graduated in 2020

Course	No. of Students
BSc (Hons) Nursing	60
BSc (Post-Basic) Nursing	23
MSc Nursing	27
<b>Total</b>	<b>110</b>

## HIGHLIGHTS

### Conducted and Organised various activities during COVID-19 Pandemic for MOHFW and AIIMS

#### • Faculty of College of Nursing

- Conducted 39 lectures through webinars for training in care of COVID-19 patients for nursing officers and nursing students of the country as per instructions from Ministry of Health and Family Welfare, GOI which are streaming on Youtube since March to June 2020.

#### Topics of Lectures given through Webinars

1. Epidemiology, clinical features and diagnosis of COVID-19
2. Infection Prevention & Control Practices for COVID-19 Infection (Isolation & Barrier Nursing)
3. PPE
4. Nursing Management of Patients with COVID-19 Infection
5. Nursing Management of Patients with COVID-19 Infection ARDS and Septic Shock
6. Caring precautions for Patients in Mechanical Ventilator
7. Handling Specific Concerns related to COVID-19 Unit
8. Myth Buster-COVID-19
9. Health Education related to COVID-19 (Role Play)
10. Coping and Stress management during COVID-19 Outbreak
11. Precautions and Care of Dead Body
12. Specific issues for Care of Pregnant and post natal women having COVID
13. Specific issues for Care of Children having COVID
14. Psychological Care of Patient having COVID
15. Legal Aspects-Related to COVID-related to nurses responsibility
16. Care of Health Team Members (prophylaxis-Quarantine-Self Care Issues)
17. Responsibility of Nurse for Specimen collection and Sample collection of patient suspected of SARS Co-V 2 infection
18. Biomedical Waste Management Practices for hospital for COVID outbreak: Role of Nurse
19. Biomedical Waste Management Practices for Home for COVID outbreak: Role of Nurse
20. Disinfection Practices of equipment and surfaces during outbreak of SARS Co-V infection
21. Preparation of Isolation and Quarantine for Patients with SARS Co-V 2 infection: Principles and Practices at home: Role of Nurse for preparing the family
22. Management of Antenatal, Post Natal Women with SARS Co-V 2 infection at Home: Role of Nurse for preparing the family
23. Surveillance of SARS Co-V 2 infection
24. Communicating with person suspected of SARS Co-V2 infection
25. Potential for developing substance use disorders and specific care issues of patients with substance use disorders during outbreak of SARS Co-V 2 infection
26. Management of PLHIV having co-infection of SARS-CoV-2: Role of Nurse
27. COPD and coinfection of SARS-CoV-2 coinfection management: Role of Nurses
28. TB and SARS-CoV-2 co-infection management: Role of Nurse
29. Impact on chronic ailments and their management during COVID-19 Pandemic (diabetes, CKD, Cancer etc.)
30. Resource allocation & utilization: A challenge for nurses during COVID-19 Pandemic
31. Precautions and care for vulnerable populations (homeless, migrants, disable, those staying alone) during COVID-19 Outbreak: Role of Nurse
32. Preparedness, prevention and control of COVID-19 in detention and long stay homes: Role of Nurse (Juvenile homes, Nari Niketan, Orphanages, Old Age Homes and long stay institutions)
33. Precautions and care for SARS-CoV-2 infection among older population: Role of Nurse
34. Preparedness of Frontline Warriors for meeting challenges in Care of COVID-19
35. Role of Evidence based Practice in COVID outbreak
36. Building Resilience among nurses during Pandemic
37. Way Forward for nursing professionals

- Sessions were taken in three webinars on 'Managing COVID 19 Pandemic for nurses from States for Nursing Division, Ministry of Health and Family Welfare, GOI. Which is streaming on You tube June-July 2020.
- Conducted training of volunteers and organized tele-consultative Call Centre for COVID-19 along with Computer facility involving MSc and BSc (PB) nursing students for AIIMS which was running from April 2020 till December 2020, the services were provided 24x7.
- Faculty of College of Nursing participated in one-on-one Virtual training sessions as per AIIMS Protocol for all nursing officers working in COVID Units (NCI, JPNATC, Pvt Ward, C-6/D-6 wards, New Emergency etc.)
- Faculty conducted Virtual training sessions for New entrants of MSc, BSc (PB) and BSc (Hons) Nursing students who joined in Session 2020.

#### **1. PG and PB nursing students participated in**

- Tele-consultation Call Centre for COVID-19
- Supervision of packing of PPE kits for various levels in PRC April-June 2020.

#### **2. Wellness program for nursing students was initiated by College of Nursing from September 2020**

A- Buddy Programme was constituted for improving relationship and wellness among the students of College of Nursing. Students advisors, SNA advisors and deputy hostel superintendent who work as Relationship Manager. Frequent meetings are held between buddy seniors and the relationship managers. Any concern or issue faced by the student are reported to Principal and wellness coordinator. Any student needing help is referred to appropriate person(s), Principal or Deputy Hostel superintendent or wellness clinic run by Psychiatry department.

B- Parent Teacher Meetings Virtual/telephonic: All Class teachers conduct virtual meeting with parents along with assistant Class teachers.

C- A diary of events was maintained by class teachers and course coordinators

D- The wellness training program for PG/UG nursing students was initiated on 14 September 2020. Training Sessions were conducted by Faculty.

#### **3. Infection control training and campaign for nursing students was initiated by College of Nursing from September 2020**

The Faculty of College of Nursing has taken extra initiative in maintaining prevention of Infection transmission during Pandemic: Training sessions for teachers and staff. Supervision of all areas of the college for sanitization activities, arrangements for training for students was done and contact tracing was done by Nodal officers as per AIIMS guidelines regarding use of mask, specific infection control practices and arrangements for procuring masks as per AIIMS policy. Frequent sanitization activities were undertaken.

#### **4. Examinations conducted by College of Nursing during Pandemic**

All exams were conducted as per Covid-19 specific guidelines; all practical online exams were conducted in the class rooms virtually.

#### **5. Development of classified list of state wise-manpower of nursing and paramedical plus volunteers available in the country by MSc nursing students on request of MoHFW Student Nurses Association (SNA) activities (Hybrid mode):**

- Organised seven intra college competitions viz Extempore, poster making, Henna, Solo dance, pebble painting, debate, poetry recitation and Sudoku.
- Organised five intercollegiate competitions.
- Students Participated in Hindi essay writing competition

#### **6. Supporting other courses:**

College of nursing faculty Delivered lectures and conducted practical classes of DORA students, CDER, AIIMS, Delhi

#### **7. CMEs/Workshops/Symposia/National and International Conferences**

Organized By College of Nursing: Ten In-Service Education virtual programmes for nursing officers of AIIMS, New Delhi, one day each

1. Patients safety an overview, IPSG goals, 15 March 2021, New Delhi
2. Physical Safety: A Universal Call, 16 March 2021, New Delhi
3. Effective communication, 17 March 2021, New Delhi
4. Medication Safety: Go beyond the "Rights", 18 March 2021, New Delhi
5. Health care associated infections, 19 March 2021, New Delhi
6. "Healthcare worker safety: Building a safety culture", 22 March 2021, New Delhi
7. Safe Child in Health Care: Patients' Perspectives, 23 March 2021, New Delhi
8. Surgical safety, 24 March 2021, New Delhi
9. Patients for patient safety- An initiative for safer health, 25 March 2021, New Delhi
10. Medical Emergencies: Warning signs, 26 March 2021, New Delhi

#### **Lectures delivered:**

Dr Sandhya Gupta 1

Dr Deepika C. Khakha 16

Dr Shashi Mawar 3

Dr Kamlesh Sharma 23

Dr Poonam Joshi 18

Dr L Gopichandran 12  
Dr Pragya Pathak 5  
Ms Cecilia MS 3  
Ms Y Surbala Devi 3  
Ms Milan Tirwa 2  
Ms Gaytri Batra 2  
Ms Anubha Devagourou 3  
Ms Suman Dabas 1

Ms Sibi Riji 2  
Ms Rimple Sharma 6  
Ms Levis Murry 4  
Ms Smita Das 01  
Dr Muthuvenkatachalam 7  
Dr Philomina Thomas 1  
Ms Neelima Raaj 1  
Ms Savita 2

### **Sandhya Gupta**

1. Managing tobacco use prevention and cessation, Tobacco prevention day for Tobacco division, MoHFW, GOI, June 2020, Online

### **Deepika C Khakha**

1. Stress and coping with COVID- 19, Ministry of health and family welfare, 1 April 2020, Webinar National
2. People Living with HIV (PLHIV) co infection of SARS-CoV-2: Role of Nurse, ECHO project, 25 June 2020, Webinar National
3. Role of Healthcare professionals in managing children with Drug abuse, International Day Against Drug Abuse and Illicit Trafficking, Theme 2020-Better Knowledge for Better Care, 27 June 2020, PNNF India National
4. Challenges of People with Substance Use Disorders during COVID–19 Pandemic, Project Lead, 27 June 20, Delhi
5. Resilience at COVID-19, Workshop on COVID Management, 21 July 20, Bhopal
6. Counselling and Patient education, Alcohol related disorders under LEAD Project, 29 August 2020, Delhi
7. Counselling and Patient education, Alcohol related disorders under LEAD Project, 26 September 2020, Delhi
8. Mental health perspective and nursing perspective, Internet Addiction, 27 September 20, TNAI, Delhi
9. Counseling and Patient education, Alcohol related disorders under LEAD Project, 30 October 2020, Delhi
10. Counseling and Patient education, Alcohol related disorders under LEAD Project, 24 December 2020, Delhi
11. Counseling and Patient education, Alcohol related disorders under LEAD Project, 30 January 2021, Delhi
12. Nurses coping during COVID 19, 23 Annual Conference of Delhi Neurological Association and 19 Neuro Nurses Forum, 6 February 21, Delhi
13. Communication skills: A way to client satisfaction, Workshop on personal development, 11 February 2021, Delhi
14. Construction of Objective type tests MCQs and MRQ, Evaluation and Measurement in Nursing Education, 2 March 2021, Delhi
15. True and False and matching type, Evaluation and Measurement in Nursing Education, 2 March 2021, Delhi
16. Breaking of bad news, Effective communication: The bond to patient safety, 17 March 2021, Delhi

### **Kamlesh Sharma**

1. The effective use of PPE and IPC guidelines for COVID” Live webinar for Nurses preparedness for COVID-19, Med-varsity, 30 April 2020, New Delhi (Online)
2. Research Paper Publication in Quality Journal, Webinar Series on Research Paper Publication in Quality Journal, VMACON, Salem, 3 June 2020, New Delhi (Online)
3. Role of Evidence based Practice in COVID outbreak, Capacity Building webinar for nursing professionals, Caring patients during COVID-19 pandemic–the new normal living, MoHFW, 23 June 2020, New Delhi (Online)
4. Biomedical Waste management and Best practices, Online course on Home-based nurse-led care programme for COVID-19 like illnesses, 1 July 2020, Heart care foundation of India and Rufaida college of Nursing, Jamia Hamdard University, 1 July 2020, New Delhi (Online)
5. Safety And Care Of Community Health Providers During COVID 19 Pandemic, State Level Webinar for nurses on COVID 19 Pandemic: Public health concerns. The Trained Nurses’ Association of India–Delhi State Branch, 30 October 2020, New Delhi (Online)
6. Maternal health–pregnancy and child birth, State TOT on CHO induction training, 23 November 2020, New Delhi (Online)
7. Adolescent health, State TOT on CHO induction training, 24 November 2020, New Delhi (Online)
8. Knowing your population, State TOT on CHO induction training, 25 November 2020 New Delhi (Online)
9. Non-communicable diseases, State TOT on CHO induction training, 26 November 2020, New Delhi (Online)
10. Gender and health, State TOT on CHO induction training, 27 November 2020, New Delhi (Online)
11. Mock sessions – Gender, JAS, State TOT on CHO induction training, 28 November 20, New Delhi (Online)
12. Common illnesses in elderly: vision and hearing problems, National TOT program on Elderly and Palliative Care for CHOs, 12 January 2021, New Delhi (Online)
13. Mental Health promotion- Platform for mental health promotion, State TOT in Expanded Service Packages- Mental, Neurological and Substance Use Disorder (MNS), 23 February 2021, New Delhi (Online)



14. Child and Adolescent Mental Health Disorders - Intellectual Disorder, State TOT in Expanded Service Packages–Mental, Neurological and Substance Use Disorder (MNS), 24 February 2021, New Delhi (Online)
15. Child and Adolescent Mental Health Disorders – Attention Deficit Hyperactive Disorder, State TOT in Expanded Service Packages- Mental, Neurological and Substance Use Disorder (MNS), 24 February 2021, New Delhi (Online)
16. Neurological Conditions- Epilepsy, State TOT in Expanded Service Packages- Mental, Neurological and Substance Use Disorder (MNS), 24 February 2021, New Delhi (Online)
17. Legal Context of Mental Health State TOT in Expanded Service Packages- Mental, Neurological and Substance Use Disorder (MNS), 25 February 2021, New Delhi (Online)
18. Code of Professional ethics for nursing students, Live webinar on Code of Ethics at School of Nursing Sciences and Research, SNSR, Sharda University, Noida, 9 March 2021, New Delhi (Online)
19. Oral Health Promotion Risk Factors (not there in module-to be adapted from FLW modules) National TOT (Training of Trainers) for Community Health Workers and Staff Nurses Trainers in the module of Oral, Eye, ENT and Emergency (OEEE) Care, 12 March 2021, New Delhi (Online)
20. Linkage between oral health and general health–special groups, National TOT (Training of Trainers) for Community Health Workers and Staff Nurses Trainers in the module of Oral, Eye, ENT and Emergency (OEEE) Care, 12 March 2021, New Delhi (Online)
21. Eye related Skills (CHO/SN), List of equipment and medicines National TOT (Training of Trainers) for Community Health Workers and Staff Nurses Trainers in the module of Oral, Eye, ENT and Emergency (OEEE) Care, 13 March 2021, New Delhi (Online)
22. Common ENT complaints, National TOT (Training of Trainers) for Community Health Workers and Staff Nurses Trainers in the module of Oral, Eye, ENT and Emergency (OEEE) Care, 15 March 2021, New Delhi (Online)
23. Understanding Antenatal care and 1st stage of labour Workshop on ‘Maternal Safety-Our Priority’, 25 March 2021, Ballabgarh, Haryana

#### **Shashi Mawar**

1. Prevention of Covid (role Play) National level Telemedicine, New Delhi
2. Environmental hazards to save ozone layer, National level webinar by Shri Kumarswami Mahavidyalaya, AUSA, LA-TUR, 29 September 2020, India
3. Introduction and magnitude of Covid-19, Covid-19 Issues and challenges–beginning till date Jamia Hamdard, Rufaida, College of Nursing, 17–18 February 2021, India

#### **Poonam Joshi**

1. Infection Prevention and Control in COVID-19, Webinars for Nursing Officer for training in care of COVID-19 patients, 4 April 2020, New Delhi, online webinar
2. Resource allocation and utilization: A challenge for nurses during COVID-19 Pandemic, The Capacity Building webinar for Nursing professionals by MoHFW, 10 June 2020
3. Medication Safety, Home-based nurse-led care programme for COVID-19 like illnesses, Online course, 1-3 July 2020, New Delhi
4. Plagiarism, An International webinar on Publishing a Research Article, 18 July 2020, PPFNI (Online webinar)
5. Plagiarism, Online web series for PhD scholars, Amity University, 25 July 2020, Online
6. Betty Neuman’s Theory and its application in current pandemic, Online webinar series, Christ College of Nursing, Jam Nagar, Gujrat, 1 August 2020, Online webinar
7. Nursing education in COVID 19, Panel Discussion, MTIN CHARUSAT, Gujarat, 18 September 2020, Webinar
8. Cardiopulmonary Resuscitation in COVID 19 patients, National Webinar Series on Nursing Care Perspectives: Paradigm Shift during COVID-19, Amity, 8 October 2020, Webinar
9. Webinar series on Ameliorate Neonatal outcomes, enhancing evidence based neonatal Care, IANN and Elsevier Neonatal Resuscitation, 24 November 2020, Online
10. Developmentally Supportive Care, Ensuring Quality, Equity and Dignity of Newborn Care at Every Health Facility and Everywhere, PPFNI, 19 November 2020, Online Webinar
11. Care of a child with Congenital Cyanotic Heart Disease, PPFNI, Online Webinar
12. Strengthening Preventive Health care services in Schools during COVID-19, Online panel discussion, SHARP NGO, 20 February 2021, Online webinar
13. Congenital heart diseases: Parental challenges, IACTSCON 2021 - A Virtual Symposium, 28 February 2021, Online webinar
14. Empowerment and Governance, Continuing education program, 14 March 2021, Delhi
15. Care of a child with Hirshsprung’s Disease, PPFNI, 16 March 2021, Online Webinar
16. Panel Discussion on LFS, Cancer Conclave, Paras hospital, 19 March 2021, Online
17. Redefining Cancer Care for the Next Decade, Panel Discussion 2, Li Fraumeni Syndrome (20 mins), 19 March 2021, Online webinar
18. Psychological Safety, Child Safety in Health care setting, 23 March 2021, Delhi

### **L Gopichandran**

1. National level COVID 19 training program for nurses, National level webinar organized by Ministry of Health GOI&AIIMS, New Delhi, 20-21 April 2020, New Delhi
2. COVID 19 online awareness program for public, National level webinar, 29 April 2020, Delhi
3. Critical care nursing management of COVID, CCNE National conference, 7 September 2020, Delhi
4. Assertiveness for Nursing Students, National level online conference, 17 September 2020, Bhubaneswar, Odisha
5. Current trends on headache management, National level online conference on neuro sciences, 5 November 2020, Chandigarh
6. Organ donation, Trauma 2020 virtual-10 Annual Conference of Indian Society for Trauma and Acute Care, 3 December 2020, Delhi
7. Technology in wound care, WOUNDCON 2020, 5 December 2020, Rishikesh.
8. Rating scale and check list, National e-conference, 12 January 2021, Tripura
9. ECG workshop, TNAI Delhi branch, 22 January 2021, Delhi
10. Trends in headache management, DNA conference, 5 February 2021 New Delhi
11. Pan India Nurse led Heart failure program, CNE, 11 February 2021, Chennai
12. Exploring innovation in emergency nursing, workshop, 3 March 2021, Delhi

### **Sibi Riju**

1. Stroke care during the pandemic, Virtual DNA CON 2021, 6 February 2021, Delhi
2. COVID linked brain damage, Virtual DNA CON 2021, 7 February 2021, Delhi

### **Pragya Pathak**

1. Precautions and care of dead body of COVID-19 patient, Capacity building webinar by MoHFW in collaboration with AIIMS, 1 April 2020, Delhi
2. Preparedness of Frontline warriors for caring COVID 19 patients, Capacity building webinar by MOHFW for DNS across country, 23 June 20, Delhi
3. Back to basics: Building statistical literacy, Integrated association of Basic scientists IAMBSS, 10 August 2021, Delhi
4. Nurse led clinics in neurology, Society of Indian Neuroscience Nurses & Saraswati college, 5 November 2020, Delhi
5. General manifestations of COVID linked brain damage, DNA CON21, National 7 February 2021, Delhi

### **Rimple Sharma**

1. Role of Nurse in Care of Covid Patients, Webinar series on Covid 19, MoHFW & ECHO India, 2 April 2020, New Delhi
2. Precautions and Care of Vulnerable-Homeless, Migrants, Disable & those staying alone during Covid 19 outbreak, Webinar series on Covid 19, MoHFW & ECHO India, 24 June 2021, New Delhi
3. Child's Right Crisis and Protection of children during COVID-19, Webinar on Care of Children during Covid 19, CON, CMC, Ludhiana, 19 July 2020, Online
4. Bag & Mask Ventilation during NRP, Webinar on NRP during COVID, 26 August 2020, Online
5. Neonatal Resuscitation, NRP, 26 August 2020, New Delhi
6. Anal Malformations, Webinar Series on Paediatric Surgical conditions, 23 March 2021, Online

### **Cecilia MS**

1. Gender based violence, Girl child day, 21 January 2021, Vishakapatnam
2. Cyanotic heart diseases in children, Capacity building programme on nursing care of pediatric surgical children, 26 January 2021, Delhi
3. Nursing care of Covid Positive neurological patients, Virtual DNA CON 2021, 5-7 February 2021, Delhi

### **Levis Murry**

1. Care of pregnant women and newborn with COVID 19 Online
2. COVID Webinar for Nursing organized by MoHFW 17 April 2020 Online
3. Endotracheal Intubation 'Ameliorate Neonatal Outcomes-Enhancing Evidence-based Neonatal Care'. Organised by IANN 24 November 2020 Online
4. Omphalocele and gastroschisis Capacity building program on Nursing care of a pediatric surgical Client. Organised by- PNNFI 9 March 2021 Online

### **Surbala Devi**

1. Act related to COVID 19, Webinar 4 for training of Nurses during pandemic in collaboration with MOHFW and AIIMS, 7 April 2020. New Delhi
2. Communicate effectively with patients at different setting, Webinar 5 for training of Nurses during pandemic in collaboration with MOHFW and AIIMS, 15 April 2020 New Delhi
3. Tobacco industry and adolescents, World No Tobacco Day, WHO India and MoHFW. 10 June. New Delhi

**Smita Das**

1. COPD and coinfection of SARS-CoV-2 co-infection management: Role of Nurse, Capacity Building of Nursing Professionals Caring for Patients during the COVID-19 Pandemic (online workshop), 25 June 2020, Delhi

**Milan Tirwa**

1. Musculoskeletal System (Online) Basic Trauma Life Support 13 September 2020, Delhi
2. Musculoskeletal System (Online) Basic Trauma Life Support 7 October 2020, Delhi

**Muthuvenkatachalam**

1. Caring precautions for Patients in Mechanical Ventilator, National Webinar (online) organized by AIIMS for nurses, 31 March 2020, Delhi
2. Preparedness, prevention and control of COVID-19 Outbreak: Role of Nurse, National Webinar (online) organized by AIIMS for nurses, 28 April 2020, Delhi
3. Application of Statistics and Nursing Research, International Conference through webinar on the Theme “Innovative Approaches in Nursing, Clinical Practice, Education & Research” 8 July 2020, Noida, Uttar Pradesh
4. Educational Guidance and Counselling, Guest Lecture (online), 28 July 2020, Gujarat.
5. Importance of culturally diverse nursing workforce, National E-Conference conducted by KIIT DU, 18 September 2020, Bhubaneswar, Odisha
6. Inferential statistics, applying SPSS, Online workshop on biostatistics conducted by AMITY University, Gurgaon, 21 December 2020, Gurgaon, Haryana
7. Roy Adaptation Model, National Webinar, Banaras Hindu University, 13 February 2021, Varanasi, Uttar Pradesh

**Gaytri Batra**

1. Health education by Role Play, Webinar organised by College of nursing AIIMS, July 2020, New Delhi
2. Elderly Care-Role of Nurses, Webinar organised by MoHFW in collaboration with ECHO India, 3 October 2020, Delhi

**Philomina Thomas**

1. Intra-natal care and management, Maternal care priority, 25 March 2021, Ballabgarh, Haryana

**Anubha**

1. Vascular Access for patients undergoing cardiac surgery, 67th IACTSCON 26-28 February 2021, virtual
2. Pain management, Organ Donation and Transplant-Nurses role, In-service education program, RML hospital, 19 March 21, New Delhi
3. Special Considerations for Patients with Chronic Illness during COVID-19 Pandemic (CKD, DM), MoHFW, May 2020, Virtual

**Neelima Raaj**

1. Biomedical waste management of COVID 19 patient at home, Biomedical waste management of COVID 19 patient at Hospital and Biomedical waste management of COVID 19 patient at home, 14 April 20, New Delhi, Virtual

**Suman Dabas**

1. Management of Antenatal, Post natal women with SARS Co-V2 infection at home: role of Nurse for preparing pregnant women and family surveillance of SARS Co-V2 infection, MoHFW, 16 April 2020, Online

**Savita**

1. Information on community quarantine, hospital isolation unit and home isolation, MoHFW, 15 April 2020, Online
2. Management of Antenatal, Postnatal women with SARS Co-V2 infection at home: Role of Nurse for preparing the pregnant women and family surveillance of SARS Co-V2 infection, MoHFW, 16 April 2020, Online

**Oral papers/posters presented: 10**

1. Chandani, Murry LL, Susaimuthu CM, Thukral A, Stress, anxiety, and coping strategies during COVID 19 pandemic among nursing students, 40th Annual International Nursing and Midwifery Research and Education conference, 3 March 2021, Dublin, Ireland (Conference is online)
2. Gopichandran L, Can trauma nurses be catalyst to balance organ donor-recipient inequality, Trauma 2020 virtual-10th Annual Conference of Indian society for trauma and acute care, 3 December 2020, New Delhi
3. Mariam D, Gupta S, Devi SY, Sarkar S. Needs of patients with opioid dependence syndrome: Differences and similarities in perspectives of patients vs. family caregivers, BAPIO Annual Virtual Conference 2020, 22 November 2020, UK (1st prize in Research and Innovation Competition -Poster presentation (as co-author)
4. Mawar S, Suman, Devogourou A. Impact of Covid 19 on education in India, International Multidisciplinary Conference on future trends. INSPIRA research association Jaipur, 19 February 2021, India

5. Sachdeva S, Effectiveness of suction protocol in improving outcome among nurses and patients, DNACON- Virtual 2021, 5 February 2021, Virtual
6. Sachdeva S, Quality improvement initiative in reducing intubation time in emergency department, International Forum on Quality in safety and health care, July 2020, Virtual
7. Sachdeva S, Yumnam SD, Gupta S, Shankar JG. Perception Regarding Diagnosis and Treatment in Patients With SUD- Dual Diagnosis and Their Family Caregivers and Its Association with Therapeutic Adherence in a Tertiary hospital, India. Virtual paper (as co-author), First ISAM Asian Meeting and 14th International Addiction Sciences Congress, 3-6 December 2020, Iran.
8. Sharma KK, Kaur R, Srinivasan M, Sarkar S, Mani K, Gupta S. Prevalence and associated risk factors of mental health outcomes among health care workers posted in COVID-19 designated areas, 65th Institute Day, AIIMS, New Delhi, 25 September' 2020, (online) New Delhi
9. Sharma R, Development of PPHD Tool, International Conference on Research Methodology for Qualitative and Quantitative Research (COM-21), 21 March 2021, Online
10. Sharma R, Koul P. Pilot study on a quality improvement initiative: Effect of pediatric patient handover Documentation Tool upon Quality of Handover among nurses working in Pediatric Care units of a selected Hospital, New Delhi, 3rdrd National Conference on Paradigm Shift in Nursing Education, 4 March 2021, Online

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. A randomized controlled trial to compare the efficacy of mobile app vs conventional prescription of analgesics and adjuvants' adherence on selected variables among cancer patients receiving palliative care at a tertiary care centre, L Gopichandran, ICMR, 2 years, 2019-2021, Rs 4.57 lakhs.
2. A RCT to compare the effectiveness of mobile app based prescription of analgesics and adjuvant adherence on selected variables in patients palliative care in a tertiary care facility, L. Gopichandran, ICMR, 2 years, 2019-2021, Rs 7.78 lakhs.
3. Determinants of mental health outcomes among health care workers exposed to COVID-19 patients or suspects, Kamlesh Kumari Sharma, AIIMS, COVID-19 Institute Research Project, 1 year, 2020-2021, Rs 4.5 ILakh for 1st year.
4. Effectiveness of Epilepsy Care App on Q.O.L and First Aid Management of Seizures (FAMS) by parents of children with refractory epilepsy reporting at AIIMS: A pilot randomized study. Pragya Pathak, AIIMS, 1.5 year, 2020-2022, Rs 2 lakhs.
5. Effectiveness of Interprofessional Education as compared to Uniprofessional training for managing newborn emergencies using simulation on medical and nursing students in terms of their attitude, teamwork and acceptance, towards interprofessional education; A mixed methods approach L. Levis Murry, AIIMS, 1 year, 2020-2021, Rs 2.82 lakhs.
6. Interdisciplinary clinical research network to build locally rooted evidence-based knowledge to address the mental health impact of COVID-19 in vulnerable and at-risk, groups in India with a wider focus on South Asia-A qualitative study (2020-21), L Gopichandran, UCL-AIIMS, 1 year, 2020-2021, Rs 5 lakhs.

### **Departmental projects**

#### ***Ongoing***

1. A Comparative Study of Status of Mood, Resilience and Confidence of Athlete with Non-Athlete Students (between 14-18 years) of Higher Secondary School, in Delhi NCR
2. A comparative study to assess the breastfeeding behaviour of partially paladai fed and exclusively breastfed stable late preterm and term neonates
3. A cross sectional study to assess the level of anxiety, depression and stress of patients with cardiac disorders during COVID 19 pandemic
4. A cross-sectional study to assess the Financial toxicity and it's impact on therapeutic compliance among cancer patients undergoing chemotherapy at Dr BRA IRCH, AIIMS New Delhi
5. A descriptive study to assess the impact of physical activity on glycemic control in children (6-18 years) with diabetes mellitus type 1 during COVID-19 pandemic
6. A feasibility study to examine the effect of Yoga intervention on pain perception, fatigue and quality of life in children undergoing chemotherapy in AIIMS, New Delhi
7. A Hermeneutic phenomenological study on experiences of living kidney donors post transplant at AIIMS New Delhi
8. A hermeneutic phenomenological study on experiences of patients' post- heart transplantation at AIIMS, New Delhi
9. A hermeneutic phenomenological study to assess the lived-in experiences and coping strategies of COVID positive individuals at AIIMS, Delhi
10. A prospective study to assess the social stigma, perceived stress and psychological distress among security guards during COVID-19 pandemic, All India Institute of Medical Sciences
11. A Quasi Experimental Study to assess the effectiveness of structured counselling among caregivers of heart failure patients on selected outcomes in Cardiology department at AIIMS, New Delhi
12. A randomized controlled trial to assess the effect of maternal audiotaped voice on selected clinical parameters of sedated children in PICU of AIIMS, New Delhi



13. A study to assess anxiety, depression and quality of life among patients with lupus nephritis reporting at AIIMS New Delhi
14. A study to assess impact of COVID-19 on care of heart failure patients
15. A study to assess Stress, Anxiety, Depression and Psychological distress due to COVID-19 pandemic among Employees working in Corporate sector. -A web based cross sectional survey
16. A study to assess the effect of an educational intervention for the nurses on the adherence to the bundle for the prevention of Ventilator Associated Pneumonia (VAP) in ICU, AIIMS, Delhi
17. A study to assess the effectiveness of educational package on Situation-Background-Assessment-Recommendation approach on the knowledge, attitude and practice among nurses working in neurosciences ICU units, AIIMS
18. A study to assess the effectiveness of video assisted teaching on home care management among care givers of patients with Parkinson's disease attending neurology OPD at AIIMS New Delhi
19. A study to assess the impact of COVID-19 pandemic on nursing education among nursing students of AIIMS, New Delhi
20. A study to assess the problems experienced by the relatives of the patient admitted at critical care areas with a view to develop an ICU practice protocol for relatives and health workers at AIIMS, New Delhi
21. A study to compare anxiety, depression and quality of life among caregivers of children with cerebral palsy and those with typically developing children attending paediatric neuro OPD at AIIMS, New Delhi
22. A study to develop hemodialysis patient safety care protocol for the patients undergoing hemodialysis at AIIMS, NEW DELHI and to assess its feasibility, nurses' acceptability and patient satisfaction
23. An Exploratory Study of Factors Associated with Integration of Patients Recovering from Alcohol Dependence Syndrome with Their Family
24. Impact of virtual interactive epilepsy education versus digital educational material in people with epilepsy and their caregivers: A randomized controlled trial
25. Perception of social support and prevalence of depression among patients with head and neck squamous cell carcinoma

### ***Completed***

1. A capability building study on stoma care and compare conventional versus innovative pouchless stoma device in terms of Quality of Life(QOL), safety and efficacy.
2. A cross sectional study to assess the accuracy of weight approximation by using a 3 parameter nomogram in drug dose calculation among adult bed bound patients and validation of this nomogram among health care professionals (HCPs) in neurosurgical units of AIIMS, New Delhi
3. A cross sectional study to assess the impact of social media on body image, self-esteem, quality of sleep and social competency among the undergraduate nursing students of AIIMS, New Delhi.
4. A pre-experimental study to assess the effect of multi-component intervention programme on knowledge of parents and selected clinical outcomes of children after cardiac surgery at AIIMS, New Delhi.
5. A pre-experimental study to assess the satisfaction of parents of children with Nephrotic syndrome with Utsarjan App based home care and management
6. A prospective study to explore the unmet needs of sarcoma survivors and redefining the role of nurse in survivorship care at AIIMS New Delhi.
7. A prospective survey to assess the factors influencing feeding practices among critically ill hospitalized children in PICU at AIIMS, Delhi"
8. A Randomized control trial to assess the efficacy of renal care bundle on quality of life among CKD patients at AIIMS, New Delhi.
9. A randomized controlled trial to assess the effectiveness of chewing gum on reducing incidence and severity of chemotherapy induced oral mucositis and quality of life among patients receiving conventional mucotoxic chemotherapy.
10. A study to assess Effectiveness of Self-Forgiveness Intervention Package on Recovery Status, Shame, Guilt and Self-Esteem of ODS patients taking treatment from NDDTC Ghaziabad.
11. A study to assess the association between gaming disorders and psychosocial correlates among adolescents in selected school of New Delhi.
12. A study to assess the effect of implementation of ABCDEF Bundle on selected patient care outcomes in postoperative patients and knowledge and practices of nurses in HDU/ Surgical ICU of AIIMS, DELHI.
13. A study to assess the effectiveness of Interventional package on prevention of pressure ulcers for caregivers of patients with severe neurological disability in AIIMS, Delhi –An RCT
14. A study to assess the effectiveness of nurse led web based educational package for adults with type 2 diabetes mellitus on self-efficacy and glycosylated haemoglobin levels.
15. A study to Assess the Effectiveness of Safe Discharge Program (SDP) on knowledge and skills of mothers in Homecare Management of surgical neonate at SNICU, AIIMS, New Delhi"
16. A study to assess the effectiveness of Simulation on improvement of knowledge, skill and its retention among Nursing students in initial assessment and management of multiple injured patients as per ATLS guidelines (Trauma Training)
17. A study to assess the effectiveness of structured ICU cardiac surgery clinical pathway on nurses knowledge and patient care outcomes in AIIMS New Delhi

18. A study to assess the knowledge, attitude and perceived barriers regarding Human Milk Banking among stakeholders of healthcare at AIIMS, New Delhi with a view to develop an e-educational material.
19. A study to develop and assess the effect of implementation of post-extubation nebulisation protocol on selected patient care outcomes in pediatric patients and nurse's knowledge and practice about post-extubation nebulisation for pediatric patients admitted in CTVS, ICU
20. An Experimental study to assess the efficacy of swallowing exercises on dysphagia among post extubated patients admitted in ICU.
21. An experimental study to evaluate the impact of nurse led psychoeducation on knowledge and psychological stress of the cancer patients undergoing radiological imaging studies.
22. An Observational Study to assess the Compliance of the WHO Surgical Safety Check List in the Paediatric Surgery Operation Theatres at the All India Institute of Medical Sciences, New Delhi and Barriers in its Implementation
23. Caregivers' perception about patient safety in psychiatric unit- a mixed method study

### **Collaborative projects**

#### ***Ongoing***

1. A cross sectional study to assess the accuracy of weight approximation by using a 3 parameter nomogram in drug dose calculation among healthcare professional in neurosurgical units of tertiary care hospital in Northern India, Neurosurgery
2. A study to assess the effectiveness of structured ICU CABG clinical pathway on nurse's knowledge and patient care outcomes among post CABG patients at AIIMS, New Delhi, CTVS
3. Assessment of Quality of life of patients with confirmed or probable diagnosis of Li-Fraumeni syndrome using a qualitative approach, Oncology
4. Impact of nurse led integrated educational intervention for home-based supportive care of advanced cancer patients on Quality of Life of their caregivers: A Prospective RCT, Onco-anaesthesia, Nursing services
5. Mobile App based learning on Selected Skills of Cardiopulmonary Resuscitation among Nursing Students -Randomized prospective pilot study, Anesthesiology Department and Cardiology
6. Predictors of blood transfusion and related complications in critically ill children admitted in PICU, Pediatrics Department, Nursing Services
7. Psychological distress among nurses during the COVID-19 pandemic, Psychiatry
8. To assess the effectiveness of retinopathy of prematurity (ROP) Educational package among Nursing Officers working in NICU, AIIMS New Delhi, Neonatology and RPC Nursing Services

#### ***Completed***

1. Psycho-Social Distress among the Caregivers of Children with Cancer during Corona Pandemic, IRCH, AIIMS, New Delhi
2. Evaluation of an Online Interactive IMNCI Training Program in terms of Knowledge and Satisfaction of Nursing Students', Pediatric Medicine, IGNOU
3. Comparing the effectiveness of two online teaching methods for disseminating cardiopulmonary resuscitation (CPR) guidelines in cardiac arrested COVID-19 patients: A randomized controlled study, Anesthesiology, Cardiology and Computer Facility and ECHO India
4. Dissemination of Cardiopulmonary Resuscitation Training for COVID-19 Patients among Nurses: A single-arm, pre-experimental study, Anesthesiology, Cardiology and Computer Facility

### **PUBLICATIONS**

**Journals: 50**

**Chapters in Books: 5**

**Books & Monographs: 1**

### **PATIENT CARE**

1. Coordinated and supervised six health surveys in 2020-21 in urban community (Ambedkar Nagar) on topics like epilepsy, perceptions of women towards COVID 19, etc.
2. Organized 13 community health programs in the form of role plays and exhibitions on prevention and promotion of health on important public health issues viz. Corona infection, eye problems and their management, cervical cancer etc.
3. Provided direct patient care including health education through B.Sc (Hons) Nursing, B.Sc (Post Basic) Nursing & M Sc Nursing students posted in various clinical areas throughout the year supervised by college faculty.
4. On the occasion of 65th Foundation Day '2019, co-organized departmental activities like Poster exhibition on: Kaleidoscope of activities in the times of Covid-19 Pandemic at College of Nursing, AIIMS, Delhi

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

Participation & awards /prizes won:

1. State level -Third prize) in singing competition
2. Inter-college -First prizes in photography & face painting competitions

**Dr Sandhya Gupta** prepared one video film for MOHFW for training NCC Cadets for Surveillance of COVID 19 instructions from MoHFW, GOI. (On YouTube in April 2020); Participated as expert in various committees of MOHFW: (i) For Preparing



draft of National Nurses & Midwifery Commission, for MOH&FW; (ii) For developing draft for Nursing Practice Act for Indian Nursing Council; (iii) For developing Standards for health informatics for Nurses in India for Bureau of Indian Standards, GOI; (iv) For preparing the draft for parity for Nursing Professional in India as per ISCO classification for Ministry of Health & Family Welfare, GOI; (v) For Editing Facilitator's Manual for WHO-SEARO - for trainers of trainees in old age care for Nurses. 2020; and (vi) for Selection committee for two institutes; Participated in Task force on Entrance Exam /NEET organized by National Testing Agency organized by MOHFW; Participated in Task force on developing standards for Long Term Care for elders and vulnerable for WHO, Geneva; Participated in Task force on Entrance Exam/NEET organized by National Testing Agency; Participated in Task force on 'Psychosocial care for Promotion of Mental Health during Pandemic invited by ISPN, 20th November 2020; Participated in Task force on Single Entry for nursing courses invited by MOHFW; Attended expert meeting for Preparing Question-Bank; Attended expert meeting for Preparing Question-Bank for PhD entrance exam for Rajiv Gandhi University in December, 2020 organized by Indian Nursing Council, New Delhi; Attended expert meeting for confidential work of Indian Nursing Council, New Delhi; is Chief Editor for Indian Journal of Psychiatric Nursing; Reviewer for 4 indexed journals: J Mental Health Human Behaviour; Current Medicine Research and Practice; Indian Journal of Social Psychiatry; Archives of Psychiatric Nursing; is on Advisory board of (i) Journal of Nursing Education and Practice (JNEP); (ii) International Journal of Nursing Education (IJONE)

**Dr Deepika C Khakha** was Editorial board of the following Journals; Journal of Nursing Science and Practice, Scholar Report; Indian Journal of Advanced Nursing; Journal of Comprehensive Nursing Research and Care; Journal of Community Health Management; Reviewer for International Journal of Health & Allied Sciences, Baba Farid University Nursing journal, Journal of Advanced Research in Nursing Science, Annals of Nursing and Practice, Journal of Community Medicine & Public Health Care, Current Psychiatry Reviews Journal of Affective Disorders, Journal of Community Health Management, Journal of Education Technology in Health Sciences, Asian Journal of Psychiatry, Journal of Alternative, Complementary & Integrative Medicine, The Nursing Journal of India, British Journal of Mental Health Nursing, American Journal of Psychiatry and Neuroscience, Journal of Alternative, Complementary & Integrative Medicine, Adjudicator for Five MSc THESIS, 3 for NINE, PGIMER, Chandigarh, 2 FOR KGMC, Lucknow, Adjudicator & Examiner for PhD for of Baba Farid University of Health Sciences (1), MGR University (2); Content validity expert for MSc THESIS & PhD Thesis; Mentor for COVID training at AIIMS, Supervisor for COVID training at 4 groups of AIIMS, Nursing officer, Member of the World Health Organization's (WHO) Global Clinical Practice Network (GCPN), White Ribbon alliance India, Organizing Secretary of In-service Education program on Effective communication: Bond to patient safety; Member of Academic Committee, Co-chair for Ethics Committee (Institute of Liver Biliary Sciences, New Delhi); Doctoral Research Committee at AIIMS, Delhi and Baba Farid University of Health Sciences; WHO Global Clinical Practice network; Moderation committee-AIIMS; Webinar attended; Emerging Scope of Translating Research from Bench to Bedside, International E-conference on Mental Health First aid w.e.f 4-6 February 2021

**Dr Kamlesh K Sharma** "External Member" in Board of studies (BOS) Nursing, UG and PG courses, AIIMS, Bhubaneswar; Special member, research quality committee (nursing) RQC (N) meeting at Baba Farid University; External Consultant Trainer (CP/CPHC) with NHRSC, NIHFW, Delhi; Resource person, Online training of National TOT (doctors and nurses) for Community Health Workers and Staff Nurses, "Curriculum for online cancer screening training course for Staff Nurses" by ICMR-NICPR (MOHFW, GOI), Mentor, online training course on COVID-19 for Nursing Officers 2020; Examiner - National consortium for Ph.D in nursing under RGUHS, Bangalore; and Dr M.G.R. Medical University, Chennai; Visiting Faculty, Examiner and evaluator, KGMU, Baba Faridkot University, PGI NINE, Chandigarh Rufaida CON, Jamia Hamdard University, ILBS, Delhi, Deputy Hostel superintendent, CAPIO, College of nursing, Various committees, AIIMS, New Delhi, Member - Purchase and Condemnation committees, college of nursing and Hostels, -Departmental Doctoral Committee, Chairperson - memorandum of MCQ for B.Sc Nursing (PB)/2021; Infection control Committee, Nodal officer-COVID-19, hostel section, AIIMS, New Delhi, Guiding Ph. D candidates of National Consortium (Three) for Ph.D Nursing (INC), Editorial Board member (2 journals), Reviewer (5 journals), Organized In-service Education Program for AIIMS Nurses on 'Medication Safety', Adhoc inspector, Delhi nursing council

**Dr Shashi Mawar** Attended Provider course for BLS and ACLS in Sept 2020 and got instructor potential for BLS and ACLS; Organized In-service program For Nursing Officers on Physical Safety of patients in Healthcare setting on 16 March 2021; Attended instructor Program for BLS and ACLS w.e.f 20-21 March 2021

**Dr Poonam Joshi** Attended PALS (AHA) Program as a provider and declared as instructor potential and finished one successful monitoring 23-24 February 2021; Mentor for online training course on COVID-19 for Nursing Officers (24-31 April 2020); Facilitator for Dissemination of Preterm Care Package through mobile phone based interactive e-learning platform from 1 December 2020 to February 2021; Validated guidelines of CVC care developed by the Infection Control Nurse, CTVS, AIIMS, New Delhi; Developed educational content for SET facility on "Anthropometry, in infants, Stoma care, airway management, chest compression, assessment of responsiveness; VISITING Faculty as Examiner and evaluator, IGNOU, New Delhi, Rufaida College of Nursing, Jamia Hamdard University, Baba Faridkot University, PGI MER, Chandigarh.

**Dr L. Gopichandran**

1. Elected as PRESIDENT of TNAI Delhi Branch and National TNAI EC member (2020-24).
2. Recipient of AIIMSONIAN OF AMERICA BEST COMMUNITY Work in Nursing AWARD-2019 on AIIMS INSTITUTE DAY CELEBRATION (2020).
3. Received Certificate of honor and recognition by Indian Society of Emergency and Cardiac Nursing (ISECN) at Delhi (Feb 2021)
4. Awarded Fellowship in Clinical Research Methodology & Evidence Based Medicine at AIIMS, New Delhi. (2021)
5. Certificate course on Certificate Course in Essentials of Palliative Care organized by INDIAN ASSOCIATION OF PALLIATIVE CARE. (2020)
6. Appointed as Internal and External examiner and question paper setter at AIIMS New Delhi Rishikesh, AIIMS Jodhpur, AIIMS Bhopal, ILBS CON Delhi, Baba Farid University, Tata Memorial Institute, Mumbai, PGIMER, Chandigarh, Jamia Hamdard University.
7. Appointed as a faculty in charge for conducting various AIIMS PG, UG and nurses recruitment online/Physical examination at many cities across India in 2019-2020.

**Ms. Sibi Riju** Got AHA Approved ACLS/BLS Instructor status

**Dr Pragya Pathak** was Examiner for Ph.D. Thesis and public defence of Ph.D. candidate at Chitkara university, Punjab on 18.8.20; Eminent member for panel of Ph.D. Public defence at Ramachandra University, Chennai on 5.10.20; Examiner for M.Sc. Nursing and B.Sc. exams at college of Nursing(AIIMS Rishikesh, PGI Chandigarh, I.L.B.S Delhi, St. Stephen Delhi, KGMU Lucknow, West Bengal university, Baba farid university Punjab.); Expert committee member for research study conducted by Indian Nursing council and Jhpiego to advice on construction, validation of MCQ, Checklist, simulation scenarios from 24.11.20-26.11.20

**Ms. Ujjwal Dahiya** was Speaker in Webinar for Nursing Officers for Training in care of patients suspected of/or having COVID 19 infection April 2020; Training Coordinator for Nursing Officers at AIIMS for Training in COVID 19, May 2020; Completed Certificate Course in Essentials of Palliative Care from Indian Association of Palliative Care (IAPC) 27 September 2020; Organizing Secretary and Resource person for In-service Nursing Education Program on Patients for Patient Safety, March 2021

**Ms. Levis Murry** was Resource person/mentor for Online COVID training Course for Nursing Faculty via SARAL platform on May to June 2020; Mentor for online training course for nurses on “Preterm Care for prevention of Retinopathy of Prematurity” from 01.11.2020 to 10.01 2021 organized by National Neonatology Forum of India and Indian Association of Neonatal Nurses”; Mentor for online training course for Doctors on “Preterm Care for prevention of Retinopathy of Prematurity” from 12.12.2020 to 10.03 2021 organized by National Neonatology Forum of India; National Quality Improvement Mentor for Laqshya Program to improve quality of labour room and delivery services in India; Awarded “Biotech Product and Process Development and Commercialization Awards 2020” by the Department of Biotechnology, Government of India for “Mammapod- A garment for Kangaroo Mother Care”; Conference attended (Online): UP-IAP Ventilation workshop 10 May to 22 May 2020; PALS Workshop- 25 to 26 February 2021

**Ms. Surbala Devi** was Listed in the annual list of reviewers for year 2020 on the journal website of General Psychiatry-Peer Review Open Access Journal published by Shanghai Mental Health Centre in collaboration with BMJ for reviewing research paper; Certified Trainer - “Promotion of Mental health of Healthcare providers during COVID-19 Pandemic” organized by the Department of Nursing in collaboration with Department of Clinical Psychology at NIMHANS, World Health Organization (India) and Ministry of Health & Family Welfare, Government of India from 28-30 December, 2020; Reviewed a Manuscript for General Psychiatry; Reviewed a book title, “Textbook of Mental Health and Psychiatric Nursing for Undergraduate Nursing Students” Authored by Dr Bharat Pareek and Mr Sandeep Arya published by Health Vision Sciences Publisher, Mohali in August, 2020

**Ms. Milan Tirwa** was External examiner to Sikkim Manipal University for Critical Care M.Sc Nursing students for the year 2020; Attended the virtual conference on COVISIM organized by International Network for Critical Ultrasound; Trained to be an ACLS provider course (in progress); Participated during COVID times in voluntary help for Back end call for the doubts and queries related to COVID 19.

**Kiran Singh Simak** was Assistant organizing secretary for webinar on “Patient Safety – an overview IPSG Goals” on 15/3/21; Guided Research Project for B.Sc.(Hons) Nursing 4th Year Students of College of Nursing, AIIMS

**Ms Sucheta** was Assistant Organizing Secretary for Webinar on Patient Safety: Effective Communication: Bond to Patient Safety on 17.03.2021 as part of ISE, CON, AIIMS, New Delhi; Attended webinar on Alcohol related Liver Diseases and its Management conducted by Institute of Liver & Biliary Sciences, New Delhi w.e.f. 24.09.2020 to 26.09.2020; Guided Research Project for B.Sc.(Hons) Nursing 4th Year Students.

**Ms Babita Sahoo** was Assistant Organizing Secretary for In service education on Patient Safety: Medication safety: Going beyond “The Rights” on 18.03.2021 as part of ISE, CON, AIIMS, New Delhi; Attended E- Workshop on Innovations in Nursing Education and Research conducted by College of Nursing, Berhampur, Odisha w.e.f. 01.02.2021 to 05.02.2021; Guided Research Project for B.Sc. (Hons) Nursing 4th Year Students.

**Dr Philomina Thomas** was Assisted Organization of in-service education programme for nursing officers on “health-care associated infections” on 19/3/2021 at AIIMS, New Delhi; Expert committee member for preparing training screening module for health workers by National Institute of cancer under ICMR, New Delhi

**Dr Seema Sachdeva** was Super vising students of BSc IInd year nursing students in RPC OT, ORTHO OT and Main OT in learning to practice as scrub nurse and circulatory nurse for the safe conduction of surgery; External examiner in DCCN examination in IGNOU study centre, Medanta Hospital, Gurugram, Haryana in Feb 2021; External examiner for Certificate program in First aid in IGNOU study centre, Artemis Hospital, Gurugram, Haryana in March 2021; External examiner for Critical care nursing, MSC nursing program in Jamia Hamdard University, New Delhi; Involved in moderation of multiple program exam (MEDICAL SURGICAL NURSING, FIRST AID AND CRITICAL CARE NURSING) BY IGNOU, New Delhi; Completed AHA accredited ACLS, BLS instructor and provider course successfully in march 2021; Presently an active ATCN instructor member; Fellowship: completed in Clinical research methodology and Evidence Based Medicine from AIIMS DELHI in June 2020

**Ms. Neelima Raaj** was Winner of SUPER NURSE contest on May 12th, 2020 conducted by CBS Publishers.

**Mr Hansaram** was Assistant Organizing Secretary for In service education on Patient Safety as part of ISE, CON, AIIMS, New Delhi; 2 webinars presented related to COVID 19; Guided Research Project for B.Sc. (Hons) Nursing 4th Year Students.

**Ms Monika Sabharwal** was Assistant coordinator for In Service Education programme for nursing officers on “health-care associated infections” on 19/3/2021 at AIIMS, New Delhi; Guided Research project for B.Sc. PB Nursing students

**Ms. Mamta Choudhary** was Attended Provider course for BLS and ACLS in Sept 2020 and got instructor potential for BLS and ACLS; Organized In-service program For Nursing Officers on Physical Safety of patients in Healthcare setting on 16 March 2021; Attended instructor Program for BLS and ACLS w.e.f 20 March to 21 March 2021

**Ms Suman Dabas** was Assisted Organization in-service education programme for nursing officers on “Safe child in Health Care: Patient’s Perspective” on 23 March 2021 in AIIMS, Delhi; Mentor for NICU training programme online preterm package from November 2020-January 2021; Conducted lectures for DORA students.

**Ms. Savita** was Assisted Organization virtual in-service education programme for nursing officers on “Patient safety: A Universal Call” on 16 March 2021 in AIIMS, Delhi.

### In-Service Education Programme







Trouville Students Programme



## 8. Research Section

### Dean (Research)

Chitra Sarkar  
(up to 30 September 2020)

Subrata Sinha  
(from 1 October 2020)

### Associate Dean (Research)

Vineet Ahuja

### HIGHLIGHTS

The Research Section initiated several research funding proposals calls, held workshops and created infrastructure to stimulate research milieu amongst the faculty, scientists and students at the Institute. Earlier the focus of intramural funding support had been on single investigators from AIIMS. With the objective of creating a more vibrant research environment and to lay down lines for future long-term collaborations, the funding call proposals now have shifted their vision on catalyzing the synergic 'cross-research activity' by having collaborative projects with other institutions like IIT and THSTI. For the first time at AIIMS, faculty could compete for intramural collaborative funding opportunity with an international university. With the objective of enhancing interdisciplinary and collaborative research interest between University College, London (UCL) and AIIMS, New Delhi, a joint research seed fund has been established and it funded joint project proposals from faculty members from both institutions. Impetus to infrastructure and capacity building exercise was through operationalization of twin facilities of Centralized Core Research Facilities (CCRF) and Clinical Research Unit (CRU).

### EXTRAMURAL PROJECTS

Funding agency	Number of projects	Grant received (Rs.)
DST	133	15,75,31,521
DBT	101	17,63,73,400
ICMR	315	55,42,45,840
Others	329	66,29,48,222
<b>Total</b>	<b>878</b>	<b>1,55,10,98,983</b>

### INTRAMURAL PROJECTS

An online submission system for intramural grants has been created.

#### Early Career Intramural research grants for Assistant Professor and Associate Professors at AIIMS

1. Single Principal investigator with co-investigators
2. Funding: Rs 5 lakhs/year, extendable to two years
3. Monitored by Internal Project Review Committee

#### Intramural Inter-disciplinary collaborative research projects for all levels of faculty at AIIMS

1. Two Principal investigators (PI) from two different departments/disciplines with complementary expertise
2. Funding: Rs 5 lakhs/year per PI for two years (Total Rs 20 lakhs)
3. Monitored by External Project Review Committee

#### Undergraduate Research Mentorship Scheme for students from third semester onwards at AIIMS

1. Group of 2-3 MBBS students under the guidance of a faculty member (designated as Mentor)
2. Funding: Rs 2 lakhs per project for one year
3. Monitored by Internal Project Review Committee

#### Inter-Institutional collaborative research projects with:

1. IIT, Delhi
2. IIT, Kharagpur
3. THSTI, Faridabad
  - Two Principal investigators from two different institutes with complementary expertise

- Funding (intramural from both institutions): Rs. 5 lakhs/year per PI for two years (Total Rs. 20 Lakhs)
- Monitored by External Project Review Committee

#### COVID Related Intramural Projects:

1. COVID–Ist Call: Urgent Call for Fast Track Intramural Research Intramural Grant THEME: Research on SARS-CoV-2 and COVID-19 on 21 March 2020
2. COVID–IIInd Call: Second Call for Fast Track Intramural Research Intramural Grant THEME: Research on SARS-CoV-2 and COVID-19 on 18 May 2020
3. COVID–IIIrd Call: Call for Interdisciplinary Intramural Research Projects THEME: Long Term Health Consequences of COVID-19 on 18 January 2021
4. COVID–IVth Call: Fast track Intramural call for proposals: Mucormycosis and COVID-19 on 19 May 2021

The Research Section launched intramural schemes for promoting research for COVID. Two calls for intramural grant for **Long COVID** as well as a specific call for projects related to **mucormycosis**. This ensured that faculty members had access to fast tracked seed money for conducting research related to COVID. Overall intramural sanction was given to 81 COVID projects, 11 Long COVID projects and 26 COVID mucormycosis projects. A project review meeting detailing the progress of these projects was also initiated where investigators had to present the progress and this would become a norm for all intramural schemes now.

#### 1. AIIMS-UCL

International research collaboration with University College London continued and six projects were awarded this year. Four projects were awarded last year.

- Two Principal investigators from the two institutes with complementary expertise
- Funding is jointly provided by UCL and AIIMS, New Delhi. Each successful proposal receives up to £5,000 per year for UCL faculty and up to Rs. 5 lakh per year for AIIMS, New Delhi faculty for one year.
- Monitored by External Project Review Committee

#### Intramural Funding for the following schemes during the year

S. No.	Scheme	New projects + Ongoing projects	Amount awarded in Rs.
1.	Early Career Intramural Research Project	166	5,54,96,329
2.	AIIMS-Collaborative	15	1,95,47,000
3.	AIIMS – IITD Collaborative Projects	45	3,43,62,284
4.	AIIMS-THSTI Collaborative Projects	08	59,54,000
5.	AIIMS-UCL, London	10	44,69,440
6.	Undergraduate Mentorship Scheme	24	42,74,790
7.	AIIMS COVID	75	4,06,04,405
	<b>Total</b>	<b>341</b>	<b>16,47,08,248</b>

#### RESEARCH SECTION MANUAL:

AIIMS is recognized for the quality of research that it does not only nationally but also internationally. This makes the institute stand out amongst all medical institutes in the country. However, there has never been any comprehensive manual to guide researchers regarding procedural details of grants applications, fellowships, etc. Mr. Amit Kumar Kwatra (Research Section) has written/compiled “**A Compendium of Procedures**” (Guidelines for initiation and facilitation of research projects at AIIMS) which has been appreciated by Dean’s Research Committee and Hon’ble Director, AIIMS. The book was released on 25 September 2020 by Hon’ble Union Minister of Health & Family Welfare and President, AIIMS, New Delhi.

#### ENDOWED CHAIR: Shobha Seth Wenger Distinguished Chair in Gynaecologic Oncology under “Mira Seth Corpus Fund”

The Mira Seth Corpus Fund has donated money to AIIMS to establish a chair in Gynaecologic Oncology.

*Purpose of the endowed chair:* This prestigious Chair will be awarded to a Senior Faculty/Scientist from AIIMS, New Delhi who has an outstanding track record in the field of Gynaecologic Oncology.

Dr Neerja Bhatla, Prof & Head, Department of Obstetrics and Gynecology has been awarded the ‘Shobha Seth Wenger’ Distinguished Chair in Gynecologic Oncology under the “Mira Seth Corpus Fund” for a period of 2 years.



## ESTABLISHMENT OF CLINICAL RESEARCH UNIT

AIIMS has started a new research facility viz. Clinical Research Unit (CRU). Clinical Research Unit (CRU), AIIMS New Delhi aims to provide high quality technical expertise and assistance in planning, designing, implementation and analysis of investigator-initiated clinical research, in compliance with the global best practices.

### The working committee of the CRU comprises of:

1. Professor Subrata Sinha, Dean, Research
2. Professor Vineet Ahuja, Associate Dean, Research
3. Dr Vijay Prakash Mathur, Faculty Coordinator
4. Dr Pooja Gupta, Workshop Coordinator
5. Dr M. Kalaivani, Scientist Coordinator
6. Dr Rakesh Lodha
7. Dr Sameer Bakhshi
8. Dr Sumit Malhotra
9. Dr Jeeva Shankar
10. Dr Saurabh Kedia

### CMEs/Workshops/Symposia/National and International Conferences organized

1. **AIIMS BIRAC Webinar on Emerging Scope of Translating Research from Bench to Bedside:** The webinar was jointly organized by CRU of Research Section, AIIMS, New Delhi and DBT BIRAC. The webinar aimed at sensitizing researchers at AIIMS regarding the funding opportunities of BIRAC. It was held on 29th October 2020 at Dr Ramalingaswami Board Room, AIIMS. The speakers and participants joined virtually on the Zoom webinar platform. There were over 100 participants ranging from faculty, scientists, research staff and PhD and postgraduate students from various disciplines.
2. **Grantsmanship Workshop:** CRU organized one to one mentoring for the applicants for DBT Wellcome Trust India Alliance Clinical and Public Health Fellowship applicants in March 2021 with help from Prof. Usha Menon from Clinical Trials Unit, Medical Research Council, UCL London. Dr Shinjini Bhatnagar from THSTI and Dr Madhulika Kabra from AIIMS served as master mentors.
3. **On behalf of AIIMS, CRU applied for Cochrane Affiliate Centre as part of Cochrane India Network and it was approved.** It is intended that as Cochrane affiliate, AIIMS shall work on capacity building on evidence generation in medicine and carry forward the work of Cochrane Collaboration in India.

### CENTRALIZED CORE RESEARCH FACILITY (CCRF)

S. No.	Sub-Facility	Faculty Incharge	Scientist-II
1.	Bio-Analytics	Dr T Velpandian, Professor, Ocular Pharmacology & Pharmacy Div., Dr. RPC	Dr Hanuman Prasad Sharma
2.	Bioinformatics	Dr Punit Kaur, Professor, Department of Biophysics	Dr Amit Katiyar
3.	Biosafety Lab-3	Dr Subrata Sinha, Prof. & Head, Department of Biochemistry Dr Vikram Saini, Department of Biotechnology (Coordinator)	Dr Sunita Kanswal Dr Atul Vashisth
4.	Flow Cytometry Core Facility	Dr DK Mitra, Professor & Head, Department of TII.	Dr Rahul Sharma Dr Nasim Ansari
5.	General Facility	Dr Kalpana Luthra, Professor, Department of Biochemistry	Dr Vikas Sharma Dr Amit Singh
6.	Genomics Core Facility	Dr Madhulika Kabra, Professor and Incharge, Genetics Division, Department of Pediatrics	Dr Lata Rani
7.	Microscopy	Dr Parthaprasad Chattopadhyay, Professor, Biochemistry	Dr Saumitra Dey Choudhury
8.	Proteomics	Dr Punit Kaur, Professor, Department of Biophysics	Dr Sabyasachi Bandyopadhyay
9.	Project Management	Professor Subrata Sinha, Dean (Research) Professor Vineet Ahuja, Associate Dean (Research)	Dr Kamal Gulati




## I. BIOANALYTICS

### Overview

The Bioanalytics facility is a state-of-the-art facility among several other sophisticated facilities of centralized core research facility (CCRF). Bioanalytics facility caters to the need of qualitative and quantitative analysis of faculty, scientists, medical residents and students of AIIMS, New Delhi.

Bioanalytics facility utilizes the ultra-modern instruments for the isolation of compounds from biological sources (plants, animals, micro-organisms and humans). The facility provides the opportunity for the purification, identification, and quantification of the isolated compounds. The research facility further enables to carry out drug metabolism, drug degradation and impurity analysis studies. Apart from the above, the facility also carries out pharmacokinetics of drug and biological analytes, information-dependent unknown compound identification. The facility is further expected to extend the horizon by involving multi-omics in a qualitative as well as quantitative manner for lipidomics, metabolomics and glycomics.

### Major Instrumentation

Instrument	Primary applications
<p data-bbox="151 606 548 637"><b>High Precision Mass Spectrometer</b></p>  <p>The image shows a blue Agilent 1100 Q Trap mass spectrometer. It is a large, boxy instrument with a prominent silver-colored ion trap and detector assembly on the right side. The Agilent logo and model number '1100 Q TRAP 5500' are visible on the front panel.</p>	<p data-bbox="873 606 1466 665">State of the art gold standard for the quantification of biomolecules lesser than 1500 Da</p> <p data-bbox="873 676 1094 707">Capable of executing</p> <ul data-bbox="873 710 1284 802" style="list-style-type: none"><li>• Qualitative analysis</li><li>• Quantitative analysis</li><li>• Information dependent acquisition</li></ul>
<p data-bbox="151 1041 354 1072"><b>Analytical HPLC</b></p>  <p>The image shows an Agilent 1100 analytical HPLC system. It consists of several stacked modules: a pump, a column oven, and a detector. The modules are white and black, with the Agilent logo visible on the front panels.</p>	<p data-bbox="873 1041 1466 1136">This liquid chromatography system provides the science of separation using liquid mobile phase and stationary phase packed in column</p> <p data-bbox="873 1148 1094 1178">Capable of executing</p> <ul data-bbox="873 1181 1263 1240" style="list-style-type: none"><li>• Quantitative analysis (<math>\mu\text{g}</math> to <math>\text{mg}</math>)</li><li>• Qualitative analysis</li></ul>
<p data-bbox="151 1506 370 1537"><b>Preparative HPLC</b></p>  <p>The image shows an Agilent 1100 preparative HPLC system. It is a larger system than the analytical HPLC, featuring a pump, a column oven, and a detector, along with a large collection vessel. The modules are white and black, with the Agilent logo visible on the front panels.</p>	<p data-bbox="873 1506 1466 1667">Isolation of desired phytochemicals from the mixture of crude plant extracts, large scale preparation of pure standards from mixture of complex matrices, differentiation of microorganism toxins on large scale, impurity isolation/elimination and quality testing.</p>

### Services being provided

- Quantitation of organic compounds from biological fluids
- Isolation of bioactive compound from biological matrices
- Developing newer methods for compound analysis
- Drug metabolism, pharmacokinetics and drug degradation studies
- Identification of drugs of forensic importance in biological tissues
- Quantitation needs in targeted proteomics, lipidomics and metabolomics in large number of bio-samples

### Major instrument installations

- High precision mass spectrometer 6500+ QTRAP was installed in July 2020. 6500+ QTRAP is equipped with IonDrive™ turbo V source, IonDrive™ QJet Ion Guide and IonDrive™ High Energy Detector+. These features make 6500+ QTRAP as one of the most sensitive mass spectrometers. This mass spectrometer is also equipped with Exion LC ultra-high performance liquid chromatographic system. Although mass spectrometers are unable to separate isobaric compounds, SelexION®+ DMS Technology enables isobar separation through differential mobility scanning using a modifier. This technique was installed in February 2021. This technique is expected to provide additional separation benefit in complex lipidomics and metabolomics.
- Flash chromatography was installed in October 2020. Flash chromatography installed is equipped with high flow pumps, Peltier cooled autosampler, automatic fraction collector and ultra-sensitive photodiode array detector with high volume flow cell. Flash chromatography enables isolation of secondary metabolites, compound purification, and active ingredient enrichment.

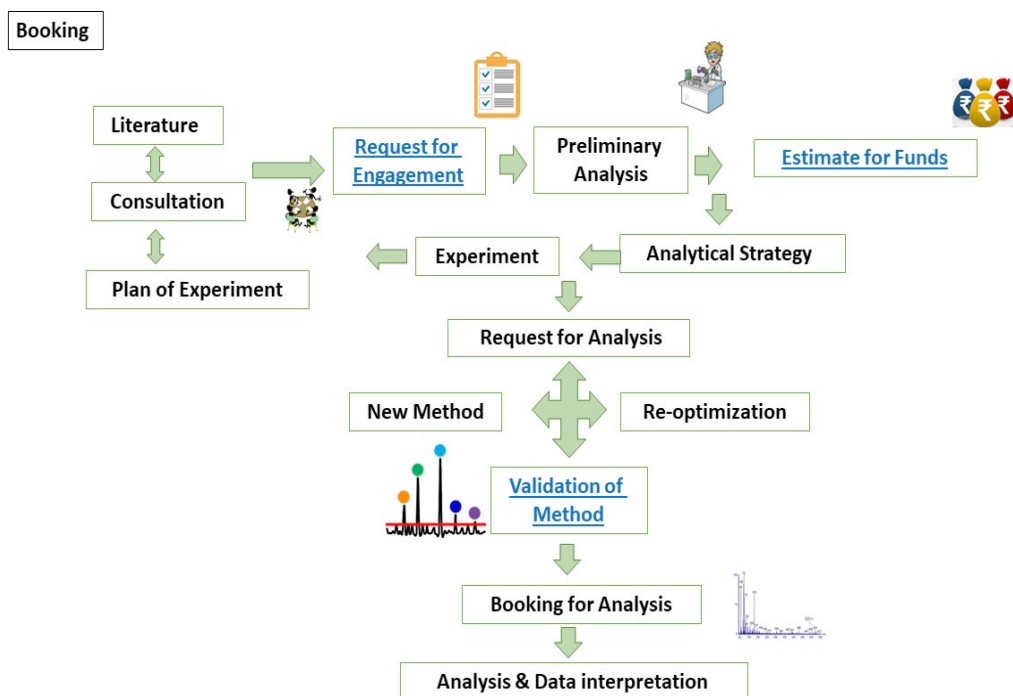
### User activity

Users from various departments of AIIMS approached for diversified work. The work ranged from molecular weight identification to untargeted omics. Faculty, medical residents, PhD scholars and scientists of nearly 15 different departments of AIIMS approached the bioanalytics facility. The facility was continuously delivering its services, even during the COVID-19 pandemic.

### Overview of users availed the Bioanalytics facility

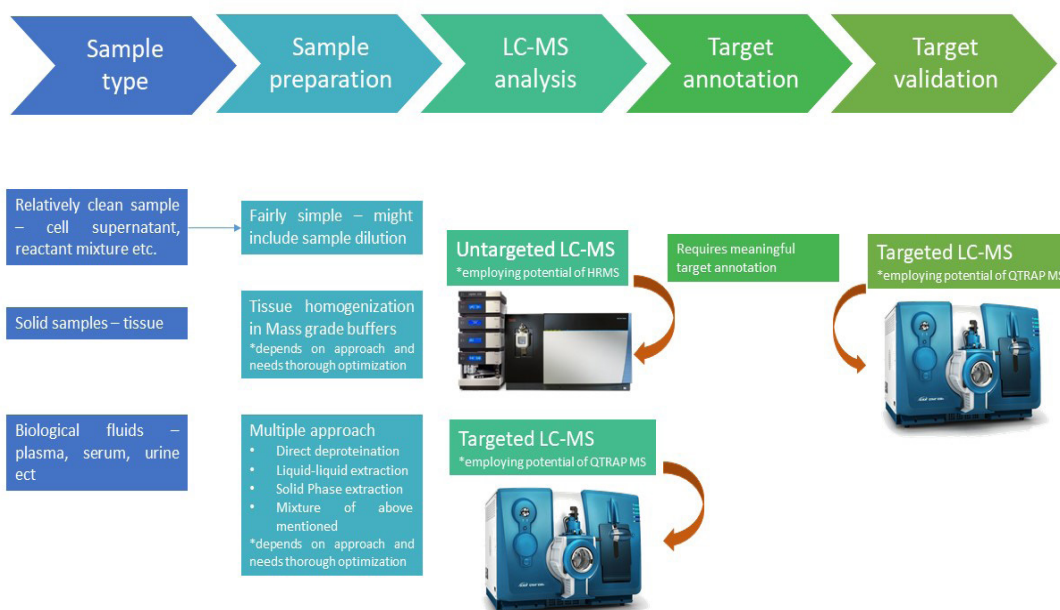
<b>Consultation with scientist</b>		
<b>Department</b>	<b>Position</b>	<b>Type of work</b>
Neurology	PhD Scholar	Quantitative LC-MS
Pathology	PhD Scholar	Quantitative LC-MS
CTVS	Senior resident	Untargeted & Targeted quantification
Cardiac biochemistry	PhD Scholar	Quantitative LC-MS
Biophysics	PhD Scholar	Flash chromatography & qualitative LC-MS
Anatomy	PhD Scholar	Quantitative LC-MS
Pharmacology	PhD Scholar	Quantitative LC-MS
Laboratory medicine	Faculty	Flash chromatography & qualitative LC-MS
Biochemistry	Senior Resident	Global Lipidomics LC-MS
Nephrology	Faculty	Quantitative LC-MS
Biochemistry	PhD Scholar	Untargeted & Targeted quantification
<b>Work completed</b>		
Anatomy	PhD Scholar	Quantitative LC-MS
<b>Work ongoing</b>		
Cardiac biochemistry	PhD Scholar	Quantitative LC-MS
Biochemistry	PhD Scholar	Untargeted & Targeted quantification
Biochemistry	Senior Resident	Global Lipidomics LC-MS

In order to facilitate the process of approaching the facility, bioanalytics facility proposes the below-mentioned method



*Analysis workflow of bioanalytics facility*

To facilitate the multi-omics analysis in an untargeted and targeted manner, the bioanalytics facility is looking to have an unprecedented approach. The untargeted analysis would be conducted on high resolution mass spectrometry. The target annotation would be done using various software and biological compound libraries. Statistically validated hits would be quantified using high precision mass spectrometry. This approach would help faculty, scientists, medical residents and students of AIIMS in looking at disease progression and treatment in an entirely new dimension.




*Multi-omics approach using high resolution and high precision mass spectrometry*



## Major activities till date

- CCRF webinar Series: Bioanalytics Facility webinar, 22 September 2020, 11 am to 1 pm.

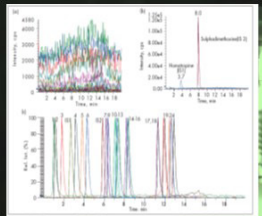




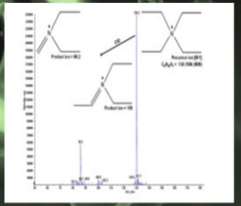
CCRF Webinar Series: Bioanalytics Core Facility presents Webinar on

### Quantitative Mass Spectrometry of Biomolecules – Utility from Bench to Bedside

(22<sup>nd</sup> September 2020 11:00 AM to 01:00 PM)







**Topics to be covered**

- Introduction to Quantitative Mass Spectrometry using QQQ
- Quantitative Analysis in LC-MS : Clinical Perspective
- Sample Preparation Requirements - Mass Spectrometry
- Application of Mass Spectrometry – Quantitative Experiment
- Liquid Chromatography – Separate Yet Integral to Mass Spectrometry
- Isobaric & Metabolomics Using selexION 6500+
- Biomarker : Quantitative Proteomics Using Qtrap 6500+
- Quantitative Lipidomics and Glycomics

**Who should participate**  
Open for Students, Researchers,  
Residents and Faculty Members of  
AIIMS, New Delhi

**How to Join the Webinar?**  
Scan the QR code or  
<https://argo.page.link/Zgz8h>  
  
For More Information  
Log on to - [ccrf.aiims.edu](http://ccrf.aiims.edu)  
Mail us - [bioanalytics.ccrf@gmail.com](mailto:bioanalytics.ccrf@gmail.com)



**Organized By**  
Bioanalytics Core Facility  
CCRF, AIIMS, New Delhi

As a part of CCRF webinar series, Bioanalytics facility organized a webinar entitled, “Quantitative Mass Spectrometry of Biomolecules-Utility from Bench to Bedside” on 22 September 2020.

Topic	Speakers	Timing
Address by the Director, AIIMS	Prof. Randeep Guleria, Director, AIIMS	11:00-11:05
Introduction by Dean (Research)	Prof. Chitra Sarkar, Dean (Research), AIIMS	11:05-11:10
Introduction to Quantitative Mass Spectrometry using QQQ	Prof. T. Velpandian, Dr. R. P. Centre, AIIMS	11:10-11:35
Quantitative analysis in LC-MS : Clinical Perspective	Dr. Neerja Gupta, Dept. of Pediatrics, AIIMS	11:35-11:45
Sample Preparation Requirements - Mass Spectrometry	Dr. H. P. Sharma, Bioanalytics, CCRF, AIIMS	11:45-11:55
Application of Mass Spectrometry – Quantitative Experiment	Prof. T. Velpandian, Dr. H. P. Sharma	11:55-12:10
Isobaric & Metabolomics using selexION 6500+	Dr. Dipankar Malakar, Sciex	12:10-12:25
Liquid Chromatography – Separate yet Integral to Mass Spectrometry	Dr. UjjalKumar Das; Dr. R. P. Centre, AIIMS	12:25-12:30
Biomarker : Quantitative Proteomics using Qtrap 6500+	Dr. Dipankar Malakar, Sciex	12:30-12:45
How to Approach Bioanalytics Facility	Dr. Nabanita Halder, Dr. R. P. Centre, AIIMS	12:45-12:50
Question and Answer Session	Moderator – Prof. Vineet Ahuja and Prof. T. Velpandian	12:50-01:00

The above listed topics were covered in detail by the respective speakers. The total Attendees were about 50 and the webinar was streamed on YouTube Live.

- **Demonstration of various multi-utility software**

An online demonstration of MetabolitePilot and MarkerView software was done on 18 January 2021. The familiarization and demonstration of the software was done by the scientific expert from Sciex. On 22 January 2021, ProteinPilot software was demonstrated by the scientific expert from Sciex through online mode. The on-site training of software demonstrated earlier through online mode was conducted from 15-17 March 2021. This training included power point presentation as well as sample processing and further analysis by software. These demonstrations and onsite training were attended by the faculty and scientists of bioanalytics and proteomics facility of CCRF.

## II. BIOINFORMATICS

### Introduction

Computational analysis of big data has become an integral and essential tool for scientific discovery. The Bioinformatics facility aims to provide new and efficient approaches to data analysis in response to emerging research requirements. The facility has close interaction with the genomics and proteomics facilities and works towards streamlining the wide range of analysis required for both sequencing and proteomics experiments. The facility functional since January 2021 aims to offer regular training courses and interactive tutorials in various aspects of data analysis.

### Main Objectives

The primary objective of the Bioinformatics facility is to help investigators for scientific discoveries by the analysis of biomedical/clinical data generated through next-generation 'multi-omics' technologies. Its second objective is to provide learning resources and training in bioinformatics tools for data analysis through regular training programs and workshops.

### Functional logistics of Bioinformatics core facility

The core facility will afford support to all the institute users including faculty, scientists, residents, staff and students. The facility can be accessed through advance booking in consultation with the facility team. Each user will first register, fill up the required proforma and submit the booking form available at website.

### Services Provided

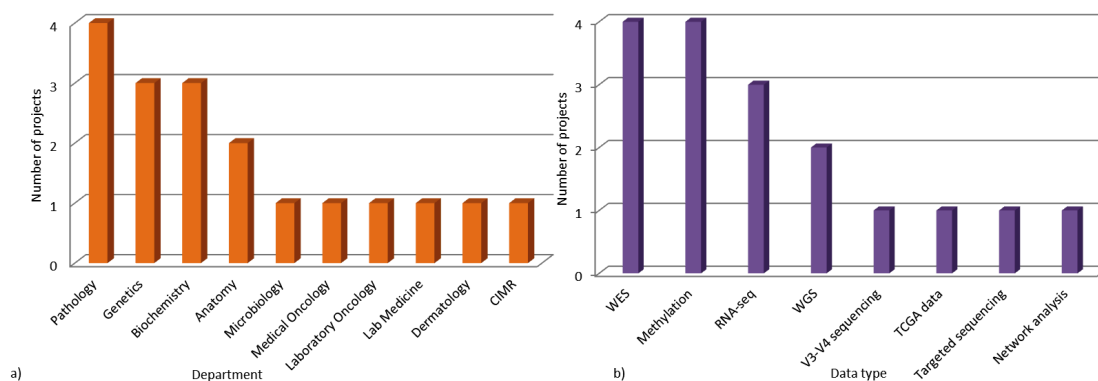
Bioinformatics facility at CCRF has started providing its services to AIIMS faculty/ scientists/research students since January 2021. The core services include analysis of data concerning:

- Whole-genome sequencing (WGS)
- Whole-exome sequencing (WES)
- RNA sequencing (RNA-seq)
- Small RNA sequencing (sRNA-seq)
- Copy number variation (CNV)
- Targeted sequencing/panels
- de novo genome assembly and annotation
- Pan-genome (core genome and accessory genome)
- Illumina BeadChip Array (HumanMethylation450/EPIC)
- Microarray (Affymetrix, Agilent, and Illumina)
- 16S Metagenomics
- Antimicrobial resistance (AMR)
- Gene ontology and pathway enrichment analysis
- Functional gene annotation
- Sequence/genome alignment
- Comparative genomics
- Motif prediction
- Phylogenetic analysis
- Protein-protein interaction network
- Pathway and network analysis
- Biomarkers (discovering markers in mRNA, miRNA and protein expression data)
- Proteomic analyses
- Molecular docking and simulation
- Bioinformatics databases and data mining
- Machine learning/AI on Genomics data

### Data analysis

Till now the facility have provided services to more than 10 departments for more than 17 projects in the core areas of genomics, next-generation sequencing and clinical research.





### Consultancy

Scientific discussion/consultancy has been provided to many departments to design their experiments, project writing and data analysis.

### Bioinformatics Softwares

Bioinformatics software/pipelines have been installed to help investigators analyze experimental data in a user friendly manner.

### Development/customized of pipelines

Bioinformatics pipelines have been developed/customized for analyzing clinical NGS data (such as variant calling, copy number variation, methylome, microbiome analysis etc.).

## III. BIOSAFETY LEVEL 3 LABORATORY

### Introduction and Overview of The BSL-3 facility

The emergence of multi-drug resistance (MDR) and extreme drug resistance (XDR) strains of *Mycobacterium tuberculosis* in the last few years and more recently the outbreak of COVID-19 has spurred research in the field of infectious diseases biology many fold. Handling of such infectious and high-risk group pathogens necessitates the provision of biosafety containment facilities. The BSL-3 Laboratory of CCRF at AIIMS, New Delhi was established in 2019 with the objective to stimulate research on infectious pathogens. This 'on-campus' BSL-3 facility was essential to translational research in the area of infectious diseases, diagnostics, drug discovery and vaccine development.

A state-of-the-art facility, the BSL-3 is equipped with high quality biosafety containment features to enable a safer working environment to all staff, faculty, researchers and students involved in the research of extremely contagious bacteria and viruses (risk group 3 pathogens) at AIIMS to facilitate training and skill development in the niche area of biosafety and to build an ecosystem for safe research on infectious diseases.

The BSL3 facility at AIIMS is located on the 9th floor of the convergence block at AIIMS, New Delhi. The facility consists of all essential features required for an efficient working of a high-risk containment facility such as dedicated air handling units (AHU) for virology and TB/bacteriology areas, an HEPA filtered exhaust air system and a high-temperature pass-through (double door) autoclave. The facility has 100% redundancy for AHU, chillers and electricity via dedicated generators.

A negative air pressure operates at all times in the laboratory for the containment of aerosols. Alarm is triggered if the air pressure in the laboratory goes below the set values of containment.

Dynamic Pass-boxes with a double door are used for transferring the material/samples inside the laboratory. These pass boxes are equipped with UV light function for sterilization.

Dedicated AHU units and independent entry/exit to the work areas for TB/bacteriology and virology ensure a full functionality without compromising the facility integrity during the event of operational maintenance or any other contingency including spillage.

The entry and exit doors to the BSL3 facility are controlled by a card-key access system. All Virology and TB/ Bacteriology and BSL3 training areas also have independent emergency exits that open up close to the stairway for an easy exit.

### Equipment & Instruments Installed

Following Equipment were installed at BSL-3 Facility to facilitate the clinical and basic research work related to infectious diseases at the Institute.

BSL-3 TRAINING LAB		
S. No.	Equipment Name	Quantity
1	Biosafety Cabinets	2
2	Autoclave Vertical double jacketed	1
3	Cold Cabinet (Glass Door) + 4°C to 8°C	2
4	Freezer -20°C (Upright)	1
5	Centrifuge (Picofuge)	2
6	Heat Block/Dry Bath	2
7	Water System-Evoqua	1
8	Incubator (BOD)	1
9	Vortex	2
BSL-3 TB/BACTERIOLOGY LAB		
S. No.	Equipment Name	Quantity
1	Biosafety Cabinets	10
2	Anaerobic Glove Box	1
3	Dry bath (Tube Block)	1
4	Dry bath (Micro)	1
5	Cold Cabinet (Glass Door) + 4°C to 8°C	2
6	Freezer -20°C (Upright)	3
7	Incubator (BOD)	4
8	Micropipette sets	17 sets
9	Real Time PCR	1
10	Centrifuge (Picofuge)	3
11	Multimode Microplate system	3
12	Heat Block	3
13	pH Meter	3
14	Vortex	4
15	CO2 Incubator	7
16	Bacterial Loop Incinerator	3
17	Colony Counter	1
18	Magnetic Stirrer	1
19	Scanner	5
20	Tube rotator	2
21	Weighing Balance	1
22	Electroporator	1
23	Microfuge	1
24	Autoclave (High Speed digital Autoclave)	1
25	Laptop (GeM)	5
26	Multichannel pipettes (8-channel)	24
27	MGIT-960 Culture System	2
28	Pipettes-Aid Pipettors	13
29	Heavy duty Stackable Refrigerated Shaker Incubator	6
30	Digital Homogenizer	1
31	Medium Volume Digital Homogenizer	1
32	High Volume Digital Homogenizer	1
33	Elisa Reader & Washer	1
34	Fast Prep-24-Bead Beater	1

35	Nucleic acid extraction system	2
36	Hydrogen peroxide vaporiser-FOGGER	1
37	Microwave	1
<b>BSL-3 VIROLOGY LAB</b>		
<b>S. No.</b>	<b>Equipment Name</b>	<b>Quantity</b>
1	Biosafety Cabinets (NUAIRE)	4
2	Autoclave Vertical double jacketed	2
3	Cold Cabinet(Glass Door)+4°C to 8°C	2
4	Freezer -20°C	2
5	Incubator (BOD)	1
6	Micropipette sets	1
7	Centrifuge (Picofuge)	1
8	Heat Block/Dry Bath	1
9	Ultracentrifuge floor Model	1

### Activities at BSL-3 Facility

The BSL-3 Facility at CCRF has been the cornerstone of COVID-19 diagnostics at AIIMS, New Delhi since the advent of the COVID-19 pandemic in India. Two dedicated areas inside the BSL-3 facility with independent entry and exit were developed to carry out COVID-19 diagnostics round the clock.

**BSL-3 Training Area:** The *BSL3 training laboratory* is being used for processing of samples of COVID-19 suspects at AIIMS by Prof. Lalit Dar and his team, Dept. of Microbiology, AIIMS. The laboratory is equipped with two B2-Type-II Biosafety Cabinets (BSCs) and various equipment including refrigerated centrifuge, vortex mixer, cold cabinets, deep freezers (-20°C) etc. A total of ~72,000 samples have been processed SARS Coronavirus-2 RT-PCR.

**BSL-3 Virology Laboratory Area:** To cater the clinical services to patients arriving at AIIMS Emergency, various OPDs and ICUs for clinical procedures at AIIMS, BSL-3 Virology laboratory has been activated for COVID-19 diagnostics led by Prof. Urvashi B Singh and her team from Dept. of Microbiology, AIIMS. The laboratory is equipped with four B2-Type-II Biosafety Cabinets (BSCs) and various equipment including cold cabinets, deep freezers (-20°C) etc. A total of ~47000 samples have been processed for SARS Coronavirus-2 using TrueNat and GeneXpert platforms.

Both the above COVID-19 diagnostics facilities were well supported by the team of BSL-3 Scientists and technical staff.

### Biosafety Related National Capacity Building Initiatives And Training

The core team of BSL-3 Facility, CCRF is also involved in bringing awareness about biosafety, risk assessment and capacity building at national level.

1. Dr Vikram Saini (Faculty Incharge, BSL-3 Facility, CCRF) is an expert member and consultant for the National Biodefense Program, and National Committee for the technical evaluation of the development of the priority-pathogen containment facilities, Department of Defense, DRDO, Govt. of India.
2. Dr Saini was also invited as an expert member on the National committee constituted by the Office of Principal Scientific Advisor to Govt. of India to address the issue of quality, performance and reuse of PPE kits.
3. Dr. Saini is providing technical expertise for the development of high containment Biosafety facilities (BSL3) at National Center for Disease Control (NCDC), India; DRDO, India and Govt. of Uttarakhand State, India/World Bank-sponsored initiative.
4. Dr Saini delivered a webinar on “Biosafety Laboratories (BSL-3), working and regulatory processes in India” at International Workshop on Biosafety and security, and outbreak response, jointly conducted by Odisha State University of Agricultural sciences and Technology and The Pennsylvania State University, USA held on 29 January 2021.
5. Dr Saini also presented a poster on “Safe and Effective Disinfection of PPE for Selective reuse” at 65<sup>th</sup> Institute day exhibition (Theme: AIIMS in the times of COVID-19) held on 25 September 2020.

### Training activities of BSL-3 Scientists and Staff

1. Dr Sunita Kanswal completed an online certification course on “Fundamentals of working safely in a biological safety cabinet” by US Division of laboratory systems, CDC, Atlanta on 19 February 2021.

2. Dr Sunita Kanswal completed an online certification course on “Biosecurity for Clinical laboratories” by Institute of public health practice University of Iowa on 20 February 2021.
3. With an aim to address the unanticipated shortage of PPE supply during the initial period of COVID-19 pandemic in the country, a team of BSL-3 Faculties, Scientists and staff actively participated in the training activities related to COVID-19 and other biosafety aspects. Specifically, Dr Vikram Saini conducted several sessions on Biosafety aspects of working with COVID19. Dr Atul Vashist (Scientist II, BSL-3) was deployed at the PPE disinfection site AIIMS to provide training to more than 15 hospital administration staff including Nursing Officers, hospital attendants, Sanitation attendants etc for operating HPV based PPE disinfection facility at AIIMS. Dr Sunita Kanswal assisted diagnostic team with day to day operational requirements.



Dr Saini briefing Dr Randeep Guleria (Director, AIIMS) and Professor Subrata Sinha (Dean, Research) about the HPV Facility for PPE disinfection and reuse at AIIMS

## IV. FLOW CYTOMETRY CORE FACILITY

### Overview

Flow cytometry is a laser-based technique which is used across multiple disciplines. It is a powerful technique to simultaneously analyze multiple characteristics of thousands of individual cells in a relatively short period of time. Flow cytometry also permits the physical isolation of various sub-populations of cells based on specific cellular characteristics by electrostatic separation. Unlike other biochemical techniques, flow cytometry makes these multiparametric measurements on single cells as opposed to population measurements. Cells in suspension can be made to flow at high speed by a technique called 'hydrodynamic focusing' following which they are interrogated by the various lasers. Fluorescently labelled antibodies, probes or particular dyes can be utilized to evaluate various aspects of cellular function as well as biochemical and physical properties of the cell. This is done by a combination of lasers, optical filters, detectors as well as the computer and the software which convert the data into readable form. The software also provides the interface to communicate with the machine. Housed on the 9<sup>th</sup> floor of the convergence building the facility will be available to all Faculty, Scientists and other researchers from AIIMS on a charge basis. The Flow-Cytometry core facility will provide state of the art instrumentation and resources for fluorescent analysis of cells at the single cell level, including high-speed fluorescence-activated cell sorting.

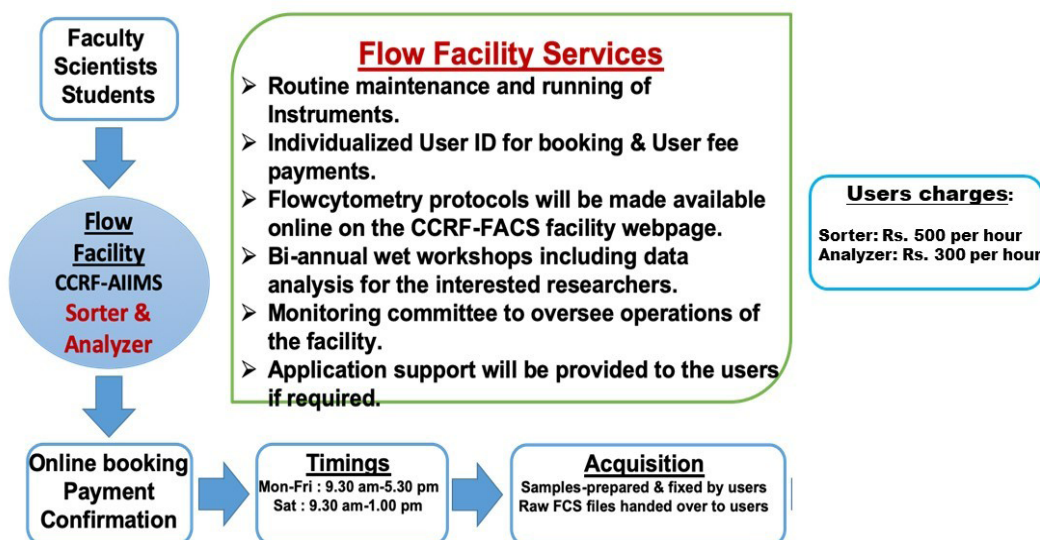
### Services Offered

The mission of the FACS Core Facility at AIIMS is to facilitate cutting-edge research by providing this state-of-the-art fluorescence-activated cell sorting and analytical services at reasonable hourly rates. To achieve these goals, the facility provides training and support to help investigators with all aspects of data collection including experiment design.

Our goal is to provide expertise in flow cytometry in the areas of experimental design, instrument knowledge and training, data analysis and cell sorting. We support the mission of AIIMS by providing the latest advances in flow cytometric technology for best in education, research and patient care. The facility will provide an academically stimulating and collaborative environment for researchers to access high end state-of-the-art Flow cytometry platforms which will be maintained centrally with optimal quality control and calibrations for efficient functioning to enhance capacity building and knowledge sharing via regular trainings, provision of guidelines, SOPs and resource learning materials.

### Functional logistics of Flow-Cytometry core facility

The core facility will provide support to institute users including faculty, scientists, residents, staff and students. The facility can be accessed through advance booking in consultation with the facility team. There will be reasonable hourly rates for acquiring samples. On registration & following confirmation of payment, users will be able to consult facility for technical support and run their samples in instrument(s) followed by analysis on the core workstations. Each user will need to be registered for the facility one intends to use. The users will be required to fill in and submit a booking form as available at website. The facility will provide training programs/workshops for the users on regular basis so that it helps in planning the right choice of experimentation and appropriate instrumentation.



### Instrumentation in the facility:

1. The FACS core facility has a high-end Flow Cytometer (Sorter) with five lasers, 18 colour and 20 parameter Capacity which is operational.



The following services on analysis as well as sorting are being performed on routine:

- Cell Proliferation
- Intracellular & secreted cytokine
- Cell phenotyping
- Apoptosis & cell cycle studies
- Signal Transduction
- Biomarker detection
- DNA analysis



2. The FACS core facility is in the process of procuring a high-end analyzer (**BD FACSymphony A5, 33 color and 35 parameter capacity**).
3. The FACS Facility houses an “Upright Trinocular Phase-Contrast Microscope with Capability of Fluorescence and Digital Imaging” to check the purity of post sorted cells.

### **Trainings and Workshops**

A roster of training workshops/webinars for researchers interested in using the facility has been planned and carried out to train researchers and academicians at the institute. Workshop curriculum includes lectures by experts from both private industry and academia along with on-site wet-lab demonstration. Scientific discussions focused on wide applications and current advances in Flow-Cytometry technologies relevant to the subject area. Timely updates and announcements of the workshops will be uploaded at the CCRF website at regular intervals.

FACS Facility has successfully conducted two webinars in the current year as mentioned below:

Practical Approach to Flow Cytometry, 20 September 2020, 3 hours. The faculty involved were

1. Professor Randeep Guleria, Director
2. Professor Chitra Sarkar, Dean (Research)
3. Professor DK Mitra (Faculty In-charge)
4. Professor Kalpana Luthra (Biochemistry)
5. Professor Ritu Gupta (Lab Oncology)
6. Dr Jayanth Kumar (Biochemistry)
7. Dr Rupesh Srivastava (Biotechnology)
8. Dr Sanjeev Goswami (TII)
9. Dr Nasim Ansari (Scientist, FACS Facility)

Multiparameter Flow Cytometry: Basics of Cell Sorting, 3 March 2021, 3 hours. The faculty involved were

1. Professor Subrata Sinha, Dean (Research)
2. Professor Kalpana Luthra (Biochemistry)
3. Professor Ritu Gupta (Lab Oncology)
4. Dr Jayanth Kumar (Biochemistry)
5. Dr Rupesh Srivastava (Biotechnology)
6. Dr Sanjeev Goswami (TII)
7. Dr Nasim Ansari (Scientist, FACS Facility)
8. Dr Rahul Sharma (Scientist, FACS Facility)

### **Facility access by users**

The facility became operational for users from 1 February 2021. Since then various researchers are approaching for their flow cytometry work on a range of projects running in the Institute. The user is charged at a rate of Rs 500 per hour for sorting and Rs 300 per hour for acquisition of samples. Till date total 8 users have availed the service, 6 for sorting and 2 for analysis.

### **Future Perspectives**

The FACS Core facility at AIIMS, New Delhi is one of the most advanced flow cytometry facility in the country. It will soon be housing one of the most advanced analyzers (with up to 50 colour detection), the first of its kind in our country and thus will be a stepping stone for boosting the continued mission of the institute viz. education, research and patient care. The facility will also be actively conducting various trainings and webinars for various the researchers in the institute.



## V. GENERAL FACILITY

### Overview

The General Facility (GF) is an integral part of the CCRF that has been established with the aim to provide basic as well as advanced molecular instrumentation services to all AIIMS faculty/researchers and students under one roof. GF also has a key goal to facilitate and promote research work thereby empowering faculty members and scientists at AIIMS to set up their individual research laboratories. To fulfill this objective, the GF is also committed to organize regular training workshops for providing hands-on training to the faculty, MD/DM/MCh, PhD scholars, MSc and MBiotech students involved in basic research/molecular methods. In addition, this facility also provides support to other sub-facilities of CCRF (including Proteomics/Genomics/Bio-analytics and Confocal microscopy facility) in processing their samples and various steps of analysis.

### Members of the General Facility

1. Dr Kalpana Luthra, Professor of Biochemistry- Coordinator
2. Dr Ravinder Goswami, Professor of Endocrinology
3. Dr Parthoprasad Chattopadhyay, Professor of Biochemistry
4. Dr Lakshmi R, Professor of Cardiac Biochemistry
5. Dr Deepali Jain, Addl. Professor of Pathology
6. Dr Archana Singh-1, Associate Professor of Biochemistry
7. Dr Jayanth Kumar, Associate Professor of Biochemistry
8. Dr Vikas Sharma (Scientist II)
9. Dr Amit Singh (Scientist II)

### Activities

The GF at CCRF has started providing services since February 2020. Apart from providing hands on workshop experience to the users, the following instruments have been in continuous use by the AIIMS faculties, students and researchers-

### Major instruments already installed and functional

- Real-Time PCR machines
- PCR machine
- Multimode-Microplate Reader
- Electroporation system
- Ultracentrifuges
- Refrigerated-Centrifuges
- Homogenizers
- Western Blot apparatus
- Rapid semi-dry system
- Agarose Gel system with power pack
- Autoclave
- Laminar flow hood

### New major instruments procured in Financial Year 2020-2021 and now functional

- Shaking incubator
- Gel documentation system
- Proflex multiblock PCR
- Centralized pure water system
- ELISA reader
- ELISA washer
- Microwave
- Water-bath cum shaker
- Electronic multi-dispenser pipettes

Briefly, the GF has been established in two dedicated labs (GF1 and GF2). The first lab (GF1) is dedicated to providing training and services facilities and thus holds critical instruments involved in sample preparation (e.g. DNA, RNA and protein isolations) sample purification as well as quantitation. This lab has many key instruments (as mentioned above) that are needed in critical sample processes including exome isolation and downstream studies. The other lab (GF2) has equipments that are used to perform downstream molecular studies and need sample quantification, amplification or processing. For this we have high end multimode microplate readers, Real-time PCRs, PCR machines. Apart from these, many small instruments like digital weighing balance, pH-meter, Vortexer, mini centrifuges, thermo-blocks, etc are also available for all the users. To provide maximum benefit to all users, the GF molecular biology equipments are made available free of cost to all users.

### Details of General Facility services in FY 2020-21

- In the last financial year, nearly all installed machines have been functional and accessed by the users. Some of these instruments like Real-time PCR, Gel documentation system, Multimode microplate reader, Ultracentrifuges, Homogenizer, PCRs, shaking incubators have been accessed on a regular basis by students and researchers.

- During this time, many users have been trained on day to day basis for working on various scientific instruments (as per the need of their committed work). Users also discussed and optimized the primer designing, PCR and Real-time PCR optimization, protocol optimization and standardization for various application of ultra-centrifuge, optimization of electroporation transformation protocol for users, cloning and protein expression.
- Many research groups from the institute have discussed with the scientists of the GF about their ongoing/formulation of upcoming projects and various instruments that could be used in their projects. Demonstration of several equipment was organized to orient the users on the working of the instruments.
- An online registration and instrument booking procedure has been developed for easy booking of this service on the AIIMS Web portal for CCRF.

#### **General Facility services in COVID-19 Pandemic**

- During the ongoing pandemic period, the GF was kept open for the users.
- During this period, GF scientist (Dr. Amit Singh) was posted in Virology Laboratory for molecular diagnosis of Covid-19.
- The GF instruments and lab area was also used for quantification, library preparation of Covid-19 samples for downstream Next generation sequencing services by the Genomics facility and associated labs.

## **6. GENOMICS CORE FACILITY**

### **Overview of the Section**

Recent technological developments such as high throughput Next Generation Sequencing methods and robust bioinformatics approaches have led to elucidation of potential genomic biomarkers with diagnostic, prognostic and therapeutic value in the clinics and have led to exponential advances in research. Generation of clinically relevant high throughput data in a resource-efficient manner in terms of time and cost on advanced instrumentation platforms available in the facility will open up new opportunities for researchers of AIIMS in the field of genomics and ultimately pave the way forward to the era of personalized medicine. The mission of the recently established Genomics core facility can be summarized in terms of a trinity of learning, discovery and translation.

### **Main Objectives**

1. To create and provide an academically stimulating and collaborative environment for researchers to access high end state-of-the-art technology platforms which will be maintained centrally with optimal quality control and calibrations for efficient functioning.
2. To enhance capacity building and knowledge sharing via regular training activities. Such activities will include lecture series and workshops for the investigators on experiment designing and assays. These activities will also include formulation of guidelines and development of standard operating procedures and resource learning materials for the users.
3. To evaluate and implement cutting-edge genomic technologies
4. To facilitate the development of novel experimental methods for the researchers in response to specific needs from the investigators.

### **Major Equipment Installed**

- Next Generation Sequencers
  - –NovaSeq 6000 (Illumina)
  - –Miseq (Illumina)
- 48 capillary Genetic Analyser 3730 (Applied Biosystems)
- nCounter Sprint Profiler (Nanostring Technologies)
- Focussed Ultrasonicator ME220 (COVARIS)
- Fragment Analyzer 5200 (Agilent Technologies)
- Qubit 4.0 Fluorometer (ThermoFisher Scientific)

### **The instruments have been calibrated for carrying out the following applications**

#### **1. Next generation Sequencers**

- Whole genome sequencing (WGS)
- Whole exome sequencing (WES)
- Protein-DNA/RNA interactions (ChIP-Seq, etc.)

- Small RNA discovery/expression
- Transcriptome sequencing
- Targeted re-sequencing
- Metagenomics
- HLA Typing
- Prenatal Genetic Screening workflow
- QC of libraries prepared for novel applications and/or NovaSeq

\*Platform will be available for **Novel Applications by Researchers at AIIMS**

## 2. 48 capillary Genetic Analyser 3730 (Applied Biosystems)

- Traditional Sanger sequencing for Mutation detection, SNP analysis
- Multiple Ligation dependent Probe Amplification (MLPA)
- Microsatellite analysis
- Amplified fragment length polymorphism (AFLP)

## 3. nCounter Sprint Profiler (Nanostring Technologies)

- Profiling of mRNA, miRNA, lncRNA
- miRNA from Plasma/ Serum or other biofluids such as sputum or urine
- CNV analysis
- ChIP analysis (ChIP-string)

## 4. Focussed Ultrasonicator (COVARIS)

- For shearing of nucleic acids

## 5. Fragment Analyser 5200 (Agilent Technologies)

To assess the quality of gDNA, Total RNA, Small RNA, cfDNA, Large DNA fragments, NGS libraries and CRISPR workflows

## 6. Qubit 4.0 Fluorometer (ThermoFisher Scientific)

To assess the quantity of gDNA, Total RNA and NGS libraries

### Services provided

#### A. Experiment Design: Guidance is being provided for the designing of experiments which include

##### 1. NGS/Sanger Sequencing:

- Guidance regarding availability and suitability of the kits as per the requirement of the user
- Requirement of funds
- Preparation of SOPs for library preparation
- Sequencing depth and coverage required for the experiment
- Multiplexing for required coverage

**B. Quality and Quantity Assessment of Nucleic acid/NGS Libraries:** Using Fragment Analyser and/or Qubit available in the facility

**C. DNA/RNA Shearing:** Using Covaris-ME220 Focused-ultrasonicator

**D. Sample Preparation:** User training and support will be provided for sample preparation for various applications that can be done on the instruments available in the facility through regular hands-on workshops.

**E. Library Preparation:** User training and support in library preparation using various protocols: WES, WGS, transcriptome, small RNA sequencing, chiPSeq, metagenomics, PGS, etc.

**F. Sequencing:** Depending upon the requirement of the experiment, sequencing will be carried out on any of the following instruments

- NovaSeq6000 (Illumina)
- Miseq (Illumina)

**G. Provision of raw data for bioinformatic analysis with maintenance of confidentiality:** Provision of these sequencing services would be for targeted analysis or for confirmation of variants detected on NGS

## **2. 48 capillary Genetic Analyzer 3730 (Applied Biosystems):**

- Experiment designing for various applications such as fragment analysis, MLPA, SNP genotyping etc.
- Running the samples on the Genetic Analyzer
- Data analysis

## **3. nCounter Sprint Profiler:**

- Guidance will be provided for availability and suitability of the multi gene panels/kits as per the requirement of the user
- Guidance will also be provided for RNA, DNA, and protein profiling and other applications on nCounter Sprint Profiler through regular trainings and workshops.

### **Activities carried out:**

In the past year, all the installed equipment were made available to the faculty/researchers of AIIMS. Approximately 150 samples have been successfully sequenced on MiSeq, 200 samples have been successfully sequenced on 48 capillary Genetic Analyzer 3730 and 48 samples have been profiled using nCounter Sprint Profiler. Two runs have successfully been completed on NovaSeq too. The facility provided services to assess the quality and quantity of approximately 80 NGS libraries using Fragment Analyser 5200 and Qubit 4.0 Fluorometer respectively. The facility is involved in planning, standardisation and carrying out the whole genome sequencing of SARS-CoV-2. Approximately 50 genome sequences have been sequenced and submitted to GISAID as a part of the intramural grant. The facility has provided guidance, training and support to carry out experimental work for NGS to some of the users. The facility provided guidance and assistance to researchers in designing the workflow for the grant proposals that included the technologies/platforms available in the facility.

## **7. MICROSCOPY FACILITY**

### **Overview and Objectives**

Advances in fluorescence microscopy has revolutionized biomedical diagnostics. The Microscopy facility at CCRF has been established to cater to the high-resolution imaging needs of researchers at AIIMS. With the Zeiss LSM980 system in place, one can now image samples with high spatio-temporal resolution. This state-of-the-art confocal system is equipped with a temperature and gas-controlled incubation chamber for live imaging applications. The facility also has an offline image processing system that can be used for data analyses, quantifications and 3D reconstruction. The facility will support researchers starting from designing experiments, image acquisition and data quantification. As per the vision and mandate of CCRF, the Microscopy facility is also committed to training researchers and making them aware of the latest trends in microscopy and imaging techniques. Along this line, webinars, workshops and research talks will be conducted regularly. This facility will thus aid researchers in the fields of biochemistry, microbiology, biotechnology, anatomy, pathology, pharmacy and others towards addressing their research questions related to biomarker discovery, clinicopathology, drug assay, molecular diagnosis etc. The main objectives of the facility are:

1. To provide access to high-end imaging needs of researchers at AIIMS in an intellectually invigorating and highly collaborative set up.
2. To facilitate designing experiments related to fluorescence microscopy for researchers at AIIMS.
3. To periodically assess and evaluate the need for system upgrade to stay up-to-date with the latest trends/ imaging platforms.
4. To develop novel imaging methods/tools that might arise from challenges/ specific questions being addressed by researchers.
5. To familiarize researchers at AIIMS with the latest trends in microscopy by means of a monthly newsletter.
6. To develop human resources at AIIMS through regular training activities that include lectures, webinars and workshops.

### **Major Instruments installed:**

#### ***LASER Confocal Microscopy with Live-cell Imaging (LSM 980, Zeiss)***

The confocal system was installed in CCRF in November 2020 on the ground floor of the Convergence block (annex to room no. 8). A technical support staff was provided by Zeiss for a period of six months (till April 2021). The scientist in-charge of the facility joined the institute in February 2021.

## Users and Services provided

The Microscopy facility at CCRF-AIIMS is open to faculty, scientists, residents, staff and students working on or wish to work on understanding cellular organization, analyzing fine structural details at high resolution, protein localization, biomarker visualization and quantification, disease pathology, high speed ion flux studies, time dependent drug administration assays, etc. Services provided by the facility include:

1. Confocal Imaging
2. Live-cell imaging
3. Offline image analysis using Zen software

The system can be used for the following:

1. Multidimensional image acquisition including optical Z-sectioning, time-lapse and multi-channel imaging.
2. Live imaging experiments in an environment-controlled setting with XYZ-drift control.
3. FRAP and FRET analyses for studying diffusion of molecules and protein interactions within cells respectively.
4. Photoactivation and Photoconversion experiments for studying protein dynamics within cells.
5. High resolution co-localization studies by simultaneously imaging five channels at a time.
6. Image analyses including histogram analysis and intensity profiling.
7. 3D measurements and volume rendering and 3D reconstruction.
8. Deconvolution of an acquired image.
9. Spectral analyses that include spectral imaging, unmixing and autofluorescence separation.
10. Generating 3D movies using Arivis/ Zen software.

## Activities conducted by the Microscopy Facility

### Demonstration of Zeiss LSM980 Confocal system installed in CCRF

A demonstration of the confocal system that included basic operation protocols, multidimensional image acquisition using the Zen software and basic image analyses was conducted by Dr Somenath Ghatak, Application Specialist, Carl-Zeiss India on March 4, 2021. This demonstration was video recorded by CMET and is made available on the AIIMS Telemedicine channel as a learning resource for users.

### Webinar on “Confocal Microscopy, Specifications and Applications of the Zeiss LSM980 System”

A webinar on confocal microscopy, specifications and applications of the system installed in CCRF was conducted on March 8, 2021 at the SET facility and was attended by the Director and Dean (Research) among other faculty members of the facility. The webinar was telecast live on the AIIMS Telemedicine channel and the recording is available as a learning resource for users. A brief agenda of the webinar is given below:

Time	Topic	Speaker
10:00 – 10:20 am	Inauguration Welcome address	Dr Randeep Guleria, <i>Director</i> Dr Subrata Sinha, <i>Dean (Research)</i>
10:20 – 10:40 am	Introduction to Confocal Microscopy	Dr Parthoprasad Chattopadhyay, <i>Professor (Biochemistry)</i>
10:40 – 11:00 am	System Workflow and Expectations	Dr Saumitra Dey Choudhury, <i>Scientist-II (CCRF)</i>
11:00 – 11:20 am	Biomedical Applications of LSM980	Dr Tony George Jacob, <i>Associate Professor (Anatomy)</i>
11:20 – 12:00 noon	Operation of LSM980	Dr Somenath Ghatak, <i>Application Specialist,</i> <i>Carl-Zeiss India</i>



## 8. PROTEOMICS CORE FACILITY

### Overview

Proteomics Core Facility at CCRF, AIIMS aims to enable students and researchers at the institute to carry out proteomic experiments with high throughputs for protein Identification, protein profiling and protein quantification using 2D gel, DIGE and Liquid Chromatography Mass Spectrometry (LCMS) based methods. The Proteomics Core Facility is running since November 2020. The preliminary SOP for using the facility has been developed and shared with the users.

### Objectives

1. The Proteomics Core Facility at CCRF is a high-end, state-of-the-art instrumentation facility to facilitate the proteomics research of the users (Faculty, Clinician, scientist, RO, Student *etc.*) and to help them answering the relevant medical and biological research questions.
2. Providing support for equipment and resources for gel based proteomics experiments from all sorts of biological samples like cells, tissues, biofluids and microorganisms.
3. Providing assistance to the users willing to conduct the gel based proteomics experiment in the facility.
4. To carry out LCMS based proteomics experiments using digested peptides from all sorts of biological samples like cells, tissues, biofluids and microorganisms.
5. Identification, quantification and profiling of comprehensive proteomes from complex biological samples using well established cutting edge methods.

### Instruments installed

#### Gel based Proteomics

EttanPHOR IPG (Cytiva)

Amersham Typhoon NIR Scanner (Cytiva)

Amersham Typhoon RGB Scanner (Cytiva)

Amersham Imager 680 (Cytiva)

#### LCMS based Proteomics

Dionex Ultimate 3000 UHPLC (Thermo Scientific)

EASY-nLC™ 1200 nano LC System (Thermo Scientific)

Orbitrap Fusion Tribrid Mass Spectrometer (Thermo Scientific)

### Services provided:

1. Iso-Electric Focusing (IEF)
2. 2D Gel Electrophoresis
3. Gel Staining
4. Difference in Gel Electrophoresis (DIGE)
5. Gel spot quantification
6. Trypsin Digestion
7. Desalting and clean-up of digested peptides
8. Peptide fractionation
9. LCMS experiment on Orbitrap Fusion mass spectrometer
10. Qualitative Proteomics (protein identification only)
11. Isobaric tag based (iTRAQ/TMT) protein quantification
12. Label free protein quantification(LFQ)
13. Proteomics analysis in Proteome Discoverer 2.4 (PD2.4)
14. Assisting users in proteomics related bioinformatics analysis

## Activities since April 2020:

	Activity	Date	Venue	Topic	Experts involved
1.	Webinar on 'Practical Approach to Proteomic Experiments'	07/09/2020	CMET lecture room, AIIMS	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Practical approach to differential Proteomics</li> <li>• Practical approach to 2D-GE and DIGE based Proteomics</li> <li>• Basics of Orbitrap Fusion Mass Spectrometer</li> <li>• Practical approach to Label Free Quantitative Proteomics</li> <li>• Practical approach to TMT labelled Quantitative Proteomics</li> <li>• Practical approach to iTRAQ labelled Quantitative Proteomics</li> <li>• Proteomics data analysis in Proteome Discoverer 2.4</li> <li>• How to use the Proteomics Facility</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Prof. Chitra Sarkar</b> Dean (Research)</li> <li>• <b>Prof. Punit Kaur</b> Dept. of Biophysics</li> <li>• <b>Dr. Hariprasad G</b> Dept. of Biophysics</li> <li>• <b>Prof. T. Velpandian</b> Dept of Ocular Pharmacology</li> <li>• <b>Dr. Sabyasachi Bandyopadhyay</b> Scientist-II, Proteomics Facility CCRF</li> </ul>
2.	Demonstration and training of Amersham Typhoon Scanner and Amersham Imager 680	29/10/20	Proteomics Core Facility, CCRF, AIIMS	<ul style="list-style-type: none"> <li>• Introduction to gel scanning</li> <li>• How to run Amersham Typhoon Scanner</li> <li>• How to run Amersham Imager 680</li> <li>• How to acquire DIGE data in Melanie 9 software</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Prof. Punit Kaur</b> Dept. of Biophysics</li> <li>• <b>Dr. Hariprasad G</b> Dept. of Biophysics</li> <li>• <b>Dr. Sabyasachi Bandyopadhyay</b> Scientist-II, Proteomics Facility CCRF</li> </ul>

### Facility centric Intramural project from Research Section, AIIMS

**Title of the project:** Proteomics Study on COVID-19: Investigation of Disease Specific Signature Proteins

**Period:** Two years (from August 2020)

#### Investigators:

**Professor Punit Kaur**, Professor and Head, Department of Biophysics (PI)

**Dr Hariprasad G**, Additional Professor, Department of Biophysics

**Professor Lalit Dar**, Professor, Department of Microbiology

**Dr Sabyasachi Bandyopadhyay**, Scientist-II, Proteomics Core Facility

**Professor Ritu Gupta**, Professor and Head, Department of Lab Oncology, IRCH

**Dr Megha Brijwal**, Assistant Professor, Department of Microbiology

**Work done so far:** Proteins were extracted from control and COVID-19 naso-pharangeal swab sample using urea chaotropic agent and digested with trypsin enzyme. The digested peptides were desalted and run in Orbitrap Fusion Mass Spectrometer using Data Dependent Acquisition (DDA) method. Preliminary data of differentially expressed proteins in COVID-19 disease was generated using Label Free Quantification (LFQ) method in Proteome Discoverer 2.4 protein analysis software.

### Facility accessed by the users:

Facility accessed	Departments	Number of Users	Experiment
LCMS based Proteomics	Biochemistry	User-1	Protein profiling and Differential proteome expression using LFQ
	Biophysics	User-1	LFQ based differential proteome of 4 different group of samples
		User-2	LFQ based initial study and iTRAQ based differential proteome study
		User-3	LFQ based differential proteome of purified proteins from 2D gel spots
		User-4	LFQ based differential proteomics, an initial study
	Lab Oncology	User-1	LFQ based differential proteomics from gall bladder cancer tissue extract
	Paediatrics	User-1	Digestion of purified proteins extracted from PAGE. Initial study of differential proteomics
	Microbiology and Proteomics Facility	User-1	Proteins were extracted from VTM. Differential proteome expression of COVID-19 using LFQ.
	Anatomy	User-1	Identification of purified proteins. Study on Ewing's sarcoma
		User-2	Identification of purified proteins from <i>E. coli</i> extract

## 9. PROJECT MANAGEMENT UNIT

The Project Management Unit (PMU) is coordinated by Dr Kamal Gulati, Scientist-II (Project Management), CCRF and BSL-2&3 under the guidance of the Dean (Research) and Associate Dean (Research). The main works of the PMU in CCRF and BSL-2&3 include managing the CCRF facility in consultation with the faculty incharges and scientists of various sub-facilities, coordinating meetings of various subcommittees, procurement of machinery, equipment and reagents, maintenance of the CCRF facility, recruitment of personnel, assisting in organization of training workshops, indenting stationery and general items from Store section, assistance in AIIMS Masterplan works for the upcoming Research Block, and facilitating payment of user charges in coordination with Accounts division of Research Section etc.

### SIGNIFICANT ACHIEVEMENT:

#### Dr Kamal Gulati:

1. Speaker to deliver a talk on “Impact of a Leadership Development Programme for Physicians: First study from India” in the international conference BMJ Leaders in Healthcare 2020, organized by British Medical Journal (BMJ) & Faculty of Medical Leadership and Management, UK, 17-19 November 2020.
2. Invited as Speaker and Expert by India Alliance and India Research Management Initiative to be on the expert panel for an India Alliance IRMI webinar focused on “Managing funded programs”, 16 October 2020.
3. Awarded Certificate of Achievement on completion of “Leadership for Healthcare Improvement and Innovation” course of The University of Warwick, UK and The Monash University, Australia, 2021.
4. Attended India Research Management Initiative (IRMI) Workshop 2021 organized virtually by DBT Welcome India Alliance in February 2021.

### OTHER ACTIVITIES

- The Research Section in its endeavour to increase the dimensions and vistas of research facilities at AIIMS has launched a bioincubator. This will be called the “**Centre for Medical Innovation and Entrepreneurship (CMIE)**” and has been allotted space at AIIMS main campus as well as two floors at AIIMS Jhajjar campus. This is with the support of funding from DBT under the Bionest scheme. This has been done as there is an urgent need of incubation of innovations to develop new commercially viable products or processes for health care. With the introduction of this centre, AIIMS Delhi can develop a seamless quality system enabled incubation facility for analytical validation, in-vitro,

ex-vivo, in-vivo (preclinical) and clinical studies as needed for regulatory compliance. This incubator in AIIMS may be the first of its kind in India which can encourage entrepreneurship among physicians. This facility will complete the triumvirate of CCRF (basic science facility), CRU (clinical research facility) and Bioincubator which have all fructified over the past 4 years and should give major impetus to research at AIIMS.

- The Research Section also introduced **Online Research Methodology Workshop** which consists of 11 modules, with participation of faculty from many departments. For the first time, modules for research methodology related to basic sciences have also been introduced and these have been very popular amongst residents.

<b>Module 1</b>	<b>Speaker</b>	<b>Moderator</b>
Motivation for research	Dr Randeep Guleria	Dr. Chitra Sarkar
How to get most from your mentor?	Dr Shinjini Bhatnagar	
Contents of Research Protocol	Dr RM Pandey	
<b>Module 2</b>		
How to frame a research question?	Dr VK Paul	Dr. RM Pandey
How to do Literature Search?	Dr Ashok Jaryal	
Understanding variables in health research	Dr Pratap Sharan	
<b>Module 3</b>		
Selecting a Study Design	Dr Anand Krishnan	Dr Vineet Ahuja
Cross Sectional Study/Case Control study	Dr Rakesh Lodha	
Cohort Study	Dr Ramesh Aggarwal	
<b>Module 4: How to conduct a randomized controlled trial</b>		
a) Designing a trial	Dr Atul Sharma	Dr Naveet Wig
b) Randomization and Blinding	Dr G Kartikeyan	
c) Confounding bias	Dr M Kalaivani	
<b>Module 5</b>		
How to calculate sample size?	Dr Jeeva Sankar	Dr MV Padma
Methods of Data Collection	Dr Puneet Misra	
How to create a master data sheet?	Dr Sumit Malhotra	
<b>Module 6</b>		
Types of data and summarizing data	Dr Tulika Seth	Dr Rajeev Kumar
Parametric tests and nonparametric tests	Dr SN Dwivedi	
Principles of hypothesis testing : Type I and 2 error	Dr Radhika Tandon	
<b>Module 7</b>		
Dichotomous variables: testing for association and measures of association (OR, RR, RD)	Dr Aditi Sinha	Dr P Vanamail
Analysis of continuous data (“t” test, ANOVA)	Dr Naval Kishore Vikram	
Analysis of clinical trial data: PP/ITT/Modified ITT	Dr Nikhil Tandon	
<b>Module 8</b>		
Principles of survival analysis: KM curve and hazard ratio	Dr. A.K. Mishra	Dr. M Ramam
Multivariable analysis	Dr. MA Khan	
Diagnostic Test Assessment	Dr S Ramakrishnan	
<b>Module 9</b>		
Metanalysis and Systematic review: Basic Tenets	Dr Kameshwar Prasad	Dr Anurag Shrivastava
Reporting Guidelines: STROBE, CONSORT, PRISMA, STARD	Dr Saurabh Kedia	
<b>Module 10</b>		
Managing References and Reference Managers	Dr Tony George Jacob	Dr Neerja Bhatla

Ethics in Health Research	Dr Sameer Bakhshi	
<b>Module 11: Quality Control for Research in Basic Science</b>		
Research methodology and Quality Control in basic sciences: An overview	Dr Archana Singh	Dr Kalpana Luthra
Quality Control in genomic and gene expression analysis techniques	Dr Jayanth Kumar	
Quality Control for protein analysis techniques	Dr Pragyan Acharya	
Basics of Research design for reproducible flow cytometry experiments	Dr Ritu Gupta	
Microscopy and Rules of Image Analysis	Dr Tony George Jacob	
In-vitro techniques: precautions and pitfalls	Dr Sudip Sen	
Study design for animal Experiments: avoiding common errors and optimizing results	Dr Rupesh Srivastava	

## **PUBLICATIONS**

**Journals: 3**



## 9.1. Anaesthesiology, Pain Medicine and Critical Care

**Professor and Head**  
Rajeshwari Subramaniam

AnjanTriakha Lokesh Kashyap Vimi Rewari Jyotsna Punj Anjolie Chhabra	<b>Professors</b> Maya Dehran Ganga Prasad Vanlal Darlong Babita Gupta (JPNA TC) Chhavi Sawhney (JPNA TC)	Dilip R Shende Virender Kumar Mohan Renu Sinha (Dr RP Centre) Ravindra Kumar Pandey Rashmi Ramachandran
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Dalim Kumar Baidya (CDER)	<b>Additional Professors</b>	Devalina Goswami (CDER)
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Puneet Khanna Debesh Bhoi	<b>Associate Professors</b> Bikash Ranjan Ray	Rahul Kumar Anand Shailendra Kumar (IVF)
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Manpreet Kaur Akhil Kant Singh Nishant Patel Abhishek Kumar Vineeta Venkateswaran Kelika Prakash Sulagna Bhattacharjee	<b>Assistant Professors</b> Souvik Maitra Kanil Ranjith Kumar (Dr RP Centre) Arshad Ayub (Dr RP Centre) Christopher Dass Venkata Ganesh Mritunjay Kumar Shreya Bharat Shah	Thilaka Muthiah Rakesh Kumar Yudhayavir Singh (JPNA TC) Ajisha Aravindan Anju Gupta Parin Chellani Abhishek Singh (JPNA Trauma Centre)
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### HIGHLIGHTS

During this pandemic, our department was instrumental in setting up the hospital to handle the extraordinary caseload imposed by COVID-19. This was done under the guidance of the honourable director, Prof. Rajeshwari in AIIMS main and Prof Anjan Triakha in JPNTC. Our academics were conducted online via web conferencing, with the occasional aid of the SET facility. Apart from this several of our faculty were part of the National Clinical Grand Rounds dealing with COVID-19 management, which was webcast live on YouTube. The department was also part of several collaborative presentations and discussion forums online especially with the Ministry of Health and Family Welfare.

### EDUCATION

The Department is actively involved in the online training of residents and health care workers regarding COVID prevention and Management. Following are the various online webinars in which department faculty were involved

1. ICU care and ventilation strategy in COVID-19. <https://youtu.be/mXEAqRaqaFY> (Dr Dalim K Baidya, Dr Bikash R Ray,
2. <https://www.youtube.com/watch?v=VTG-ecGqJQ0-Urgent> and semi-urgent surgery in COVID-19 patients (Prof Rajeshwari)
3. <https://covid.aiims.edu/covid-webinar> Setting up of ICU and management of aerosol generating procedures (Prof Anjan Triakha, Prof Vimi Rewari)

Dr Rashmi Ramachandran, Dr Abhishek N and Dr Parin Chellani are involved in the online training of healthcare workers posted in COVID areas in HICC/SET facility combined online E-courses.

Dr Anju Gupta, Dr Parin Chellani and Dr Shreya B Shah have created online learning modules for undergraduate and postgraduate teaching. Modules developed are Pediatric CPR (Dr Anju Gupta), Maternal CPR, Arterial cannulation (Dr Parin Chellani) and ABG analysis (Dr Shreya B Shah).

### Lectures delivered:

<b>S Rajeshwari: 6</b>	<b>Anjan Triakha: 8</b>	<b>Lokesh Kashyap: 1</b>
<b>VK Mohan: 4</b>	<b>Vimi Rewari: 4</b>	<b>Jyotsna Punj: 12</b>
<b>Renu Sinha: 16</b>	<b>Anjolie Chhabra: 3</b>	<b>Babita Gupta: 2</b>

**Chhavi Sawhney: 2**  
**Devalina Goswami: 2**  
**Nishant Patel: 1**  
**Anju Gupta: 9**

**Rashmi Ramachandran: 8**  
**Debesh Bhoi: 2**  
**Abhishek Kumar N: 1**  
**Kelika Prakash: 1**

**Dalim K Baidya: 9**  
**Manpreet Kaur: 5**  
**Venkata Ganesh: 2**  
**Mritunjay Kumar: 2**

#### **S Rajeshwari**

1. National Grand Round on COVID-19, Management of COVID patients: Experience in a Tertiary care hospital, 23 September 2020, AIIMS, Virtual
2. Critical Care Management in acute pancreatitis, Webinar Series of the Indian Pancreatic Club I: Acute Pancreatitis Management in First and Second week, 7 November 2020, Indian Pancreatic Club, Virtual
3. Anesthetic Management of patient with bronchiectasis for lobectomy, Ramachandra Anaesthesia Continuing Education (RACE 2021), 29 January 2021, Sri Ramachandra Medical College, Chennai, Virtual
4. Pitfalls during Extubation in Children, Ist International and 30th National conference of RSACP, 7 March 2021, PGIMS, Rohtak, Haryana, India, Virtual
5. Chaired session on 'Regional Blocks for Neonates', IAPA WEBCON 2021, 28 March 2021, Sri Guru Ramdas Institute of Medical Sciences and Research, Amritsar, Virtual
6. Hypertensive disorders of pregnancy, ARCAN 2021, 17 April 2020, AMU, Aligarh, Virtual

#### **Anjan Trikha**

1. Management in the post COVID Era., Prof Deepak Malviya Oration, 16 October 2020, Virtual Conference Dr. Ram Manohar Lohia Institute of Medical Sciences, Lucknow, New Delhi
2. Moderate to severe COVID: Perioperative concerns, RACE 2021. Ramachandra Anaesthesia Continuing Education, 31 January 2021, Organized by Department of Anesthesiology & Pain Medicine, SRMCR, Chennai, New Delhi
3. Panel discussion Management of intra operative hypoxemia, RACE 2021. Ramachandra Anaesthesia Continuing Education, 31 January 2021, Virtual Conference Organized by Department of Anesthesiology & Pain Medicine, SRMCR, Chennai, New Delhi
4. Bronchopleural fistula and Chest Drain, Anaesthesia Postgraduate Pre Examination Course, 6 February 2021, Virtual Conference Organized by Department of Anaesthesia, ABVIMS, Dr. RML Hospital, New Delhi
5. "Litigation in Anaesthesia Practice", 22nd Rajasthan Society of Anaesthesiologists, 7 February 2021, Virtual Conference Organized by Rajasthan Society of Anaesthesiologists, New Delhi
6. Obstetrics team: need of the hour, CRITICARE 2021. National Conference of the Indian Society of Critical Care Medicine, 26 February 2021, Virtual Conference Organized by Indian Society of Critical Care Medicine, New Delhi
7. Perioperative Issues in Moderate/Severe Post COVID afflicted patients, ISA Central Zone PG Assembly 2021 Lucknow, 5 March 2021, Virtual Conference Department of Anesthesiology and Critical Care Medicine, Dr Ram Manohar Lohia Institute of Medical Sciences, Lucknow, New Delhi
8. Sedation, Analgesia and Paralysis during Mechanical Ventilation: AIIMS Pulmocrit-2021, 13 March 2021, Virtual Conference Department of Pulmonary, Critical Care and Sleep Medicine AIIMS, New Delhi

#### **Lokesh Kashyap**

1. Structural changes for physical safety in Intensive care unit, College of Nursing, AIIMS, New Delhi, 16 March 2021, AIIMS, Delhi

#### **VK Mohan**

1. Trigeminal Neuralgia- Everything you wish to know, IPSC online Gurukul Webinar, 14 June, 2020, Online platform
2. Desirable characteristics for pain treatment facility, Pain Management Webinar Delhi Pain Management Centre, Delhi, 8 August, 2020, Online platform
3. Future of Pain Medicine and Palliative Care as Career, 11th Masterclass- Webinar (Panel Discussion) by Society of Integrated Pain and Palliative Care, 16 October 2020, Online platform
4. Panel Discussion on Guidelines for Radiofrequency ablation, West Bengal Society for study of Pain, 16 January 2021, Online platform

#### **Vimi Rewari**

1. Management of aerosol generating medical procedures, Webinars in COVID-19, 3 April 2020, New Delhi/Online
2. Hypertension for Fracture Upper Limb. Anaesthesia Postgraduate Pre Examination Course (APPEC-21), 8 February 2021, New Delhi/Online

3. Obstetric Admissions to the Intensive Care Unit: A 10 year review, Clinical grand round, 16 February 2021, New Delhi/Online
4. Anesthetic management for incidental surgeries in patients with solid organ transplantation, Webinar organized by the Indian College of Anaesthesiologists, 24 February 2021, Delhi/Online

### **Jyotsna Punj**

1. Basic and Advanced Airway Management, Webinar hosted by “Maldives Society of Critical Care and Emergency Medicine (MSCCEM), 17 April 2020, Male, Maldives
2. Different methods of Labour Epidural, Webinar on “Labour Epidural”, 18 April 2020, Male. Maldives
3. Chronic Pain Management, Webinar, Annual Academic Sessions and Pre-Congress Workshops of the Faculty of Pain Medicine of the College of Anaesthesiologists and Intensivists of Sri Lanka (COAISL), 7 October 2020, Colombo, Sri Lanka
4. Pain Management in glossopharyngeal neuralgia, Webinar, by Faculty of Pain Medicine of College of Anaesthesiologists and Intensivists, Colombo, Sri Lanka, 8 October 2020, Colombo, Sri Lanka
5. “Various treatment modalities in chronic pain management: Controversies”, Webinar, by Faculty of Pain Medicine of College of Anaesthesiologists and Intensivists, Colombo, Sri Lanka, 9 October 2020, Colombo, Sri Lanka
6. Neuromuscular monitoring in anesthesia, Web DNB classes organized by MAMC, 14 October 2020, Online
7. Basic Airway Management in CPR, “Capacity building workshop” on Basic life support and Resuscitation skills, 14 March 2021, Dar es Salam, Tanzania
8. Supraglottic airways and its role in airway management, CME cum workshop “Capacity building workshop” on basic and advanced difficult airway management, 15 March 2021 & 16 March 2021, Dar es Salam, Tanzania
9. USG guided upper limb nerve blocks (axillary, supraclavicular, infraclavicular, interscalene blocks) and their uses, CME cum workshop on” Capacity building workshop” (Basic Ultrasound Guided Nerve Blocks), 17 March 2021 & 18 March 2021, Dar es Salam, Tanzania
10. Lecture and Video demonstrations on USG guided Truncal Blocks (TAP, Rectus sheath block, Inguinal nerve block), CME cum workshop on” Capacity building workshop” (Basic Ultrasound Guided Nerve Blocks), 19 March 2021, Dar es Salam, Tanzania
11. “Nerve blocks for chronic nerve blocks”, “Capacity building workshop” (Basic Ultrasound Guided Nerve Blocks), 20 March 2021, Dar es Salam, Tanzania
12. Endotracheal intubation and Supraglottic devices, CME cum workshop on Basic and Advanced Difficult Airway Management, 31 March 2021 & 1 April 2021, Doda, Jammu.

### **Renu Sinha**

1. Covid Era: Time to Change Practice In Paediatric Anaesthesia, COVID-19: Changes in Ophthalmic Anaesthesia Practice for Eye surgery, First Virtual World Congress of Ophthalmic Anaesthesia (WCOA) Meet 2020, 30 May 2020, Webinar
2. Ophthalmic Emergencies In Operation Room : Covid Situation - Mock Drills, Annual Academic sessions & Pre Congress workshops of Faculty of Pain Medicine of the College of Anaesthesiologist & Intensivists of Sri Lanka (COAISL), 23 May 2020, Webinar
3. Anaesthesia management of conjoint twin, CCR, 24 November 2020, AIIMS, Delhi,
4. Ravinder K Pandey
5. Critical Care and Mechanical Ventilation in respiratory diseases, Webinar hosted by “Maldives Society of Critical Care and Emergency Medicine (MSCCEM), 17 April 2020, Male, Maldives
6. Critical care management in Obstetric patients, Webinar on “Emergency LSCS management in Parturients having different cardiac illnesses”, 15 May 2020, Male. Maldives
7. Pain Management in Paediatric patients, Webinar, Annual Academic Sessions and Pre-Congress Workshops of the Faculty of Pain Medicine of the College of Anaesthesiologists and Intensivists of Sri Lanka (COAISL), 7 October 2020, Colombo, Sri Lanka
8. Pain Management in Arthroplasty, Webinar, by Faculty of Pain Medicine of College of Anaesthesiologists and Intensivists, Colombo, Sri Lanka, 8 October 2020, Colombo, Sri Lanka
9. “Opioids in pain management: Controversies”, Webinar, by Faculty of Pain Medicine of College of Anaesthesiologists and Intensivists, Colombo, Sri Lanka, 9 October 2020, Colombo, Sri Lanka
10. Anaesthetic Consideration of IVF, Webinar, by ISA Delhi branch, 3 November 2020, Delhi

11. Basic Life Support- “New guidelines and its applications in different case scenarios”, “Capacity building workshop” on Basic life support and Resuscitation skills, 14 March 2021, Dar es Salam, Tanzania
12. Video-laryngoscopes and Fiberoptic bronchoscopy, its role in management of difficult airway case scenarios, CME cum workshop “Capacity building workshop” on basic and advanced difficult airway management, 15 March 2021 & 16 March 2021, Dar es Salam, Tanzania
13. USG guided lower limb nerve blocks (Femoral, Obturator, Adductor canal and Fascia Iliaca blocks) and their uses, CME cum workshop on” Capacity building workshop” (Basic Ultrasound Guided Nerve Blocks), 17 March 2021 & 18 March 2021, Dar es Salam, Tanzania
14. Lecture and Video demonstrations on USG guided Truncal Blocks (Paravertebral, PEC I & II, ESPB and SAP blocks), CME cum workshop on” Capacity building workshop” (Basic Ultrasound Guided Nerve Blocks), 19 March 2021, Dar es Salam, Tanzania
15. “Relieving pain: The role of nerve blocks”, “Capacity building workshop” (Basic Ultrasound Guided Nerve Blocks), 20 March 2021, Dar es Salam, Tanzania
16. Video-laryngoscopes and Fiberoptic bronchoscopy, CME cum workshop on Basic and Advanced Difficult Airway Management, 31 March 2021 & 1 April 2021 (different batches), Doda, Jammu

#### **Anjolie Chhabra**

1. Obstetric Anaesthesia in women with suspected or confirmed COVID-19, Telemedicine Webinar series on Obstetric Care during COVID-19, 19 June 2020, Online from SET facility, AIIMS, Delhi
2. Panelist on ‘Paediatric anesthesia care in the COVID times’, IAPA Webinar 2020, 4 July 2020, Online
3. Moderated Panel Discussion on ‘Everyday challenges in Paediatric Anaesthesia- how the Experts do it!’ on, IAPA Webcon-2021, 28 March 2021, Online

#### **Babita Gupta**

1. Thyroid Disorders and Anesthesia: Never ending challenges, Indian College of Anesthesiologists, 24 March 2021, Online
2. Basic Mechanical Ventilation for Surgeons (Chairperson), Indian Society for Trauma and Acute Care, 5 December 2020, Online

#### **Chhavi Sawhney**

1. Use of ultrasound and C-arm for localization of missed sharp notorious soft tissue foreign bodies, National conference of Paediatric surgery, 16-18 October 2020, Online
2. Evidence based updates of anaesthesia for elderly hip fracture 2020, Indian College of anaesthesiologists webinar, 20 January 2021, Online

#### **Rashmi Ramachandran**

1. Panelist: COVID training for HCW- Residents of Department of Pediatrics and Obstetrics/Gynaecology, SET facility and HICC combined initiative, 25 May 2020, Online
2. Panelist: COVID training for HCW- Residents of Department of Urology, SET facility and HICC combined initiative, 1 June 2020, Online
3. Panelist: COVID training for HCW- Residents of Department of ENT, SET facility and HICC combined initiative, 6 June 2020, Online
4. Panelist: COVID training for HCW- Residents of Department of Physiology, SET facility and HICC combined initiative, 7 June 2020, Online
5. Panelist: COVID training for HCW- Residents of Department of Dermatology and Geriatrics, SET facility and HICC combined initiative, 11 June 2020, Online
6. Panelist: COVID training for HCW- Residents of Department of Endocrinology, SET facility and HICC combined initiative, 12 March 2020, Online
7. Panelist: COVID training for HCW- Residents of Department of Anaesthesiology, SET facility and HICC combined initiative, 26 June 2020, Online
8. Panelist: COVID training for HCW- Residents of Department of Rheumatology, SET facility and HICC combined initiative, 1 July 2020, Online

#### **Dalim K Baidya**

1. Management of critically ill COVID-19 patients, ICU care and ventilation strategy in Covid-19 – Webinar by SET Facility, AIIMS New Delhi, 1 April, 2020, Online / AIIMS New Delhi

2. Ventilator graphics, Mechanical ventilation in COVID-19 – Webinar by SET facility, AIIMS New Delhi, 17 April 2020, Online / AIIMS New Delhi
3. ICU management of severe COVID patients, Center of Excellence Program for COVID management by Ministry of Health and Family Welfare, GOI, 10 July 2020, Online / AIIMS New Delhi
4. Current role of stress ulcer prophylaxis in ICU, 1st Annual conference of Neuro Critical Care Society of India (NCSI), 4 October 2020, Online
5. Perioperative Glycemic control, Guest Lecture in Santosh Medical College, Uttar Pradesh, 21 January 2021, Online
6. COVID Preparedness of hospital, Guest lecture at National Drug Dependence Treatment Center (NDDTC), 29 January 2021, NDDTC, Ghaziabad, Uttar Pradesh
7. Resuscitation, Guest lecture at National Drug Dependence Treatment Center (NDDTC), 29 January 2021, NDDTC, Ghaziabad, Uttar Pradesh
8. COVID-19: Landmark Trials, Annual Critical Care Refresher Course by ISCCM Delhi, 11-14 March 2021, Online
9. Role of POCUS in Transplant Intensivist's armamentarium, Annual International Conference Advanced Institute of Liver and Biliary Sciences (AILBS), 20 March 2021, Online

#### **Devalina Goswami**

1. Guidelines of anesthesia during COVID-19, NCGR, 23 September 2020, New Delhi
2. Complications of Regional Anesthesia, Anesthesia post Graduate Pre Examination Course 2021 (APPEC-21), 12 February 2021, New Delhi

#### **Debesh Bhoi**

1. Serratus anterior plane block & PECS Block, AIIMS, Rishikesh Ultrasound Guided Regional anaesthesia Course, 13-14 March 2021, Rishikesh, Uttarakhand
2. Ultrasound Spine for central neuraxial block, AIIMS, Rishikesh Ultrasound Guided Regional anaesthesia Course, 13-14 March 2021, Rishikesh, Uttarakhand

#### **Manpreet Kaur**

1. Anaesthesia in obstetrics in the COVID era, E guest lecture, chettinad Academy of research and Education, 14 July 2020, Zoom platform: Chettinad
2. Anaesthetic Considerations For Conjoint Twins Separation Surgery, CGR, 24 November 2020, AIIMS, New Delhi
3. Endotracheal Intubation, 6th Semester skill module training (SET facility), 13 March 2021, SET facility, AIIMS, New Delhi
4. Airway management in an unconscious patient, 6th Semester training (SET facility), 20 March 2021, LT3, AIIMS, New Delhi
5. Goal directed vs liberal fluid therapy in pediatrics, Indian Association of Pediatric Anaesthesiologist Con 2021, 27 March 2021, Zoom platform: Amritsar

#### **Nishant Patel**

1. Cardiac arrest algorithm and Mega Code, ACLS provider course, 22 February 2020, SET facility AIIMS, New Delhi

#### **Abhishek Kumar N**

1. Understanding Venturi Devices, 1st YUVA ISACON 2020, September 2020, New Delhi

#### **Venkata Ganesh**

1. Evolution of Automated TIVA - The development of CLADS, TIVA, Automation and AI - Web-Seminar, 6 December 2020, PGIMER, Chandigarh - Online
2. COVID ARDS in an Obese, Diabetic Patient. (<https://www.youtube.com/watch?v=kKnZSz5GG1I>), 10th AIIMS – NCGR – COVID - 19: Ventilation in Severe COVID-19, 30 September 2020, AIIMS/YouTube- Online, New Delhi

#### **Anju Gupta**

1. Comparison of King Vision Video laryngoscopes channeled blade and non-channeled Tuoren VL for COVID simulated intubation by Novice medical personnel: a randomized crossover mannequin study. (Intramural grant: COVID category): completed, GUYS AMC, LONDON, August 23-24 2020, Online
2. Anaesthesia management for child with URTI, RSACP webinar, 23 September 2020, Online
3. Fasting guidelines and fluid management in children, Game symposium, February 2021, Online



- References management and Writing introduction, ICMR protocol writing workshop for postgraduates, 1-2 October 2021, Online
- Chairperson in session TIVA in children, IAPA, February 2021, Online
- ERAS, APPEC PG assembly by RML, Delhi, February 2021, Online
- Faculty for USG guided regional workshop, IAPCON 2021, 19-21 March 2021, Patna
- Paper on Airway management using a KVL channelled vs non-channelled for intubation in a mannequin, RSACPCON 2021 online, 7 March 21, Online
- Chairperson for regional anaesthesia session, RSACPCON 2021 online, 7 March 21, Online

#### **Kelika Prakash**

- Inducible LVOTO in live transplant, 6th CLBS Symposium 2020, 20 September 2020, Delhi

#### **Mritunjay Kumar**

- Obstetric Anaesthesia in women with suspected or confirmed COVID-19 infection, Webinar series on obstetric care during COVID-19 by WHO collaborating centre, Department of Obstetrics & Gynaecology, AIIMS, New Delhi, 18 June 2020, New Delhi
- Panel discussion, Webinar on Paediatric difficult airway, organised by All India Difficult Airway Association (AIDAA), 21 June 2020, Online

#### **Oral papers/posters presented: 5**

- Behera S, Baidya DK, Maitra S, Anand RK, Ray BR, Subramaniam R, Epidemiology and clinical characteristics of COVID-19 suspects admitted with severe acute respiratory illness (SARI) in a tertiary care teaching hospital, ISCCM Annual conference, 24 February 2021, Online
- Behera S, Baidya DK, Maitra S, Anand RK, Ray BR, Subramaniam R, Physiological effects of prone position in mechanically ventilated severe ARDS patients with COVID-19: prospective observational study, ISCCM Annual conference, 24 February, 2021, Online
- Kalagra R, Bhoi D, Baidya D K, Maitra S, Subramaniam R, Comparison between opioid based anaesthesia technique and opioid free anaesthesia technique in patients undergoing laparotomy for gynaecological malignancy: A randomized controlled trial, Euroanaesthesia 2020, 30 May- 1 June 2020, Virtual
- Ralte IL, Bhoi D, Prasad G, Subramaniam R, Bajpai M, Goel P, Comparison of analgesic efficacy of ultrasound guided Quadratus Lumborum Block (QL) versus Erector Spinae Plane Block(ESP) in children undergoing elective open pyeloplasty – A randomized, double-blinded, controlled study, ASRA's 19th Annual Pain Medicine, November 20-22, 2020, London U.K.
- Thamizharason, Bhoi D, Programmed intermittent bolus erector spinae plane block in modified radical mastectomy, 19th Annual pain medicine Meeting ASRA 2020, 20-22 November 2020, Virtual

## **RESEARCH**

### **Funded projects**

#### **Ongoing**

- A comparative study of melatonin, gabapentin and alprazolam in reducing preoperative anxiety 2020:, Kelika Prakash, All India Institute Of Medical Sciences, 1 year, 2020-2021, Rs 3.5 lakh
- Assessment of IJV incompetence and its association with postoperative cognitive dysfunction in patients undergoing laparoscopic surgeries in Trendelenburg position, Akhil Kant Singh, Intramural, 2 years, 2018-2020, Rs 500000
- Association between baseline insulin resistance and hospital mortality in moderate to severe non- diabetic COVID-19 patients: An Observational Study, Souvik Maitra, Research Section, AIIMS, 1 year, 2020-2021, Rs 4.44 lakh
- Comparative evaluation of C-MAC D-Blade and Airtraq Video laryngoscope for endotracheal intubation in simulated cervical spine immobilization using cervical collar, Manpreet Kaur, Intramural, AIIMS, 2 years, 2020-2022, Rs 1.5 lakh
- Comparison of Anxiety scores with or without parental presence and its correlation with stress biomarkers during induction of anaesthesia in children undergoing ophthalmic procedures - A Randomized Controlled Trial, Dr. Nishant Patel, AIIMS, New Delhi, 1 year, 2019-2020, Rs 490000
- Efficacy of LMA Gastro™ versus Endotracheal Tube for interventional gastrointestinal endoscopy procedures under general anesthesia: A prospective randomized trial, Anju Gupta, AIIMS intramural, 1 year, 2020-2021, Rs 3 lakh
- Remote trainer guided deliberate practice vs self- directed video-based training for retention of CPR skills: A randomized, comparative, assessor blinded simulation study, Dr. Abhishek N, AIIMS- Intramural, 2 years, 2020-2022, Rs 4.8 lakhs

## **Completed**

1. Comparison of King Vision Video laryngoscopes channeled blade and non-channeled Tuoren VL for COVID simulated intubation by medical personnel: a randomized crossover mannequin study. (Intramural grant: COVID category);, Anju Gupta, AIIMS intramural COVID category, 1 year, 2020-2021, Rs 2 lakhs

## **Departmental projects**

### **Ongoing**

1. A prospective questionnaire-based survey to ascertain the impact of COVID-19 pandemic on research and academics of medical post graduate students in India
2. A Retrospective propensity score-matched cohort study on the administration of Convalescent plasma in COVID-19 pneumonia: A single centre study and experience
3. Analgesic efficacy of Combined SAP & PIFB block in patients undergoing modified radical mastectomy: a retrospective cohort study
4. Analgesic Efficacy of Retrolaminar Plane Block in Patients Undergoing Breast Surgeries: a single-center, prospective, observational study
5. Application of ROX index and ROX-HR index as predictors of response to high flow nasal oxygenation in post extubation respiratory failure – A Prospective Observational Study
6. Assessment of inferior vena cava collapsibility index (IVCCI) and variation of carotid artery peak velocity (CAPV) as predictor of post-spinal hypotension
7. Association Between Perioperative Hypertension, Length of Hospital Stay And Perioperative Cardiovascular Complications: A Prospective Observational Study From Tertiary Care Centre
8. Association between Pre-operative frailty and Post-Operative Delirium and Cognitive dysfunction in elderly patients undergoing spinal surgery under general anaesthesia: A Prospective Observational Study
9. Association between pulmonary function tests and difficult airway in morbidly obese patients
10. Association of intraoperative blood glucose variability with postoperative outcomes in emergency laparotomy
11. Augmented Renal Clearance in An Adult Intensive Care Setting – Prevalence, Risk Factors And Impact On Clinical Outcomes
12. Characteristics of respiratory mechanics in mechanically ventilated COVID-19 patients in India
13. Combined Trans -muscular Quadratus Lumborum Block and Sacral Erector Spinae Block Versus Intrathecal morphine for perioperative analgesia in patients undergoing Open gynaecological oncological surgery: An Open label Prospective Randomized Non-inferiority trial
14. Combined Trans -muscular Quadratus Lumborum Block and Sacral Erector Spinae Block Versus Intrathecal morphine for perioperative analgesia in patients undergoing Open gynaecological oncological surgery: An Open label Prospective Randomized Non-inferiority trial
15. Comparative efficacy and safety of I-gel supraglottic airway and self-pressurizing Air-Q intubating laryngeal airway during general anesthesia in infants: A prospective randomized trial
16. Comparative efficacy and safety of I-gel supraglottic airway and self-pressurizing Air-Q intubating laryngeal airway during general anaesthesia in infants: A prospective randomized trial
17. Comparative efficacy of intradiscal injection of Platelet Rich Plasma versus Methylene blue in treatment of chronic discogenic pain
18. Comparative Evaluation of Continuous Versus Intermittent Bolus Techniques in Ultrasound Guided Erector Spinae Block in Modified Radical Mastectomy Surgery– A Prospective Randomized Controlled Trial
19. Comparison between medial and lateral approaches of costoclavicular brachial plexus block for upper limb surgeries- A Pilot interventional Randomised control trial
20. Comparison of AMBU aura gain and Blockbuster laryngeal mask for controlled ventilation in children undergoing general anaesthesia: A prospective randomized study
21. Comparison of analgesic efficacy of classical thoraco- lumbar interfascial plane block (TLIP) Vs lateral thoraco-lumbar interfascial plane block in patients undergoing lumbar disc surgeries: A comparative, randomized controlled trial
22. Comparison of analgesic efficacy of general anaesthesia and peribulbar block to conventional general anaesthesia in children with retinoblastoma undergoing enucleation surgery-A randomised double-blind parallel controlled trial
23. Comparison of Analgesic Efficacy of Pudendal Nerve Block With Caudal Block Using Bupivacaine And Clonidine In Children Undergoing Hypospadias Repair: A Prospective Randomized Study
24. Comparison of analgesic efficacy of thoraco- lumbar interfascial plane block (TLIP) Vs lateral thoraco-lumbar interfascial plane block in patients undergoing lumbar disc surgeries: A Randomized Controlled Trial

25. Comparison of awake nasotracheal intubation using flexible fibre-optic bronchoscope versus D blade CMAC Videolaryngoscope in patients having anticipated difficult airway under topical local anaesthesia and dexmedetomidine infusion
26. Comparison of blind intubation success rates through AirQ and LMA Blockbuster in adult patients
27. Comparison of continuous pericapsular nerve group (cPENG) block versus continuous fascia iliaca block (cFIB) in patients undergoing hip fracture surgery- a randomized double blind study
28. Comparison of continuous periscapular nerve group block versus continuous fascia iliaca block in patients undergoing hip fracture surgery
29. Comparison of dexmedetomidine as an adjuvant with Ropivacaine alone for continuous wound infiltration in patients undergoing Proximal Splino-Renal shunt (PSRS)surgery: A Randomized control trial
30. Comparison Of Diaphragmatic Activity Between Propofol and Dexmedetomidine Sedation In Spontaneously Breathing Patients Under Regional Anaesthesia: Prospective, Randomized, Comparative Study
31. Comparison of Glide scope and C-Mac Video laryngoscope for intubation in pediatric patients: A prospective, comparative & randomized study
32. Comparison of Glide scope and C-Mac Video laryngoscope for intubation in pediatric patients: A prospective, comparative & randomized study
33. Comparison of Percutaneous Radiofrequency Thermocoagulation and Percutaneous Microballoon Compression of Gasserian ganglion in Treatment of trigeminal neuralgia- A randomized controlled trial
34. Comparison Of Pharmacokinetics and Sedative Effect Of Sublingual Dexmedetomidine With Intranasal Dexmedetomidine In Paediatric Patients: A Double Blind Randomized Study
35. Comparison of post extubation lung aeration in patients undergoing traditional extubation with those undergoing positive pressure extubation: a randomized trial
36. Comparison of single versus triple injection costoclavicular block in upper limb surgery: Randomised Controlled trial
37. Comparison of standard introducer tool guided vs suction catheter guided techniques of Proseal laryngeal mask airway (PLMA) insertion in patients undergoing elective laparoscopic gynaecological surgery: a randomized controlled trial
38. Comparison of the effect of ketofol and ketodex as procedural sedation and analgesia for oocyte retrieval during in vitro fertilization procedures- a randomized controlled trial
39. Comparison of the efficacy of Intrathecal Morphine, Ultrasound-guided Erector Spinae Plane block with PCA Fentanyl in the control of post-operative pain after Modified Radical Mastectomy: A Randomized Controlled Trial
40. Comparison of two anaesthetic techniques in children undergoing vitreo-retinal surgery: inhalational vs TCI (Target controlled infusion) – A Randomised pilot clinical trial
41. Competency of novice Anaesthesia residents in performing Trans Thoracic Echocardiography with or without structured problem-based hands on course using simulator: A randomized controlled assessor blinded trial
42. Correlation between Doppler derived carotid artery corrected flow time, pressure transducer derived radial artery flow time and pulse pressure variation: A prospective observational study
43. Correlation of preoperative internal jugular vein anatomic measurements with post spinal hypotension episodes in pregnant patients undergoing elective cesarean section
44. Desflurane vs total intravenous anaesthesia with propofol: effects on inflammatory biomarkers and respiratory mechanics in laparoscopic bariatric surgery
45. Development of a simulation-based curriculum for training medical undergraduates in non-technical skills (MUTiNTS) and assessment of its acceptability and usefulness amongst the students
46. Driving pressure guided PEEP strategy Vs physician-guided PEEP strategy (ARDSnet protocol) in mechanical ventilation for acute respiratory distress syndrome (ARDS) in COVID-19 patients: a prospective randomised controlled trial
47. Effect of fentanyl administered at different time interval on induction dose of propofol using bispectral index monitor
48. Effect of High-Flow Nasal Oxygen Therapy On Diaphragmatic Function And Lung Aeration After Upper Abdominal Surgery; A Randomized Controlled Trial
49. Effect of incremental PEEP titration on postoperative lung atelectasis in adult patients undergoing elective major abdominal surgery: A randomized controlled trial
50. Effect of Incremental PEEP Titration on Postoperative Pulmonary Complications in Patients Undergoing Emergency Laparotomy: A Randomized Controlled Trial

51. Effect of lung compliance guided optimum PEEP verses fixed PEEP on postoperative lung atelectasis in laparoscopic gynecological surgery: Double blinded Randomized control trial
52. Effect of optimum positive end expiratory pressure (PEEP) on postoperative lung atelectasis in children: A randomized control trial
53. Effect of paravertebral anaesthesia on quality of life scores and circulating tumour cells in breast cancer patients
54. Effect of regional anaesthesia on inflammatory biomarkers levels in patients undergoing surgery for giant cell tumour of bone and its correlation with perioperative bleeding and outcome
55. Effects of Parenteral Omega-3 Fatty Acid Supplementation on Clinical Outcomes and Organ Failure in Acute Pancreatitis – A Randomised Controlled Trial
56. Efficacy of a novel bundle of care to reduce complication following percutaneous dilatational tracheostomy in critically ill patients
57. Efficacy of hydroxyethyl-starch with bupivacaine in prolongation of duration of caudal blocks in Paediatric infraumbilical surgeries
58. Efficacy of thoracic fluid content by cardiometry in predicting weaning failure in ICU: a prospective observational study
59. Epidemiology, clinical characteristics and outcome of patients with COVID-19 and non-COVID severe acute respiratory illness (SARI): prospective observational study
60. Evaluation of Deep learning Algorithm for identification of Brachial Plexus Ultrasound images - An explorative study
61. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock
62. Evaluation of effect of ketofol and ketodex on duration of seizure activity, hemodynamic profile, recovery times and cortical activity in patients undergoing electroconvulsive therapy for depression
63. Evaluation of physiological respiratory parameters with the use of N-95 respirators after similar set of Exercise in health care professionals: A cross over Study
64. Frailty as a predictor of adverse discharge outcomes in geriatric trauma patients undergoing surgery: A prospective Case Control Study
65. Frailty as a predictor of clinical severity in geriatric COVID-19 patients: A prospective observational study.
66. Impact of Simulation-based Training in Intravascular Access (STIVA) for medical students on composite learner outcomes - A Randomized Controlled Trial
67. Incidence and prognostic impact of myocardial dysfunction in septic shock- An observational cohort study
68. Incidence of acute kidney injury in hospitalized patients with COVID-19 from a tertiary care hospital
69. Incidence of postoperative delirium and cognitive delirium and cognitive dysfunction in frail as compared to non-frail elderly patients under general anaesthesia
70. Incidence, risk factors and outcome of acute kidney injury in adult patients undergoing Emergency Laparotomy: A Prospective Observational Study
71. Metabolic impact of glucocorticoid therapy and the effect of hyperglycemia on clinical outcome in COVID-19 patients receiving glucocorticoid therapy- a retrospective analysis
72. Minimum effective dose of intrathecal ropivacaine for day care surgery in patient undergoing lower abdominal surgery
73. Performance of different severity indexes and laboratory parameters, for prediction of mortality in COVID-19 pneumonia: A retrospective study
74. Predicting increased length of stay and adverse outcome in Indian Geriatric patients coming for surgery: A prospective case control study
75. Preoperative CSF Melatonin Concentrations and the Incidence of Delirium in Elderly Patients Undergoing Surgery for Hip Fracture. A Preliminary Study
76. Recovery characteristics of patients following two different anesthesia techniques in major maxillofacial surgery: a randomized controlled trial
77. Remote trainer guided deliberate practice vs self- directed video-based training for retention of CPR skills: A randomized, comparative, assessor blinded simulation study
78. Remote trainer guided deliberate practice vs self-directed video-based training for retention of CPR skills: A randomised, comparative assessor blinded simulation study
79. Renal doppler ultrasound to predict acute kidney injury in patients with acute circulatory failure in ICU: a prospective observational study
80. Risk factors for NIV failure in COVID-19 patients: A retrospective analysis
81. Sonographic Assessment of Epidural Space Depth and Orientation in Paediatric Patients at Various Vertebral Levels: An Observational Cross-Sectional Study

82. The Doppler Renal Resistive Index and semiquantitative power Doppler ultrasound for early detection of Acute Kidney Injury after Perforation Peritonitis Surgery
83. To assess the analgesic efficacy of ultrasound guided Erector spinae block Vs Transverse abdominis plane block in children undergoing unilateral abdominal surgeries: A comparative randomized study
84. To Assess the Impact Of Implementation Of Systematic Childbirth Education Through A Birth Planning Visit On The Outcome And Experience Of Childbirth: A Quality Improvement Project
85. To compare analgesic efficacy and safety of ultrasound guided bilateral intermediate cervical plexus block with bilateral superficial cervical plexus block in patients undergoing thyroid surgeries under general anaesthesia
86. To evaluate the efficacy of different doses of intravenous dexamethasone on the duration of subarachnoid block in patients undergoing infraumbilical surgery: a randomised control double-blinded study
87. To evaluate the safety and efficacy of different doses of Clonidine in Pectoral nerve blocks (PECS I&II) for pain relief in different Oncological Breast Surgeries: A prospective, comparative, randomized controlled trial
88. To evaluate the safety and efficacy of different doses of Clonidine in Pectoral nerve blocks (PECS I&II) for pain relief in different Oncological Breast Surgeries: A prospective, comparative, randomized controlled trial
89. Ultrasound Guided Versus Fluoroscopic Guided Lumbar Sympathetic Ganglion Block: A Prospective Single Blind Randomized Study
90. Velocity- time integral and stroke volume measured in the ascending aorta for prediction of volume responsiveness in mechanically ventilated adults with septic shock

### ***Completed***

1. Ultrasound Guided Erector Spinae Plane Block for Postoperative Analgesia in Patients undergoing Percutaneous Nephrolithotomy – A double-blinded, randomized controlled trial
2. Fascia Iliaca block above or below the Inguinal ligament? Evaluation of Efficacy in Total Hip Arthroplasty. A Randomized Prospective study
3. Comparison of Dexmedetomidine with a Combination of Ketamine and Midazolam For Sedation During Awake Fiber Optic Nasal Intubation, A Randomized Double Blind Comparative Trial
4. Incidence of Post Operative Cognitive Decline in elderly patients undergoing open surgery under general anaesthesia using Isoflurane or Desflurane: A Prospective Observational Study
5. Safety and efficacy of low dose Intrathecal Anaesthesia for Outpatient Tubal Ligation
6. Postural Impact on Gastric Ultrasound Assessment in Pregnancy: An Observational Study
7. Epidemiology and clinical characteristics of COVID-19 patients requiring critical care in a tertiary care teaching hospital
8. Epidemiology and clinical characteristics of cardiovascular dysfunction in critically ill COVID-19 patients: A prospective cohort study
9. Safety and efficacy of ketamine-dexmedetomidine combination versus ketamine-propofol combination for sedation during ERCP: an open-label randomized controlled trial
10. Clinico-epidemiological features and mortality analysis of deceased patients with COVID-19 in a tertiary care centre
11. Epidemiological characteristics of critically ill COVID-19 patients admitted to a tertiary care center in northern India: A retrospective observational study
12. Maternal and neonatal characteristics, operative details and outcomes in COVID-19 positive parturients undergoing caesarean sections: a retrospective observational study
13. Association of malnutrition with sevoflurane requirement and awakening during day care procedures
14. To assess the technical feasibility of ultrasound guided outplane lumbar sympathectomy block and its confirmation by fluoroscopy in patients with peripheral arterial disease: a prospective observational study
15. The use of Ultrasound as a reliable tool for endotracheal intubation when performed by novice Anaesthesia Residents- A Prospective Observational study
16. Effect of Dexmedetomidine on Emergence Delirium and recovery parameters after Desflurane or Sevoflurane Anaesthesia in children: A prospective Observational Randomized Study
17. A study to find minimum effective volume of 0.5% ropivacaine for ultrasound guided costoclavicular block
18. Effect of different dose regimens of Tranexamic acid in pelviacetabular fracture surgery: randomized clinical trial
19. To compare the efficacy of Air- Q versus proseal in children (1-18 years) undergoing elective ophthalmic procedures – a randomized clinical trial



20. To evaluate the role of age-adjusted Charlson Comorbidity index in predicting 30 day postoperative outcome in patients undergoing surgery under general and regional anaesthesia
21. Role of Microdialysis in accurate and early detection of a compromised free flap
22. Safety and Efficacy Of Ultrasound Guided Intermediate Cervical Plexus Block by Anterior Route For Perioperative Analgesia In Robotic Thyroidectomy By Retro-auricular Approach: A Retrospective review of single institution experience
23. Comparative Evaluation Of Continuous Versus Intermittent Bolus Techniques In Ultrasound Guided Erector Spinae Block In Modified Radical Mastectomy Surgery– A Prospective Randomized Controlled Trial
24. Comparison of clinical efficacy of Intrathecal 0.75% isobaric ropivacaine with fentanyl versus clonidine as adjuvant in caesarean section: A prospective randomised controlled trial
25. Analgesic efficacy of ultrasound guided erector spinae block versus intrathecal morphine in patients undergoing percutaneous nephrolithotomy surgery: A prospective randomised comparative pilot study
26. A Prospective study to evaluate improvement in pharyngeal airway volume and lengthening of mandible in simultaneous release of ankylosis and mandibular distraction
27. Prediction of Difficult Laryngoscopy and Orotracheal Intubation Using Lateral Neck X-ray: A Prospective Observational Double-Blind Study
28. To evaluate and compare bite force and chewing efficiency in patients of TMJ ankylosis treated by alloplastic total joint replacement, gap arthroplasty with normal individuals
29. Thoracic radiological characteristics in COVID-19 patients at the time of presentation – prospective observational study
30. Risk of SARS-CoV2 infection among health care providers involved in cardiopulmonary resuscitation in COVID-19 patients
31. Comparison of HFNO versus NIV in acute hypoxemic respiratory failure due to COVID-19: randomized controlled trial
32. Comparison of awake prone versus awake repositioning in acute hypoxemic respiratory failure due to COVID-19
33. Ultrasonographic assessment of brachial artery reactivity as predictor of adverse outcome in patients undergoing emergency laparotomy for perforation peritonitis: prospective observational study
34. Predictors Of Intensive Care Unit Admission And Mortality In Acute Febrile Illness: A Prospective Observational Study
35. Feasibility of anterior temporalis muscle ultrasound as a method to assess muscle wasting in ICU
36. Prognostic significance of red blood cell transfusion trigger in critically ill patients with sepsis and septic shock: prospective observational study
37. Comparison of lactate clearance and neutrophil lymphocyte ratio as predictor of mortality in patients with sepsis
38. Association between perioperative acid-base abnormalities and kidney dysfunction in patients with peritonitis: A prospective cohort study
39. Velocity- time integral and stroke volume measured in the ascending aorta for prediction of volume responsiveness in spontaneously breathing patients
40. Efficacy of decremental PEEP trial on postoperative oxygenation status in adult patients undergoing emergency laparotomy: A pilot randomized controlled trial
41. Analgesic efficacy and LA sparing effect of intrathecal morphine as adjunct for labor analgesia – A double blinded randomised controlled trial
42. Effect of videodistraction on preoperative anxiety scores in paediatric patients undergoing general anaesthesia in ophthalmic day care procedures: A Randomized Controlled trial
43. Comparison of blind tracheal intubation through Air-Q and LMA Blockbuster: A Randomised control trial
44. Preoperative intravascular volume status measured by inferior vena cava collapsibility index in patients with pheochromocytoma / paraganglioma undergoing surgical tumour removal- a prospective cohort study
45. Effectiveness and Perceived Usefulness of a consolidated Skill-based Learning Program amongst Medical Interns: A Mixed Methods Study
46. Air Q ILA as a conduit for orotracheal intubation in children: A comparison between supine and lateral position
47. Effect of different patient positions on post induction hypotension caused by Propofol – A randomized comparative trial
48. Analgesic efficacy of ultrasound guided erector spinae block versus intrathecal morphine in patients undergoing Percutaneous Nephrolithotomy (PCNL) surgery: A prospective randomized comparative pilot study
49. Comparison of time to intubate and intubation conditions with CMAC Miller blade size1 and CMAC Macintosh blade size 2 in paediatric patients– A Prospective randomized controlled study
50. Effect Of Low Dose Ketamine On Inflammatory Markers and On Perioperative Analgesia In Patients Undergoing Laparoscopic hernia surgery -A prospective, randomized, comparative study

51. To study the outcomes of immediate sequential bilateral vitreo retinal surgery (ISBVS) in advanced ROP
52. Efficacy of Erector Spinae Plane Block and Quadrates Lumborum Block for Perioperative Analgesia In Patients Scheduled for Renal Transplantation – A Single Blinded Randomized Controlled Study
53. Diagnostic Ultrasound guided medial branch block of dorsal ramus in facet arthropathy: Technical evaluation and validation by fluoroscopy
54. The Study of Feasibility of Ultrasound Guided Catheterization of Right Brachiocephalic Vein in Adult Patients
55. Neutrophil-lymphocyte ratio and Platelet to lymphocyte ratio as markers for predicting the severity in COVID-19 patients: A Prospective Observational study
56. Knowledge, Attitude and Practices (KAP) Regarding the Use of Mask among HealthCare Workers during COVID-19 pandemic - A Questionnaire-Based Survey
57. Coping Strategies among Healthcare Providers directly Involved in COVID-19 care: A Cross-sectional study

## **Collaborative Projects**

### ***Ongoing***

1. A pilot study for comparison between bupivacaine soaked surgical and normal saline soaked surgical application over vaginal cuff for post-operative pain relief in total laparoscopic hysterectomy:- a prospective randomized controlled trial, Department of Obstetrics And Gynaecology
2. Association of anti-malarial antibody levels and patient outcomes in Corona Virus Disease (COVID-19), Medicine
3. Comparison between Intraperitoneal Sodium Bicarbonate and Normal Saline for Peritoneal Irrigation in reducing Post-operative pain in Diagnostic Laparoscopy, Department of Obstetrics and Gynaecology
4. Comparison of 5 factor modified frailty index and ASA classification to predict morbidity and mortality in patients undergoing arthroplasty – A prospective observational study, Dept of Orthopedics
5. Effect of Timing of Biliary Drainage (Urgent versus Early) in Patients with Severe Acute Cholangitis on 30 days Mortality: A Randomized controlled trial (ACT trial), Dept of Gastroenterology and Human Nutrition
6. Efficacy and safety of Onabotulinum toxin A (Botox) injections in the upper esophageal sphincter for the treatment of Pharyngo-esophageal Dysphagia due to cricopharyngeal dysfunction- A Randomized Control Trial, Department of Neurology Department of Gastroenterology and Human nutrition, Department of Radiodiagnosis
7. Extent of Pelvic Lymphadenectomy during Radical Cystectomy – A Multi-Institutional Open Label Randomized Trial between Standard and Extended Pelvic Lymphadenectomy, PGIMER, Chandigarh, AIIMS, New Delhi; JIPMER, Pondicherry, AIIMS, Bhubaneswar; AIIMS, Jodhpur; AIIMS, Rishikesh
8. Perioperative low dose vs standard dose steroid regimen in patients of ulcerative colitis: A randomised controlled trial, Department of Liver transplantation and Gastrointestinal surgery
9. Perioperative Music Therapy in Addition to standard treatment for the Improvement of Quality of Recovery after Anaesthesia Following Maxillofacial Surgeries: A Randomized Controlled Study, Dept of Maxillo-facial surgery
10. Randomised controlled trial to determine the effectiveness of Acute Normovolemic Haemodilution (ANH) for perioperative blood management in patients undergoing scoliosis surgery, Transfusion medicine
11. Role of Parecoxib, A Selective Cyclooxygenase-2 Inhibitor, for Reduction of Severity of Acute Pancreatitis: A Randomized Controlled Trial, Dept of Gastroenterology and Human Nutrition
12. Short segment versus long segment xylootomy during per oral endoscopic myotomy for Achalasia Cardia: A Randomized Controlled Trial, Department of Gastroenterology and Human Nutrition
13. Use of pulsed electro-magnetic fields (PEMF) as an adjunct for treatment of chronic back pain: a prospective randomized study, Department of Orthopedics

### ***Completed***

1. Analgesic efficacy and safety profile of Glossopharyngeal nerve block using Extraoral Anatomical landmark technique VS Ultrasound Guided technique in patients with Eagles Syndrome, Department of Radiology
2. Assessment of vaginal vault infiltration by Bupivacaine for postoperative pain after Total Laparoscopic Hysterectomy: A Randomized Controlled Trial, Department of Obstetrics And Gynaecology
3. Comparison of analgesic efficacy of ropivacaine and levobupivacaine in labor analgesia by dural puncture epidural technique - a prospective double-blinded randomized trial, Department of Obstetrics & Gynecology
4. Comparison Of eTEP Vs IPOM For Management Of Primary And Incisional Hernia In Terms Of Early Outcomes And Cost Effectiveness – A Randomized Controlled Trial, Surgical Disciplines
5. Determination of duration of vecuronium and isoflurane in type 2 diabetic patients with diabetes with and without cardiac autonomic neuropathy: Department of Physiology

6. Identification of bacterial agents causing atypical pneumonia in COVID-19, and its impact on patient outcomes, Microbiology
7. Molecular detection of legionella pneumophila by real time PCR and characterization of isolates by sequence based typing, Department of Microbiology
8. UV radiation to decontamination of mobile phones of Health care workers at a tertiary care hospital, Department of Microbiology

## PUBLICATIONS

**Journals: 128**

## PATIENT CARE

Anaesthesia services were provided for elective and emergency surgeries. Apart from this, services were also provided at many peripheral areas including endoscopy, radiology, MECT, etc. The detailed list of number of patients handled is as follows

Specialities		No of cases performed
GI surgery (OT 1,2,3 )		220
Surgery( OT 2,3,4,5,6 )		1079
Dental surgery (CDER)		193
Plastic surgery		231
Urology		291
COVID suspect OT (OT-12)		13
ENT		356
Gynaecology		281
Paediatric surgery		415
Orthopaedics (Unit 1+2)		997
Orthopaedics Trauma in Main AIIMS		2,228
Maternity OT		1,424
IVF OT		77
Ophthalmic	Routine + EUA	2,693
	Emergency	984
	RPC USG	000
	MAC	129
	ROP	86
	Total	3,892
Emergency	Cases	4,835
	Calls	1,660
ICU	Total	553
	Carried forward by last month	96
	New Admission	457
	Discharged	322
	Expired	119
Peripheral services	1. MRI	69
	2. MECT	186
	3. CT Scan	42
	4. Other radiological services (DSA, RFA, Lithotripsy)	30
	5. GI endoscopy	371
Pain OT		58

## Pain Clinic (NEW)

## Pain Clinic (OLD)

M	F	Total	M	F	Child (M)	Child (F)	Ward (M)	Ward (F)	Total
45	35	80	168	197	1		17	18	366

**AWARDS AND HONOURS**

**Professor Anjan Trikha** was Nominated member of academic committee of Indian College of Anaesthesiologists; Nominated Chief Editor of Journal of Obstetric Anaesthesiologists and Critical Care.

**Professor Vimi Rewari** was Chaired a session on ‘Cardiovascular issues in Liver transplant’ in the 6th CLBS Symposium on 18 September 2020 at Max Super Speciality Hospital, Saket, New Delhi; Chaired a session on “Current Issues in Liver Transplant Anesthesia” in the 3rd Annual Conference of Liver Transplantation Society of India” (LTSICON 2020 VIRTUAL CONFERENCE) organised by Liver Transplantation Society of India on November 5, 2020; Chaired a session on “Anaesthesia and Critical care in Liver transplantation” in the 2nd Advanced Institute of Liver & Biliary Sciences; (AILBS) International Conference held online on March 20, 2021 at New Delhi, India.

**Professor Jyotsana Punj** was Associate Editor of International journal of perioperative ultrasound and applied techniques (IJPUT) since 2014; Reviewer in Indexed Journals: Indian journal of anesthesia (IJA), Journal of Anesthesiology and Clinical pharmacology (JOACP), Journal of Clinical anesthesia (JCA). Journal of Medical Case Report; Nominated as Examiner for South Campus Delhi University for evaluation of M.D thesis (Anesthesiology) and M.D Anesthesiology Examinations; Nominated as Examiner for JNMC Aligarh for evaluation of M.D (Anesthesia) thesis; Nominated as Examiner for GMC, Jammu for M.D (Anesthesiology) exam & evaluation of M.D (Anesthesia) thesis.

**Professor Ravindra Kumar Pandey** was Editor in chief of International journal of perioperative ultrasound and applied techniques (IJPUT) since 2014; Reviewer in Indexed Journals: Indian journal of Anesthesia (IJA), Journal of Anesthesiology and Clinical pharmacology (JOACP), Journal of Clinical Anesthesia (JCA). Journal of Medical Case Report; Nominated as Examiner for South Campus Delhi University for evaluation of M.D thesis (Anesthesiology) and MD Anesthesiology Examinations; Nominated as Examiner for PGIMS, Chandigarh for evaluation of MD (Anesthesia) thesis; Nominated as Examiner for SGPIMS, Lucknow for MD (Anesthesiology) exam & evaluation of MD (Anesthesia) thesis.

**Dr Dalim Kumar Baidya (CDER)** was External Examiner of PDCC Critical Care at ILBS, New Delhi on 28 August 2020; External Examiner of PDCC Critical Care at Era University Lucknow on 13 November, 2020; External Examiner of MD Anaesthesiology at AIIMS Raipur on 23 January, 2021 at Raipur.

**Dr Debesh Bhoi** was Part of the PROSPECT webinar. Collaboration with PRSOPECT group European society of Regional anaesthesia & PAIN therapy, 27 November 2020.

**Dr Anju Gupta** received ACHYUT ANAND AWARD (First prize) for oral presentation in airway management (equipment) in February 2021; Second prize (original research) in “Guy’s airway management Course”(international conference of airway management (LONDON) held in 27-28 August 2020.

**Dr Mritunjay Kumar** Participated as an expert for Lifesaving Anaesthesia Skills (LSAS) and Emergency Obstetric Care (EMOC) training curriculum of National Health Systems Resource Centre, MoHFW, Government of India. Wrote and edited many chapters for it; Appointed as Section Editor (Transplant Anaesthesia)- Indian Anaesthetists’ Forum.

**Dr Sulagna Bhattacharjee** was Invited as a panelist in “Year in Update programme on Critical care and Respiratory Medicine, 5 and 6 February 2021, for the topic “Neutropenic Sepsis”, organized by Apollo Gleneagles hospital, Kolkata.

## 9.2. Anatomy

### Professor and Head

A Shariff

### Professors

SB Ray  
Renu Dhingra

Rima Dada  
TC Nag (Electron Microscopy)

Arundhati Sharma (Genetics)  
Ritu Sehgal

### Additional Professors

Saroj Kaler

### Associate Professors

Tony George Jacob

Neerja Rani  
SC Yadav (Electron Microscopy)

Seema Singh

### Assistant Professors

Prabhakar Singh (Electron Microscopy)

### Assistant Professors on contractual basis

Vidhu Dhawan

Monica Baxla

K Harisha

## HIGHLIGHTS

### Education

The Anatomy Department spearheaded the Institute's efforts to uphold the highest standards of medical training and assessment in the wake of the restrictions imposed by the Covid-19 pandemic. The digital infrastructure created in-house, including the digitally enabled dissection hall and the digital histology laboratory, was crucial to conduct the academic activities online. The online teaching/learning programmes for the previous (MBBS 2019-20) and present (MBBS 2020-21) and also BSc paramedical course batches (2020-21) entailed a mammoth effort to disseminate not only didactic lectures but also effective practical sessions and formative assessment exercises in the form of quizzes and assignments. Approximately 60 and 50 Lec-Dems were conducted online for the MBBS 2019-20 and 2020-21 batches respectively. The entire departmental faculty, residents and staff contributed in this gigantic endeavour to the best of their abilities. The gross anatomy practical demonstrations and dissections were disseminated online as live demonstrations through supervised and indigenously created videos on bones, viscera and prosected specimens. Approximately 20 such videos were prepared and used during the relevant online sessions over a period of 4 months. The entire content was digitally photo/video graphed and labelled for identifying interrelationships of anatomical structures and for constructing practical revision (23 PDF documents) and assessment exercises. All these modules were uploaded and made accessible for students on the SARAL platform. The Microanatomy, Neuroanatomy and Embryology slides, specimens and models were also likewise photo/video graphed for practical demonstration, revision and assessment sessions. In this manner, the Anatomy department has successfully created sufficient in-house digital content for the entire first year Anatomy curriculum in the form of teaching/learning modules that incorporate theory and practical education and assessment. The department also provided valuable assistance to several other departments of the Institute in similarly managing their curricula during the pandemic by extending the departmental digital infrastructure facilities to them.

The department has also successfully conducted the first professional theory and practical examinations for the MBBS 2019-20 batch entirely online for the first time. The weekly teaching meetings, Journal club discussions, MD/MSc exams, PhD selection viva-voce and final defence sessions have all been seamlessly and effectively conducted online during the COVID-19 pandemic in the year 2020-21.

### Lectures delivered

**Rima Dada: 35**

**TC Nag: 1**

**Tony George Jacob: 8**

**Vidhu Dhawan: 1**

### Rima Dada

1. Yoga and mental health, 2nd International Ayush Conference and exhibition, 4 April 2020, Dubai/Online
2. Unexplained Infertility-Prevention and therapeutic potential of yoga, PGIMER Talks, 5 May 2020, PGIMER
3. Yoga unravelling the pharmacy within VIHARA-webinar psychosocial rehabilitation of Covid 19 patients. 21 June 2020, New Delhi /Online



4. Yoga and COVID-19, 6th International Yoga Day organised by Department of Science and Technology under Science and Technology of Yoga and Meditation (SATYAM) programme, 21 June 2020, New Delhi/Online
5. Yoga –Integrated approach for disease prevention, promotion of health, MDNIY, Refresher course 5 July 2020, online
6. Sperm DNA testing-when and why, Preventive Medicine and Genetic Testing Two Days National Webinar - Andhra University-Human Genetics, 17-18 July 2020, Hyderabad /Online
7. Male infertility, male infertility-mystery unravelling FOGSI Rewari, 14 August 2020, Online
8. Genetics of male Infertility, Male Infertility, Mystery Unraveling organised by A ROGS initiative supported by Lalita Memorial Hospital Infertility Center, hosted by Jagsonpal Pharma Ltd, 14 August 2020, Rewari/Online
9. Healthy ageing –Role of yoga and lifestyle, WHO webinar series organized by Indian Institute of Public Health, 26 August 2020, Gandhinagar/ Online
10. Male infertility-Impact of yoga unravelling the pharmacy within, Indian Fertility Society-SIG Applied Genetics, 30 August 2020, New Delhi
11. Back to om era, Union Yoga Ayurveda, 6 September 2020
12. Male infertility and early biomarker of cancer. Role of yoga in prevention of childhood cancers, International Conference on Yoga and Ayurveda for cancer, 6 September 2020, Singapore
13. Your genes are not your destiny... your choices are, Health related issues and practices, Institute Lecture Series organized by the TERI School of Advanced Studies (TERI SAS), 9 September 2020, Delhi /Online
14. Yoga in management of complex diseases and severe autoimmune arthritis, Virtual International Conference on physiotherapy and physical rehabilitation on the theme “Exploring the developments and treatment strategies of Physiotherapy” 14-15 September 2020, Washington DC/Online
15. Severe Autoimmune arthritis-role of mind body intervention, International Conference on physiotherapy and physical rehabilitation, 15 September 2020 Las Vegas/Online
16. Yoga and Your health, International Virtual Conference titled “Yoga and Neurosciences: Traditions and Research Approaches (YANTRA)” 9-10 October 2020 Bengaluru/Online
17. Yoga-Unravelling the pharmacy within, Webinar on “VIHARA-Yoga for Immunity” organized by CCRYN, Ministry of Ayush, 16 October 2020, Delhi/Online
18. Complex lifestyle diseases- role of yoga in prevention and management, Symposium on yoga, 22 October 2020, Boston/Online
19. Male infertility – impact of yoga, SIG IFS meeting Era of Genomics : Clues to fertility 31 October 2020 Online
20. Yoga for children with special abilities, SAMBHAV, International Seminar on Divyangan, 15 November 2020, online
21. Yoga for children with special needs, International Seminar on Yoga and Disabilities-SAMPBHAV 2020, 16 November 2020, Delhi
22. Inheritance pattern in genetic diseases, Lectures Series- Sri M institute for Girls, Kollam November 2020, Kotchi Science Congress
23. Genetic disorders –History taking and pedigree Lecture series –Sri M Institute for Girls Kollam, 22 November 2020, Kotchi Science Congress
24. The need to integrate yoga in infertility treatment, Indian Fertility Society-SIG Genetic Counseling, 27 November 2020, New Delhi
25. Complex Multiactorial Diseases: Yoga for health promotion and disease prevention, Capacity building workshop, Department of biotechnology, SMVDU, 6 January 2021, Jammu/Online
26. Genetic and epigenetic factors in male infertility, Gyan Ganga programme of faculty training entitled recent advances in zoology for human welfare, 1 February 2021 Jaipur
27. Complexity of complex disorders, Gyan Ganga Programme of faculty training. Entitled recent advances in Zoology for Human welfare, 3 February 2021, Jaipur
28. Mental health disorders-The 21st Century Epidemic –Role of yoga, Gyan Ganga Programme of faculty training. Entitles recent advances in zoology for human welfare, 4 February 2021, Jaipur
29. Genetics of complex diseases- management by an integrated holistic approach, Conference on Current Understanding of pathogenesis of genetic diseases, 4 February 2021, MDU/Rohtak
30. Male infertility-Y so lonely, Conference on current understanding of pathogenesis of genetic diseases, 4 February 2021, MDU/Rohtak
31. Functional analysis of sperm and DNA fragmentation test. Diploma in clinical ART and diploma in clinical embryology by IFS-Amity, 22 February 2021, New Delhi/Online

32. Yoga integrated approach for disease management, AIIMS, Raipur, 3 March 2021, Raipur/online
33. Your health. Your Choice, special invited lecture, 4 March 2021, Rohini
34. Oxidative stress and genetics of infertility, 2nd International Conference on Personalized Medicine on the theme “Recent Advancements and Challenges in Personalized Medicine” 24- 25 March 2021, Lucknow/Online
35. Your health ..... your choice, International Colloquium RMBPD-2021, 24 March 2021, Delhi/Online

#### **TC Nag**

1. Use of microscopy in cell biological research, National webinar on ‘Intriguing Concepts and Applications in Zoology’, 28 September 2020, Kolkata (virtual)

#### **Tony G Jacob**

1. References and Reference Managers. Placing the results in perspective Webinar IV-Essentials of medical writing; Indian Association of Medical Journal Editors, 25 September 2020, Online
2. How to make concise your remarks on the paper (original research), Reviewer’s Training Workshop- Effective peer review-Indian Society of Pediatric Dentistry, 23 November 2020, Online
3. Title, abstract, keywords, NMJI- How to write a manuscript. Research Methodology Course, Research Section and Academic Section, Online
4. Managing References and Reference Managers, Research Methodology Course, Research Section and Academic Section, Online
5. Microscopy and rules of image analysis, Research Methodology Course, Research Section and Academic Section, Online
6. Immunoelectronmicroscopy, 36th National Training Program in electron microscopy for scientific investigators, 27 November 2020, New Delhi
7. Fundamentals of communication, Classes for orientation and foundation course programme for MBBS students, 11 February 2021, New Delhi
8. Biomedical applications of confocal microscopy, Webinar on “Confocal Microscopy, Specifications and Applications of the Zeiss LSM 980 System”. Central Core Research Facility, AIIMS, 8 March 2021, New Delhi

#### **Vidhu Dhawan**

1. Anatomy and function of female reproductive system, Diploma in clinical embryology, Amity University (Virtual), 25 February 2021, Delhi/online

#### **Oral papers/posters presented: 29**

1. Baxla M, Kaler S. Double pseudoganglion on the nerve to teres minor, International Virtual Anatomy Conference, 20-22 February 2021, Lucknow/Online
2. Borthakur D, Rana D, Kumar R, Kumar M, Dada R Study of Association of Mthfr Polymorphism in Infertile Men, 45th American Society of Andrology (ASA) 2020, Virtual Conference 25 - 28 April 2020, Philadelphia/Online
3. Borthakur D, Kumar R, Dada R. Impact of yoga on the MTHFR gene expression in infertile men, 46th Annual Meeting of the American Society of Andrology, 2021, 11 April 2021, Online
4. Borthakur D, Kumar M, Batra H, Kumar R, Dada R. Upregulation of MTHFR gene expression by 3 weeks of yoga based lifestyle intervention in infertile men andrology 2020, 12th International/11th European/32nd German Congress of Andrology, 5-9 December 2020, Online
5. Dhawan V, Chaurasia P, Rana D, Kumar M, Dadhwal V, Dada R. Paternal factors and early pregnancy loss: Potential impact of yoga based lifestyle intervention, American Society of Andrology (ASA), 25-28 April 2020, Philadelphia/Online
6. Dhawan V, Malhotra N, Singh N, Dadhwal V, Dada R. Leukemia inhibitory factor in recurrent pregnancy loss: Is there any role of lifestyle intervention? American Society of Reproductive Medicine (ASRM) 19-20 October 2020, Portland / Online
7. Gautam S, Kumar M, Kumar U, Dada R. Yoga induces immunological tolerance and remission at cellular level in rheumatoid arthritis: A randomized controlled trial, ICNPHH Online<sup>1</sup>
8. Gautam S, Kumar R, Kumar U, Dada R. Improvement in mitochondrial integrity and fertility potential in men with rheumatoid arthritis by yoga based lifestyle intervention. 36th Annual Meeting of European Society of Human Reproduction and Embryology (ESHRE) 2020, 5-8 July 2020, Online
9. Gautam S, Kumar U, Kumar M, Mishra R, Dada R Improvement in mitochondrial integrity and mitochondrial copy number in patients with rheumatoid arthritis by yoga based lifestyle intervention: A randomized controlled

trial 2020 –International Association of Yoga Therapists (IAYT) Symposium on Yoga Research (SYR). 19-20 October 2020, Online<sup>2</sup>

10. Gautam S, Kumar U, Dada R. Yoga: A holistic approach for infertile men with autoimmune arthritis. 31st Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF). 19-21 February 2021, Online
11. Gautam S, Kumar R, Malhotra N, Kumar M, Dada R. Yoga improves mitochondrial functioning and fertility potential in infertile men with rheumatoid arthritis: A randomized controlled trial. 46th - Annual Meeting of American Society of Andrology (ASA) – 2021, 23-25 April 2021, Online
12. Gautam S, Chaurasia P, Rana D, Kumar U, Dada R. Yoga reduces sperm oxidative DNA damage and improves fertility potential in infertile men with rheumatoid arthritis on disease-modifying antirheumatic drugs. 45th- Annual Meeting of American Society of Andrology (ASA) – 2020, 25-28 April 2020, Online
13. Gorai PK, Kasapuram D, Gupta SK, Arora P, Saxena S, Shivani, Yadav A, Kumari D, Raja JS, Dhingra R, Sharma MC, Prasad R, Pal S, Kumar R and Rani N Expression of cKIT and CK 19 in pancreatic neuroendocrine tumors 2020, NETRF virtual Research Symposium 19-20 November 2020 Boston, USA
14. Gupta S, Nag TC, Roy TS. Plasticity of the retinal horizontal cells under light of variable photoperiod and intensities. First International Virtual Anatomy Conference (IVACON 2021) 20 February 2021, Lucknow/ Online
15. Gupta A, Singh S, Singh E, Das P, Pal S, Rani N, Sarwar S, Quadri J, Shariff A. Expression of nerve growth factor in human colonic tissues of colorectal carcinoma 38th Annual Conference of Indian Academy of Neurosciences, 5 October 2020 Hyderabad/ Online
16. Gupta A, Singh S, Singh E, Das P, Pal S, Rani N, Sarwar S, Quadri J, Shariff A. Expression of Nerve Growth Factor (NGF) in myenteric ganglia of colorectal carcinoma tissues in humans, 61st Annual Conference of Indian Society of Gastroenterology, 19 December 2020, New Delhi/Online
17. Kumar R, Patil SS, Sesham K, Kusuma H, Dada R. Unusual bilateral variation of anterior belly of digastric muscle, International Virtual Anatomy Conference, 20-22 February 2021, Lucknow/Online
18. Kumari P, Singh S, Kumar H, Mishra Y, Rani N, Sarwar S, Quadri AJ, Shariff A. Correlation of fluoride levels in body fluids and bonehistology in patients of ossified posterior longitudinal, ligament 38th Annual Conference of Indian Academy of Neurosciences, 5 October 2020, Hyderabad/Online
19. Mangla N, Kumari D, Dhawan V, Dada R, Jessy JP\*. A bouquet of unusual variations involving nerves of gluteal region, International Virtual Anatomy Conference (IVACON) 20-21 February 2021, Lucknow/ Online<sup>3</sup>
20. Marik B, Sharma An, Agarwal N, Grover T, Kumari S, Sharma A. An association study of HLA-G regulatory region polymorphisms with recurrent pregnancy loss (RPL), Human Genome Meeting 2020, (Virtual Conference), 5-8 April 2020, Perth/ Online
21. Marik B, Bagga A, Sinha A, Hari P, Sharma A. Identification of novel splice site variants by whole exome sequencing (WES) in patients with hypophosphatemic rickets, 3rd International Caparica Conference in Splicing, 13-16 July 2020, Portugal/ Online
22. Ray SB, Kumar R, Gupta, S Intra-wound administration of drugs for relief of postoperative pain: Fact-finding in rodents, International Anesthesia Research Society Annual Meeting, May 2020, San Francisco/ Online
23. Sesham K, Borthakur D, Kusuma H, Dada R. An associated mass lesion in the anastomoses between the median and ulnar nerve in axilla: A case report, International Virtual Anatomy Conference, 20-22 February 2021, Lucknow/ Online
24. Sesham K, Raja J, Baxla M, Dada R. Palmaris longus muscle variation and it's clinical implication, International Virtual Anatomy Conference, 20-22 February 2021, Lucknow/Online
25. Sesham K, Kumari D, Kumar R, Kaler S. An extended attachment of lesser omentum onto visceral surface of liver: A case report International Virtual Anatomy Conference, 20-22 February 2021, Lucknow/Online
26. Singh E, Singh S, Gupta A, Das P, Pal S, Gupta S, Rani N, Sarwar S, Quadri J, Shariff A. Expression of N- Myc Downstream Regulated Gene 4 (NDRG4) in enteric neuron of colonic tissue of colorectal carcinoma, 38th Annual Conference of Indian Academy of Neurosciences, 5 October 2020, Hyderabad/ Online
27. Singh E, Singh S, Gupta A, Das P, Pal S, Gupta S, Rani N, Sarwar S, Quadri J, Shariff A. Expression of NDRG4 in neurons of myenteric plexus of colonic tissue of colorectal carcinoma patients 61st Annual Conference of Indian Society of Gastroenterology, 19 December 2020, New Delhi/Online
28. Singh S, Gorai PK, Sharma MC, Parshad R, Kumar R, Dhingra R, Singh S and Rani N. Immunohistochemical analysis of cKIT and its correlation with WHO grade in bronchial carcinoid, 38th Annual Conference of Indian Academic of Neurosciences, 4-7 October 2020, Hyderabad/Online
29. Tandon R, Chhabra PK, Baxla M, Sharma D. Developing Concept Maps: As an aid for enhancing analytical thinking in Undergraduate Medical Students National online Conference: Challenges in implementation of the Competency Based Medical Education 7 November 2020, Kattankulathur/online

## RESEARCH

### Funded projects

#### Ongoing

1. Age related changes in the human inferior colliculus: A morphological and neurochemical study, Tony George Jacob, DST, 3 years, 2018 - 21, Rs 43.86 lakhs
2. Contribution of glial gap junctions towards morphine tolerance in rats, SB Ray, DST, 3 years, 2020 - 23, Rs 55 lakhs
3. Correlation of serum levels of immunoglobulin, HLA and trace elements in case of invasive fungal sinusitis ....., A Shariff, AIIMS, 2 years, 2019-21, Rs 10 lakhs
4. Cryo electron tomography (ET) and correlation microscopy for understanding cellular infectivity and internalization of COVID-19 from human samples, Subhash Chandra Yadav, IUSSTF USA, 18 months, 2020 - 22, Rs 50 lakhs
5. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum of post-renal transplant patients, Subhash Chandra Yadav, ICMR, 3 years, 2019 - 22, Rs 35.8 lakhs
6. Development of a database of the Fluoride and Sugar levels for the commercially available Baby food supplements, A Shariff, AIIMS, 2 years, 2020-22, Rs 10 lakhs
7. Development of quick and specific detection system of EWS-FLI-1 Fusion Protein, Subhash Chandra Yadav, DBT, 3 years, 2019 - 22, Rs 79.86 lakhs
8. Effect of yoga on rheumatoid arthritis, Rima Dada, DST, 3 years, 2017 - 20, Rs 54 lakhs
9. Effect of yoga on spermatozoa transcripts and miRNA expression in idiopathic infertility and early pregnancy loss, Rima Dada, DST, SATYAM, 3 years, 2020 - 23, Rs 54 lakhs  
Effect of yoga on visual function, biomarkers of cellular aging and mitochondrial copy number in Leber hereditary optic neuropathy (LHON) patients, Rima Dada, ICMR, 3 years, 2022 - 25, Rs 30 lakhs
10. Effects of lifestyle interventions and psychological stress on markers of aging, Rima Dada, ICMR, 3 years, 2017-20, Rs 40 lakhs
11. Environmental exposure of heavy metals, toxic elements and its impact on renal cell carcinoma induction and progression, A Shariff, ICMR, 3 years, 2019-22, Rs 43 lakhs
12. Environmental exposure of heavy metals, toxic elements and its impact on urinary bladder carcinoma induction and progression, A Shariff, AIIMS, 2 years, 2020 - 22, Rs 10 lakhs
13. Establishment of laser confocal microscope facility for biomedical live cell imaging and for nano-particulate drug delivery, Subhash Chandra Yadav, DST-FIST, 5 Years, 2018 - 23, Rs 165 lakhs
14. External delivery of cisplatin using Human Papilloma Virus (HPV 16) based nanocarriers for treatment of cervical cancer, SC Yadav, AIIMS-IIT Delhi, 2 years, 2019 - 21, Rs 10 lakhs
15. Fluoride levels in the body fluids and tissues in patients of the cervical ossified posterior longitudinal ligament, Seema Singh, AIIMS, 1 year, 2020 - 21, Rs 5 lakhs
16. Fluorosis mitigation in ..... community of Bihar through intervention and counseling, A Shariff, DST, 3 years, 2020-23, Rs 152.76
17. Identification of genetic variants and their functional evaluation in the pathogenesis of inherited Cardiomyopathies, Arundhati Sharma, ICMR, 3 years, 2019 - 22, Rs 72.28 lakhs
18. Identification of the underlying differential expression and disease-specific signature profile in patients with epidermal necrolysis, Arundhati Sharma, ICMR, 3 years, 2019 - 22, Rs 40.05 lakhs
19. Identify the role of inhibitors of apoptotic proteins in respiratory neuroendocrine tumors, Neerja Rani, AIIMS, 1 year, 2020 - 21, Rs 5 lakhs
20. Investigation of changes in peripheral and central nervous system in an experimental model of chronic pancreatitis in mice, Tony George Jacob, ICMR, 3 years, 2019 - 22, Rs 32.23 lakhs
21. Mitochondrial dynamics and status of autophagy in rats in retinal photoreceptor cells after experimental iron overload in rats, TC Nag, ICMR, 3 years, 2019 - 22, Rs 30 lakhs
22. Morphological study of the developing human cochlear nucleus and spiral ganglion, Tony George Jacob, ICMR, 3 years, 2019 - 22, Rs 45.40 lakhs
23. Role of heavy metals and toxic elements in the etiology, severity and progression of Non-IPF diffuse pulmonary lung diseases, A Shariff, AIIMS, 2 years, 2020-22, Rs 10 lakhs
24. Role of hydrogen sulphide as a pharmacological modulator in adverse pregnancy outcomes like preeclampsia, Renu Dhingra, DST, 3 years, 2018 - 21, Rs 45 lakhs  
spectrum disorders and other neurodevelopmental disorders including ADHD and Cerebral Palsy: A cross sectional study, A Shariff, ICMR, Approved, 3 years, 2021-24, ~ 2 crores
25. Status of hydrogen sulphide producing enzymes, matrix metalloproteinases and miR-22 in preeclampsia and their role in modulating trophoblast invasion, Renu Dhingra, CSIR, 2 years, 2019 - 21, Rs 15 lakhs



26. Study of structural reorganization of cholinergic neurites in a rat model of focal cerebral ischemia, Prabhakar Singh, AIIMS, 2 years, 2020 - 22, Rs 10 lakhs
27. To explore the association of molecular, genetic and environmental markers in Autism
28. Unraveling the role of novel proteins in gastroenteropancreatic and respiratory neuroendocrine tumors, Neerja Rani, DST, 3 years, 2019 - 22, Rs 50 lakhs
29. Unravelling the genetic intersections between male infertility and cancer: Role of yoga intervention, Rima Dada, ICMR, 3 years, 2019 - 22, Rs 35 lakhs
30. Utility of artificial intelligence in differentiating, thyroid malignant lesions, Arundhati Sharma, DBT, 3 years, 2020 - 23, Rs 74.16 lakhs

### **Completed**

1. Magnetic nanoparticles and quantum dots coupled, Visual Confirmation of cervical cancer cells from cytology sample: A cost effective, quick and suitable test for rural Indian setup, Subhash Chandra Yadav, SERB, Ministry of Science and Technology, 3 years, 2018 - 21, Rs 38.68 lakhs

### **Departmental projects**

#### **Ongoing**

1. A study on the genetic association and correlation of monoaminergic and GABAergic pathway gene polymorphisms with brain imaging (PET/SPECT) in alcohol and opioid dependence
2. A study on the role of ADH and ALDH gene variants in alcohol dependence
3. A study to evaluate association of single nucleotide polymorphisms and epigenetic changes in neurotransmitter genes in opioid dependence
4. Behavioral assessment of nociception and motor functions in the rat model of partial
5. Effect of curcumin supplementation on cognitive function and estrogen receptor profile in hypothalamus and hippocampus of arsenic trioxide-exposed adult female mice
6. Effect of garlic (*Allium sativum* L) extract on mice models of chronic pancreatitis
7. Effects of fluoride on the development of enteric nervous system: An experimental study
8. Epigenetic changes during epithelial to mesenchymal transition in trophoblast cells under physiological and pathological conditions
9. Epigenetic changes of dopaminergic pathway genes and association of GRIN2A gene polymorphism in alcohol dependence and opioid dependence
10. Evaluation of possible association of opioid dependence with SLC6A4 and TPH2 polymorphisms
11. Evaluations of role of curcumin supplementation on arsenic trioxide induced neurotoxicity in basal ganglia of mice
12. Expression of miR-22, specificity protein-1 and cystathionine beta synthase in pre eclampsia and their role in trophoblast invasion
13. Expression of P2X7 receptor in Myenteric Plexus of Ulcerative Colitis Patients
14. Genetic and epigenetic profiling in patients of anterior pituitary adenoma
15. Genetic screening of patients with Men2 syndrome
16. Genetic study of posterior polar cataract
17. Identification and evaluation of novel proteins, inhibitors of apoptotic proteins and exosomes in cases of pancreatic neuroendocrine tumors
18. Immunohistochemical study of microglial activation and AMPA receptors in hippocampus of rat model of experimental neuropathic pain
19. Impact of short term yoga based intervention on obesity
20. Impact of yoga and meditation on epigenetic profile in rheumatoid arthritis
21. Impact of yoga and meditation on epigenome in rheumatoid arthritis
22. Impact of yoga based intervention on quality of Life of Glaucoma Patients
23. Meditation and its impact on POAG
24. Meditation based stress reduction: Is it therapeutic for Primary Open Angle Glaucoma (POAG)
25. Molecular studies in Fibromyalgia
26. Mutation analysis in anti mullerian hormone gene in poor responders
27. Mutation analysis of candidate genes (NR5A1, DAX1, DHH, DMRT1, SOX9, SRY, WT1) in patients with Gonadal dysgenesis and 46,XY karyotype



28. Mutational studies in patients with refractory rickets and hypophosphatemia
29. Paternal factors in embryonic development
30. Remodeling in horizontal cells following light-induced retinal damage in rat
31. Role of autophagy in experimental acute Pancreatitis with special reference to inflammation and cell death
32. Role of hydrogen sulphide as a pharmacological modulator in adverse pregnancy outcomes like preeclampsia
33. Role of micro RNA-30 in cystathionine gamma lyase mediated trophoblast cell invasion and status in preeclampsia
34. Role of miRNA in modulating trophoblast cell invasion
35. Role of miRNA in regulation of angiogenic factors in trophoblast cells sciatic nerve transection (PSNT) injury
36. Study of age-related changes in the human stria vascularis
37. Study of association of Methylenetetrahydrofolate Reductase (MTHFR) Polymorphisms in infertile men
38. Study of microglia in the retina of rats exposed to bright light after selective Müller cell damage
39. Study of the association of matrix metalloproteinase-9 gene polymorphism in preeclampsia
40. Study on the association of polymorphism, methylation and expression status of monoamine pathway genes with alcohol dependence
41. Study to identify the genetic basis underlying Stevens–Johnson syndrome (SJS)

### **Completed**

1. A study of dopaminergic neurons in the myenteric plexus of ulcerative colitis patients
2. A Study of Serum Level of Cystathionine Beta Synthase and its Gene Polymorphisms in Preeclampsia E
3. An association study of cystathionine beta synthase gene polymorphism in preeclampsia study title
4. Autophagy and neurogenesis in middle cerebral artery occlusion model of stroke in wistar rats
5. Correlation of fluoride levels in body fluids and bone histology in patients of ossified posterior longitudinal ligament
6. Effect of angiotensin receptor modulation in rat middle cerebral artery occlusion: A morphological and biochemical study
7. Effect of hydrogen sulphide on migration of human trophoblast cells and its status in preeclampsia
8. Effect of rapamycin in a mouse model of mild Acute Pancreatitis
9. Endemic fluoride induced anemia during pregnancy in Bihar...a pilot study
10. Evaluation of autofluorescence in human nervous tissue
11. Expression of nerve growth factor in colorectal carcinoma patients
12. Expression of n-myc downstream regulated gene 4 (NDRG4) in enteric neurons of colonic tissue of colorectal carcinoma patients
13. Immunohistochemical and Quantitative Analysis of Cytokeratin19 and cKIT in Gastrointestinal and Respiratory Neuroendocrine Tumors.
14. Role of MMP 9 promoter polymorphisms in Preeclampsia
15. Role of soluble Vascular Endothelial Growth Factor Receptor-1 (sVEGFR-1/sFLt-1) in endoplasmic reticulum stress in Preeclampsia-an *in vitro* study

### **Collaborative projects**

#### **Ongoing**

1. Genotype and phenotype correlation in POAG, Dr RP Centre
2. Oxidative stress in pathogenesis of PCG, Dr RP Centre
3. Genetic studies in fibromyalgia, Physiology
4. Impact of advanced paternal age and poor; lifestyle on sperm epigenome: Possible etiology in autism spectrum disorder, Paediatrics
5. Impact of yoga and meditation on epigenome in rheumatoid arthritisMedicine
6. To study the gene mutations in the patients with 46 XY DSD due to Gonadal Dysgenesis/Agensis, Endocrinology
7. Impact of YBLI on MDD-RCT, Psychiatry
8. Impact of short term yoga based intervention in obesity, Physiology
9. Loss of sperm DNA integrity in childhood cancers, RP Centre for Ophthalmic Sciences
10. Yoga and impact on QOL in Glaucoma, RP Centre for Ophthalmic Sciences

11. Yoga based intervention” on inflammatory markers and gene expression profile in blood, Aqueous and Trabecular Meshwork of Primary Open Angle Glaucoma Patients: A randomized controlled trial, RP Centre for Ophthalmic Sciences
12. Evaluation of the effect of mindfulness based stress reduction in patients with advanced primary open angle glaucoma, RP Centre for Ophthalmic Sciences
13. Impact of preoperative steroids on trabeculectomy outcomes: A Randomized Controlled Trial, RP Centre for Ophthalmic Sciences
14. Electroencephalographic changes in early and advanced Glaucoma, RP Centre for Ophthalmic Sciences
15. Cytogenetic and molecular analysis in infertility, Anatomy Department, AIIMS, Raipur
16. Role of ashwagandha in management of infertility, Centre for Ayurveda, Guru Gobind Singh University
17. Genome wide analysis to explore stress, inflammation and cellular aging following short and long term yoga based intervention in obesity and DM, Physiology
18. Phase –III Clinical trial with intravasal injectable male contraceptive-RISUG, Biomedical engineering
19. Identification and characterization of novel genetic variants associated with cardiovascular diseases in diverse ethnic populations of India, Cardiology
20. “Effect of yoga based intervention of intra ocular pressure, Quality of life, Inflammatory markers and gene expression profile in Glaucoma Patients: A Randomized Controlled Trial”, RP Centre for Ophthalmic Sciences
21. A cross sectional study for assessment of Matrija bhava (Maternal factor) and Rasaja bhava (Nutritional factor) for causation of childhood Leukemia in purview of epigenetics”, Chaudhary Brahm Prakash Ayurved Charak Sansthan Delhi.
22. Vulnerability assessment of Matrija bhava for the causation of metabolic disorders in childhood: A cross sectional study, Chaudhary Brahm Prakash Ayurved Charak Sansthan, Delhi.
23. An observational study of anatomical concept of shadgarbhkarbhav (six procreative factors) in prevalence of Arbuda, Chaudhary Brahm Prakash Ayurved Charak Sansthan, Delhi.
24. Identification and characterization of novel genetic variants associated with cardiovascular diseases in diverse ethnic populations of India, Cardiology
25. Genetics of MEN2 syndrome, Endocrinology
26. MEN1 gene mutation in patients of primary hyperparathyroidism, pancreatic tumors and pituitary tumors and its clinical implications, Endocrinology
27. Genetics of angle closure glaucoma, RP Centre for Ophthalmic Sciences
28. Genetics of alcohol and drug dependence, Psychiatry
29. Genetics studies in hypophosphatemic rickets, Pediatrics
30. Genetics studies of cardiomyopathies, Cardiology
31. Genetics of posterior polar cataract, RP Centre for Ophthalmic Sciences
32. Pharmacological and molecular approaches to investigate the effect of Adhatoda vasica in experimental models of bleomycin induced pulmonary fibrosis, Pharmacology
33. Development of herbal formulation from seabuckthorn” Molecular and pharmacological investigation on efficacy of combination of seabuckthorn oil and ramipril vis-à-vis ramipril alone in experimental models of myocardial infarction in streptozotocin-induced diabetic rats, Pharmacology
34. Fluorosis mitigation in community of Bihar through intervention and counseling. Anatomy

### ***Completed***

1. A study of the efficacy of intraperitoneal injection of methylprednisolone and anti tnf-alpha antibody (infliximab) on the severity of organ dysfunction in adult male wistar rats with acute Pancreatitis induced by surgical ligation of the pancreatic duct, GI Surgery
2. Decipher mechanistic basis of the intracellular trafficking of the optically active Nanoparticles using super resolution microscopy, Department of Biotechnology, JNU, New Delhi
3. Development of herbal formulation from seabuckthorn” Molecular and pharmacological investigation on efficacy of combination of seabuckthorn oil and ramipril vis-à-vis ramipril alone in experimental models of myocardial infarction in streptozotocin-induced diabetic rats Pharmacology
4. Effect of transcranial, magnetic stimulation on pain modulation status in fibromyalgia patients, Physiology
5. Levels of oxidative stress biomarkers in follicular fluid of women with PCOs undergoing IVF and its relation to outcome, Obstetrics and Gynaecology

6. Mutation analysis of seven genes (NR5A1, DAX1, DHH, DMRT1, SOX9, SRY, WT1) in patients with Gonadal dysgenesis and 46,XY karyotype, Endocrinology
7. Oxidative stress evaluation in amniotic fluid of couples with normal and couples pregnant with fetus with congenital malformation, Obstetrics and Gynaecology
8. Pharmacological and molecular approaches to investigate the effect of Adhatoda vasica in experimental models of bleomycin induced pulmonary fibrosis. Pharmacology
9. Radiological and microsurgical comparison of the operative exposures obtained through far lateral and transcondylar approaches in injected cadaveric human heads, Neurosurgery
10. Role of hydrogen sulphide in migration of human trophoblast cells and its impact on placentaion: An in-vitro study, Obstetrics and Gynecology

## PUBLICATIONS

Journals: 38      Abstracts: 4      Chapters in books: 3

## PATIENT CARE

### Clinical Ecotoxicology Diagnostic Services:

The clinical ecotoxicology (Diagnostic & Research) Facility, a first of its kind in the country, established by Professor A. Shariff, has been providing diagnostic services to various clinical departments for detection of heavy metal and other element toxicities and for estimation of micronutrient minerals in blood. These tests have proved efficacious in making a significant difference in the management of affected patients.

### Genetic Diagnostic and Counselling Services

Karyotyping	154
Yqmicrodeletion analysis 21 cases	
Sperm DFI- 32	
Seminal ROS-48	
Molecular screening	
Corneal dystrophies	50
Mutation analysis of various disorders	45
Miscellaneous	03

### EMBALMING OF DEAD BODIES

For transportation	19
For teaching/research	07

### FLUOROSIS DIAGNOSTIC LABORATORY: FLUORIDE ESTIMATION

Urine	40
Blood/serum	40
Drinking water	47

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor A Shariff** created the necessary digital infrastructure within the department and the Institute to facilitate the development of the eLearning Resources that became necessary to continue the teaching/learning activities in the wake of the COVID-19 pandemic. As the Professor in-charge of the Computer Facility, he ensured that the IT Networks and infrastructure are maintained in optimal condition to cater to the increased demand for online video conferencing during the COVID-19 pandemic for the purposes of patient care, academics and research; As the Professor in-charge of the Telemedicine Facility, he planned and implemented the practice of Telemedicine at the Institute when the physical OPDs were closed during the COVID-19 pandemic with active support and cooperation from all the clinical departments. He also created and maintained the “COVID-19 National Teleconsultation Centre” (CoNTeC-AIIMS) in the Institute at the behest of the Niti Ayog, GoI and support from the AIIMS Director, the Computer Facility and the Telemedicine Facility to provide expert consultations to the doctors across the country treating COVID-19 patients by the consultants from our Institute. This facility was inaugurated by the Hon’ble Union Minister of Health & Family Welfare, GoI, which has been functional throughout the pandemic; He organized a group of more than fifty volunteers consisting of medical and nursing students, resident doctors and faculty members of the Institute (CoNTeC-AIIMS Public Help Group), who have been providing valuable telephonic support and guidance to the public on matters of health related to COVID-19 and non-COVID illnesses. He continued providing the Clinical Ecotoxicological diagnostic services throughout the pandemic to patients from within and outside the Institute. The Clinical Ecotoxicology Facility under his guidance, detected the presence of nickel and lead in the patient samples of “Eluru mystery illness”, which affected about 500 people in Eluru Municipal Corporation limits, in the West Godavari District of the Indian state of Andhra Pradesh in December 2020. He was appointed a Member of High Powered Multi-Disciplinary Committee,

constituted by the Government of Andhra Pradesh (vide G O Rt No.1946. Dated 10.12.2020) for investigation of outbreak of sudden convulsions of unknown origin and to investigate the source of the agent, thoroughly examine various cause/s of the incident and suggest remedial measures to prevent any occurrence of such events in future in the State.

**Professor SB Ray** appointed External Examiner for conducting 1st Professor MBBS examination in Anatomy at the (1) Delhi University (2) Gautam Buddha University and (3) Ambedkar University; Appointed Nodal Officer by the Department of Anatomy for management of COVID 19 pandemic.

**Professor Rima Dada** was inducted as Fellow of the Indian Academy of Biomedical Sciences. Dr Dada and her team received the prestigious Swami Kuvalayananda young investigator award at Symposium on Yoga research organised by IAYT, MA, Boston, Researcher of the year and best oral presentation First prize, Best poster award at IVACON. Dr Dada was resource person as editor AON for webinar with HH Dalai Lama. She chaired sessions in six conferences and SIG workshops. She participated in webinars organised by ARM, Cleveland Clinic and was judge for YANTRA 2020 organised by NIMHANS Bangalore. She was nominated as expert for the NBE Accreditation Assessment Programme and invited as expert for Faculty selection at various medical colleges. She was designated Central Public Information Officer and Member Secretary for Surekha, Sai and Rajgarhia Vishram Sadan She was nominated as an Editorial board member for the 'Annals of Neuroscience' journal and served as reviewer/board member for the following journals: Restorative Neurology and Neurorestoration, In-Vitro Fertilization, Translational Genetics and Genomics Telomere and Telomerase, PLOsone, RBM online, Nature, Human Reproduction and several others. She was invited as expert by NCERT for revision of genetics curriculum in schools and colleges. She continues to be Jury member for Medical Research Council fellowships, Edinburgh and for Royal International Research awards in Reproductive Biomedicine and Stem cells, Iran. She is a member of the ICMR task force on male Infertility. Dr Dada also served as member of the ICMR Expert Committee meeting to establish centres for advanced research. She was invited as expert for PhD selection at IIT Delhi. She has evaluated 6 MD and 6 PhD theses in Genetics and was external examiner for PhD thesis in Genetics at the Ravenshaw University, CCMB and South Campus. She was examiner for BSc Genetics at Pandit BD Sharma University, Rohtak. She served as Member for the following committees at AIIMS, New Delhi: Core Committee for AIIMS convocation, Committee for selection of DMA medal, Curriculum committee, Institute Bio-safety committee on Recombinant DNA research and Institute committee for improvement of standard of research activities in autonomous institutions. She was election commissioner for the Students Union election. Professor Rima Dada is external faculty for MDNIY, HIMS, Durgabhai Deshmukh College, Deshbandhu College, New Delhi. Her articles appeared in several national and international newspapers. She appeared several times on TV programmes Vigyan Prasaar and Rajya Sabha TV. She has been nominated as chairman and coprogramme director by American Academy of Yoga and meditation. Dr Dada's research on oxidative stress and DNA damage was adjudged the 3<sup>rd</sup> best in the world by the high impact Journal Reproductive Biology and Endocrinology. Professor Dada was teaching incharge for postgraduates and designed PG curriculum, organised PG seminars, practicals and examinations.

**Professor Arundhati Sharma** acted as a reviewer for a PhD thesis and has reviewed many manuscripts for possible publication of several journals. She is one of the members of the skill India initiative of the government of India. She is the nodal person for the Departmental Annual report and website information.

**Professor Renu Dhingra** is currently a Member of the International Society of Plastination, Executive member of DASMOS, Member of the Academic Advisory panel for Virtual Teaching and Member of the Teaching Schedule committee at AIIMS, New Delhi. She served as the Faculty in-charge of Departmental Stores till 21 January 2021. Dr Dhingra was invited as chairperson for guest lecture in IVACON organized by KGMC in February 2021. She also reviewed research articles submitted to several journals. She facilitated soft embalming and dye injections for cadaver preparation for intra and extramural projects. She organized, directed and coordinated the online teaching programme in response to the COVID-19 pandemic as 2nd Semester Teaching In-charge for the MBBS 2019-20 batch from April 2020 to November 2020. She facilitated the postgraduate (MD) final examination as internal examiner in July 2020. She was appointed as external examiner for MBBS first professional examination by Punjab University.

**Professor TC Nag** examined a PhD thesis during this period. He was nominated as a member to the Research Advisory Committee, Cooch Behar Panchanan Barma University, WB. He was a core member of ICMR purchase committee. He has reviewed several manuscripts for various national and International peer reviewed journals.

**Dr SK Jhajharia** was awarded free registration of the IASP World Congress on Pain, 2021 supported from IASP Financial Aid Task Force. She acted as the external examiner for regular 1<sup>st</sup> Professional MBBS examination in Anatomy at VMMC and Safdarjung Hospital (GGSIU University) in March, 2021. She continues to be a member of the International Association for Study of Pain (IASP), Indian Academy of Neurosciences, Anatomical Society of India.

**Dr Tony Jacob** was actively involved in the Communications Training for COVID-19 at AIIMS, New Delhi as the Member Secretary of the committee. He also developed two videos for Biomedical Waste Management and Disinfection related to

the COVID pandemic. He is part of the Core Committee for the development of the undergraduate curriculum at AIIMS. He continues to be a reviewer for numerous national and international peer-reviewed journals and is on the editorial board of the National Medical Journal of India and the Journal of Chemical Neuroanatomy. He is also the Member Secretary to the Microscopy Committee of the Centralized Core Research Facility at AIIMS and was actively involved in the acquisition and installation of the LASER Scanning Confocal Microscope. He is a part of various Institutional and departmental Store Purchase and Technical Specification committees. He has actively contributed to the conduct of competitive examinations by the National Board of Examinations and the AIIMS, New Delhi. He has been an external examiner for first professional examinations at Delhi, Indraprastha and Rohtak Universities. He also set the template for the online and offline undergraduate teaching schedule during the COVID pandemic. He also continues to be a resource person for Communication training at AIIMS and other medical institutions in Delhi.

**Dr Seema Singh** contributed for preparation of e-learning resource materials, is a Nodal officer for preparation of anatomy teaching schedules for MBBS and paramedical courses. She was appointed as an external examiner at Delhi University and she published and reviewed articles.

**Dr SC Yadav** was the editor of the special issue “Electron Microscopy in Biomedical Research” of Indian Journal of Biochemistry and Biophysics. He reviewed several manuscripts from Nanoscale, Colloids and Surfaces B, Colloids and surface A etc. and was nominated as a Judge for the Scientific Presentations on RCB Day in March 2020 at RCB Faridabad, Haryana.

**Dr Prabhakar Singh** reviewed a manuscript for Indian Journal of Biochemistry and Biophysics.

**Dr Vidhu Dhawan** has been appointed as a founding member of Special Interest Group (SIG)-Applied Genetics (Subgroup-Male Infertility and Epigenetics) of the Indian Fertility Society (IFS) created in the year 2020-21. The SIG was awarded the best SIG of the IFS in its Annual Conference, “Fertivision 2020”. It has released three newsletters as the official newsletter of IFS “ReproGenQ”, focussing on Reproductive Genetics and has invited leading experts in the field of Reproductive Medicine for the conduct of 3 webinars. She has also contributed 2 Articles in the newsletters of IFS.



## 9.3. Biochemistry

### Professor and Head

Subrata Sinha

### Professors

SS Chauhan  
Kalpana Luthra

MR Rajeswari  
Alpana Sharma

PP Chattopadhyay  
Kunzang Chosdol

### Additional Professors

Sudip Sen

Archana Singh-I

### Associate Professors

Archana Singh-II  
Ashok Sharma

Jayanth Kumar P

Subhradip Karmakar  
Pragyan Acharya

### Assistant Professors

Riyaz Ahmad Mir  
Pramod Kumar Gautam

Rakhee Yadav  
Siddhartha Kundu

## HIGHLIGHTS

- Forty eight research projects are ongoing in the department funded by various national and international agencies such as DBT, DST, ICMR, DHR, DRDO, UGC (MOOCS), Indo-Austrian, Wellcome Trust, Ministry of AYUSH and Intramural AIIMS, amounting to Rs. 29.39 crores and 9 research projects (Rs 2.38 Crores) were completed this year.
- Forty seven departmental projects and 57 collaborative projects are ongoing with different faculty of the various departments.
- Eighty six research publications and 5 abstracts published in indexed National and International Journals of repute.
- Twenty invited talks were delivered by the faculty and 11 research papers were presented by faculty/research students (oral/poster) at various national and international scientific forums.
- Three AIIMS Excellence Research Awards (Basic Sciences) were received by the faculty of the department.
- Faculty and students received various awards and prizes for oral presentations along with travel grant at various national and international conferences.
- Dr Kunzang Chosdol has set up COVID-19 diagnostic laboratory (RT-PCR & True Nat) at Leh, UT Ladakh.
- Thirteen MSc, 15 MD, 7 SR and 42 registered PhD students are working in the department.
- The practical for MBBS and coursework for MD and MSc students teaching curriculum was further expanded to add more advanced classes in various topics encompassing the current advances in research.
- A formal course work and its assessment for PhD students is initiated in the department with various modules.
- Department is providing clinical services to the patients and performed different tests in total of **941 samples**. The porphyria tests were also performed in 78 samples received from different departments.

## EDUCATION

### Undergraduate

The department introduced some modifications in the UG teaching curriculum, aimed at enhancing both the skill development and to keep the knowledge at par with the current developments in biochemistry. Case discussions related to didactic lectures and demonstration practical on POCT devices for glucose monitoring and pregnancy testing were introduced to improve the theory-practical connect. Kit based practical were introduced for some of the routine biochemical analytes (uric acid and HDL cholesterol) for students to appreciate the differences between traditional and auto-analyzer based methods in use. Techniques related to current applications in molecular biology such as restriction digestion and restriction site mapping were also added to the curriculum.

### Postgraduate

These include 13 M.Sc. and 15 MD students. The department also has 42 Ph.D. students. There are two women scientists & three N-PDF working as post-doctoral students.

The postgraduate teaching curriculum was further expanded to add more advanced classes in the Molecular Biology and Cancer Biology modules. The 'Clinical Case Discussion' has been modified to discuss complex case reports from various journals for the MD, MSc students and Senior Residents.

A formal course work for PhD students is initiated in the department with various modules. It covered Advanced Laboratory Instrumentation, Cell biology and Culture techniques, Human and Animal ethics, Biostatistics, Research methodology etc. Students were assessed and graded after completion of course work.

The department is also giving formal training to pediatric genetics DM students in molecular biology.

#### **Lectures delivered**

<b>Subrata Sinha: 6</b>	<b>Shyam S Chauhan: 1</b>	<b>Kalpana Luthra: 3</b>
<b>Alpana Sharma: 2</b>	<b>Subhradip Karmakar: 2</b>	<b>Ashok Sharma: 5</b>
<b>Pragyan Acharya: 1</b>	<b>Riyaz Ahmad Mir: 1</b>	

#### **Subrata Sinha**

1. A study of familial dyslexia provides insights into novel neuro-developmental pathways', Plenary lecture: Indian Academy of Neurosciences Annual meeting, 5 October 2020, Hyderabad
2. Organizer of the workshop, Talk delivered: Genetic basis of dyslexia' window to neurobiology, AIIMS-IBRO (International Brain Research Organization) APRC Workshop, 28 October 2020, AIIMS, New Delhi
3. Inherited Dyslexia, neuronal progenitor cells and lncRNA: A melange of serendipities', International Meeting on IBRO "Regulatory RNAs and the Brain: Development to Disease". Workshop, 22 January 2021, IGIB, New Delhi
4. Organizer of the workshop and delivered talk on Studying dyslexia: From phenotype to the genes and their manifestations'; IIT Delhi Pratidhwani, 7 January 2021, Delhi
5. Stemness, hypoxia and chemoresistance: a recalcitrant continuum'. Guest of Honour; in International Meeting on 'Brain Tumours and Stem Cells, 4 February, 2021, AMU
6. Organized the Web meeting as chair of committee of INSA to interface with public on COVID-19 related information, and delivered talk on 'Manavjati aur mahamari' Digital Outreach in Hindi – 'COVID Vaishvik Mahamari' Web Meeting, 20 December 2020, Online

#### **Shyam S Chauhan**

1. Cysteine Cathepsins and their Prognostic and Therapeutic Significance in Leukemia, Dr VR Khanolkar Oration in 60th NAMSCON held online, 23 December 2020, New Delhi

#### **Kalpana Luthra**

1. Engineered antibodies as a therapeutic tool synthetic biology perspective, Invited speaker at AICTE sponsored ATAL FDP programme, organised by Madurai Kamaraj University, 2 December 2020, Online
2. Viral characteristics associated with the maintenance of elite neutralizing activity in HIV-1 clade c infected children Seminar online organised by IISC Bangalore, centre for biosystems science and engineering, 7 December 2020, Online
3. Neutralizing antibodies against Indian HIV-1 strains as vaccine templates in the symposium" Greeting the job done: Designing immunogens to induce bnAbs, The virtual HIVR4P International AIDS Society (IAS) Conference, 28 January 2021, Online

#### **Alpana Sharma**

1. Immunoglobulin structure, functions and diversity, Workshop on Immunology for MBBS students, 21 September 2020, Online
2. Circulatory HMGB-1 in liquid biopsy of cervical cancer: a potential novel diagnostic marker, 1st Virtual International Conference on Challenges and Strategies in Reproductive and Environmental Health (ISSRF-2021), 21 February 2021, Online

#### **Subhradip Karmakar**

1. India Challenges with zoonotic infections, Wild Life and Zoonoses Meeting, June 23, 2020, Assam/Online
2. Mining cancer database, Online Webinar, 23 September 2020, Online

#### **Ashok Sharma**

1. Coordinator and conduct webinar series "An Introduction to Biobanking and Bio-specimen Science" NCI-India, AIIMS, Jhajjar campus and organised through Research Section, AIIMS, New Delhi, 5 March 2021, Online

2. Basic and Advanced Proteomics Approaches Workshop-2021 faculty development course IIT Bombay with Department of Science and Technology, GOI, 15-26 February 2021, Online
3. Theme Coordinator” for Young Scientists’ Conference (YSC), in India International Science Festival (IISF 2020) Organised by Ministry of Science and Technology, Earth Sciences and Ministry of Health and Family Welfare in collaboration with VIBHA with CSIR, 22-25 December 2020, Online
4. Delivered podcast on Epigenetics-changing the destiny written in DNA. Hosts- Nishtaa Modi and Kanay Mathur Cover art-Priyanka Vinayak Support this podcast: <https://anchor.fm/epigenetics-kgn/support>, 2 September 2020, Online
5. Interview on “How to protect cancer patients with corona Infection”, Newspaper Rashtriya Sahara, 20 July 2020, Online

### Pragyan Acharya

1. Virulence in Malaria Parasites: The Story of a large Multiprotein Complex, CONIAPS XXVI -International Conference in Applied Physics and Earth Sciences- in association with International Academy of Physical Sciences on 18-20 December 2020, Jaipur, Virtual Conference

### Riyaz Ahmad Mir

1. Diagnosing COVID-19: The Disease and Tools for Detection Online webinar National Medical Professionals’ Week (NMLW), 18 July 2020, Delhi/Online

### Oral papers/posters presented: 13

1. Ansari A, Arya R, Sachan S, Jha SN, Kalia A, Lall A, Sette A, Grifoni A, Weiskopf D, Coshic P, Sharma A, Gupta N. Immune memory in mild COVID-19 patients and unexposed donors from India reveals persistent T cell responses after SARS-CoV-2 infection, Pandemic & Crisis, Young Scientists’ Conference (YSC), India International Science Festival (IISF)-2020, 22-24 December 2020, Online
2. Arya R, Gupta N, Sharma A. Epigenetic remodelling of T cells and immune alterations in SARS-CoV-2 convalescent Patients, Pandemic and Crisis, Young Scientists’ Conference (YSC), India International Science Festival (IISF)-2020, 22-24 December 2020, Online
3. Dey D received the ISSCR Zhongmei Chen Yong travel award for his abstract at the ISSCR 2020, Annual Meeting (Virtual), 23-27 June 2020
4. Dey D, Shrivastava V, Bhat MA, Singal CMS, Jaiswal P, Sharma JB, Chattopadhyay P, Sinha S, Seth P, Sen S. Evaluating the effect of hypoxia on human fetal neural stem cells *in vitro*. ISSCR Annual Meeting, 2020 (Poster), 23–27 June 2020, Online
5. Group received First Prize in “Pandemic and Crisis” section, YSC, IISF 2020
6. Jit B, Sharma A. Interplay between Cancer Testis/ Germline POTE antigen and NOTCH Signaling and its association with Global DNA Methylation in Ovarian Cancer. Frontiers area of research- Life Sciences, Young Scientists’ Conference (YSC) India International Science Festival (IISF)-2020, December 22-24, 2020, Online
7. Kundu S, Sharma A. Lamina Associated Domains (LADs) in the regulation of pericentromeric localized POTE gene expression in human ovarian cancer Frontiers area of research- Life Sciences, Young Scientists’ Conference (YSC) India International Science Festival (IISF)-2020, 22-24 December 2020, Online
8. Mishra N, Sharma S, Dobhal A, Kumar S, Chawla H, Singh R, Luthra K. Multivariant HIV-1 infection in infants with broadly neutralizing plasma antibodies: Implication for polyvalent vaccines, 9th Annual CME of Sir Ganga Ram Hospital, 9 December 2020, Online
9. Nitesh Mishra awarded First Prize: Oral Presentation
10. Sachan A, Aggarwal S, Singh A, Shukla S, Yadav R. Study of Serum Collagen-6a3 and its Cleavage Product, Endotrophin as ECM Remodelers Correlated with Insulin Response in Morbid Obesity, AMBI ON 2020: National Postgraduate Update cum CME, November, 2020, (Online Presentation), 2 November 2020, Chandigarh<sup>1</sup>
11. Saini C, Srivastava R K, Ramesh V, Sharma A. IL-6 promotes Th17 cell responses in patients with T1R leprosy reactions. 8th Annual Meeting of International Cytokine & Interferon Society (ICIS), 2 November 2020, Online
12. Sen S, Shrivastava V, Dey D, Singh A, Singal CMS, Jaiswal P, Sharma JB, Chattopadhyay P, Kumar J, Sinha S, Seth P. Assessing glutamate uptake after hypoxic injury in astrocytes derived from human fetal neural stem cells *in vitro*. ISSCR Annual Meeting, 2020 (Poster), 23–27 June 2020, Online
13. Tran TM, Bassi J, Nibber N, Draper J, Philipp J, Lin T, Palanichamy JK, Kumar A, Silva S, Paing M, King JK, Katzman S, Sanford JR, Rao DS. *The RNA binding protein IGF2BP3 is required for MLL-AF4 mediated leukemogenesis*. 62nd ASH (American Society of Hematology) Annual Meeting (Abstract Achievement Award Winner) 2-5 December 2020, Online

## RESEARCH

### Funded projects

#### Ongoing

1. Artificial intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for Cancer patients. Ashok Sharma, MEITY, 2 years, 2020-2022, Rs 292 lakhs
2. Assessment of Anticancer effect of Triplex Forming Oligonucleotides (TFOs) on the Expression of HMGB1 in Hepatoma using Animal model system, MR Rajeswari, DST, 3 years, 2017-2020, Rs 63.14 lakhs
3. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer. Shyam S Chauhan, ICMR, India, 3 years, 2019-2022, Rs 35 lakhs
4. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics. Shyam S. Chauhan, ICMR, India, 1 year, 2019-2020, Rs 5 lakhs
5. Deciphering neural plasticity of fetal neural stem cells on exposure to hypoxia, Sudip Sen, AIIMS Intramural Project, 2 years, 2019-2021, Rs 10 lakhs
6. Deciphering the osteogenic effect of *Symphytum officinale* using human bone marrow derived mesenchymal stem cells and rodent model, Sudip Sen, CCRH (Min. of AYUSH), 2 years, 2019–2021, Rs 45 lakhs
7. Deciphering the role of functional determinants of Dendritic cells and their immune cross talk with NK cells: Possible therapeutic target(s) in *Pemphigus vulgaris*, Alpana Sharma, ICMR, 3 years, 2018-2021, Rs 42.31 lakhs
8. Delineating the anti-cancer potential and the mechanism of action of Unani medicinal formulation Itrifal-e-aftimoon in Chronic Myelogenous Leukemia, Alpana Sharma, CCRUM, AYUSH, 3 years, 2019-2022, Rs 68.66 lakhs
9. Development of targeted drug delivery using liposomes/nanoparticles on cancer stem cell using herbal plant extract and hsp70- tumor antigen and to evaluate its anti-tumor function, Pramod Kumar Gautam, SERB, DST, 3 years, 2019-2022, Rs 49 lakhs
10. Editing of Atoh1 in cadaver derived supporting cells for the regeneration of auditory cells. Riyaz Ahmad Mir, ICMR, 3 years, 2021-2024, Rs 70 lakhs
11. Effect of hypoxia on different neural cell types *in vitro* – a model to design therapeutic strategies against cerebral palsy in preterm infants, Sudip Sen, DBT, 3 years, 2018–2021, Rs 49 lakhs
12. Evaluation of a liposome-based cholesterol efflux assay against a macrophage-based efflux assay for measurement of reverse cholesterol transport capacity of HDL, Archana Singh, ICMR, 2 years, 2021-2023, Rs 28 lakhs
13. Exploring the link between the RNA binding protein IGF2BP3, long non-coding RNA linc-RNA and their targets in migration and invasion of epithelial cancer cell lines, P. Chattopadhyay, SERB, 3 years, 2018-2021, Rs 42 lakhs
14. Extracellular matrix remodelling in Obesity Induced Adipose Tissue Dysfunctions and Insulin Resistance, Rakhee Yadav, ICMR, 3 years, 2019-2022, Rs 46 lakhs
15. Extracellular vesicular signatures of multiple organ dysfunction in Acute-on-Chronic Liver Failure- a Pilot Study
16. Generation and characterization of HIV-1 subtype-C based trimeric immunogens from infected children, Kalpana Luthra, DBT, 3 years, 2019-2022, Rs 1.60 Crore
17. Identification of Novel Blood Based Biomarker For Early detection of Human Gallbladder Cancer. Shyam S. Chauhan, DRDO, India, 3 years, 2018-2021, Rs 46.16 lakhs
18. Identifying the role of Treg cells and MDSCs in endothelial dysfunction, Alpana Sharma, ICMR, 3 years, 2019-2022, Rs 45.31 lakhs
19. Immuno-epigenetics study of the humoral immune response in COVID-19 patients from India. (Multi-institutional Project with NII), Ashok Sharma & r Nimesh Gupta, SERB-IRHPA, DST, GOI, 3 years, 2020-2023, Rs 80 lakhs
20. Insights into the molecular mechanisms of clinically relevant non-haem iron(II)- and 2-oxoglutarate-dependent dioxygenases and an assessment of their relevance to disease biology. Siddhartha Kundu, AIIMS-IMRG, 2 years, 2020-22, Rs 5 lakhs
21. Interactome analysis of COVID-19 spike protein C terminus: Identification of potential druggable target for virus entry, Riyaz Ahmad Mir, AIIMS, 2 years, 2020- 2022, Rs 8 lakhs
22. Interplay between Cancer Testis/ Germline POTE antigen and NOTCH Signaling and its association with Global DNA Methylation in Ovarian Cancer, Ashok Sharma, ICMR- MOHFW; 3 years, 2019-2022, Rs 42.5 lakhs.
23. Isolation and characterization of monoclonal antibodies from HIV-1 subtype C infected individuals, Kalpana Luthra, DBT, 3 years, 2017-2020, Rs 88 lakhs
24. JC Bose Fellowship: Rational strategies for tackling hypoxia induced adverse phenotype and therapeutic resistance in neoplasia using a glial tumour model. Subrata Sinha, Department of Science and Technology, 5 years, 2017–2022, Rs 98 lakhs
25. Molecular signature of protumorigenic inflammation in the context of the WHO 2016 classification of glioma Kunzang Chosdol, AIIMS (Collaborative Intramural grant), 2 years, 2018-2020, Rs 20 lakhs

26. MOOCs-SWAYAM Analytical Technqs, MR Rajeswari, MHRD, 2 years, 2020-2021, Rs 2 lakhs
27. MOOCs-SWAYAM BIOMOLECULES, MR Rajeswari, MHRD, 2 years, 2020-2021, Rs 3 lakhs
28. Nuclear architecture as an epigenetic regulator in pericentromeric localized Cancer-Testis/Germline Antigen POTE expression in ovarian cancer, Ashok Sharma, DST, 3 years, 2017-2020, Rs 55 lakhs
29. Nuclear hormone network in GBC, Subhradip Karmakar, DHR, 3 years, 2021-2024, Rs 55 lakhs
30. Pragyan Acharya, AIIMS, Intramural early career grant, 2 years, 2020-2022, Rs 10 lakhs
31. Prevalence of Human Papilloma Virus (HPV) in Indian patients of Penile cancer. Alpana Sharma, DHR, 3 years, 2018-2021, Rs 25 lakhs
32. Program Support: CRISPR-mediated technologies for the development of new therapeutics and diagnostics. Project Coordinator and PI: Subrata Sinha, DBT, 2 years, 2020-2022, Rs 2.89 Crore
33. Repurposing statins as a mitigator of acute decompensation of Liver Cirrhosis in patients infected with COVID-19: Molecular pathways and outcomes with ex vivo Assays, Pragyan Acharya, AIIMS Intramural COVID-19 grant, 1 year, 2020-2021, Rs 10 lakhs
34. Role for RNA methyl transferase machinery in B-cell Acute Lymphoblastic Leukemia, Jayanth Kumar Palanichamy AIIMS-THSTI Collaborative Research Grant, 2 years, 2019-2021, Rs 20 lakhs
35. Role of hyperglycemia on macrophage effector function in pathophysiology of pulmonary tuberculosis, Archana Singh, SERB DST, 3 years, 2018-2021, Rs 49 lakhs
36. Role of IGF2BP1, an RNA binding protein in lymphomagenesis, Jayanth Kumar Palanichamy, DBT-Wellcome Trust India Alliance Early Career Fellowship for Clinicians and Public Health Researchers, 5 years, 2016-2021, Rs 187 lakhs
37. Role of macrophages in regulation of bone and blood forming stem and progenitor cell migration and development, Pramod Kumar Gautam, DST, 5 years, 2017-2022, Rs 35 lakhs
38. Role of PA Qosome/R2TP complex in the functional assembly of wild type and mutant p53, Riyaz Ahmad Mir, AIIMS, 2 years, 2019–2021, Rs 10 lakhs
39. Signalling interaction between FAT1 and p53 under hypoxia: Their influence on tumor phenotype and identification of novel molecular targets in glioma Kunzang Chosdol, DBT, 3 years, 2016-2020, Rs 55.52 lakhs
40. Study of effect of Hyperglycemia on phenotypic and functional alteration in differentiated macrophages from THP1 cell line and monocytes from pulmonary tuberculosis patients, Archana Singh, ICMR, 3 years, 2019-2022, Rs 30 lakhs
41. Study of expression of human beta defension 2 and cathelicidin and correlation with their gene polymorphism in pulmonary tuberculosis, Archana Singh: Mentor, AIIMS UG research project, 1 year, 2019-20, Rs 2 lakhs
42. Study of *Mycobacterium indicus pranii* and Human beta defensin-2 as adjunct and chemo-immunotherapy against *Mycobacterium tuberculosis* in vitro, Archana Singh, IMRG, 2 years, 2019-2021, Rs 10 lakhs
43. Study of Vascular Endothelial Growth Factor (VEGF) and its Isoforms in obesity associated adipose tissue dysfunctions, Rakhee Yadav, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
44. The role of FAT1 regulated miRNAs in glioblastoma (GBM) aggressiveness: Identification of potential miRNA(s) as clinical marker(s) in GBM patients, Kunzang Chosdol, SERB-DST, 3 years, 2019-2022, Rs 42.33 lakhs
45. To emphasis the role of macrophage phenotype on mesenchymal stem cell in breast cancer, Pramod Kumar Gautam, IMRG, AIIMS, New Delhi, 2 years, 2020-2022, Rs 10 lakhs
46. To explore the potential of 3D Trophoblast organoids as an ex-vivo model to study altered feto-maternal crosstalk and trophoblast differentiation program in placental insufficiency (Preterm birth and Preeclampsia), Subhradip Karmakar, ICMR, 3 years, 2021-2024, Rs 60 lakhs
47. To study the functional role of NFkB on FAT1 gene expression in Glioma Kunzang Chosdol, ICMR, 3 years, 2017-2020, Rs 33.33 lakhs
48. Tumor dynamics and immune cell interactions in anaplastic thyroid carcinoma, Riyaz Ahmad Mir, ICMR, 3 years, 2021–2024, Rs 30 lakhs
49. Unveiling the therapeutic potential of a Unani herbal formulation in hematological malignancy, Alpana Sharma, AYUSH, 3 years, 2017-2020, Rs 62.12 lakhs

### **Completed**

1. A study of immune pathways in the pathogenesis of chronic pancreatitis, Kalpana Luthra, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
2. Assessment of anticancer effect of Triplex Forming Oligonucleotides (TFOs) on the expression of HMGB1 in Hepatoma using animal model system, MR Rajeswari, DST, 3 years, 2017-2020, Rs 64.14 lakhs



3. Evaluation of l-arginine levels in correlation with iNOS expression and NO levels in pulmonary tuberculosis and their household contacts in comparison with healthy controls, Archana Singh, TB Association of India (TBAI) (short grant), 6 months, 2019-2020, Rs 25,000
4. Investigating the Association of Plasmodium Purine Salvage Pathway Enzymes and Metabolites with Severe Malaria Outcomes, Pragyan Acharya, Science and Engineering Research Board, Govt. of India, 3 years, 2017-2020, Rs 49 lakhs
5. Measuring Metabolite Mediated Organ Cross-Talk in Acute-on-Chronic Liver Failure, Pragyan Acharya, AIIMS New Delhi, Intramural Grant, 2 years, 2016-2020, Rs 10 lakhs
6. Metabolite mediated intracellular signaling in Acute-on-chronic liver failure, Pragyan Acharya, AIIMS New Delhi, Intramural Grant, 2 years, 2018-2020, Rs 10 lakhs
7. Regulation of TET2 protein by Erythropoietin (EPO) during erythroid differentiation in humans and to investigate its role in acute myeloid leukemia(AML), Subhradip Karmakar, SERB, 3 years, 2017-2020, Rs 45 lakhs
8. The modulation of insulin resistance and HDL quality by adipose tissue ABCA1 and metabolic status, Archana Singh, SERB, 3 years, 2017-2021, Rs 40 lakhs
9. To study the role of  $\beta$ -defensin on stem cells, cancer stem cells remodeling and its associated microenvironments, Pramod Kumar Gautam, IMRG, New Delhi, 2 years, 2018-2020, Rs 10 lakhs

## Departmental projects

### Ongoing

1. A longitudinal study of the effect of early initiation of ART on the innate immune responses in HIV-1 infected children
2. A study of immune responses in the pathophysiology of human chronic pancreatitis
3. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer
4. Characterization of innate immune responses in ACLF
5. Comparative analysis between different stage Cancer patients to discover Novel Blood – based biomarkers for detection of early stage breast cancer- A pilot study
6. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics
7. Deciphering the links between adipocyte size, cholesterol efflux and insulin resistance in visceral and subcutaneous adipocytes from an obese population group
8. Detection of prostate cancer biomarker using sensitive and rapid lateral flow device with diagnostic and prognostic significance
9. Effect of bioconjugated chemotherapeutic molecules on stem cell, cancer stem cells and their associated microenvironment
10. Engineering of an HIV-1 native like trimeric envelope glycoprotein construct towards development of a clade C based immunogen
11. Exploring a unified pathway for the anti-atherogenic effects of adiponectin, sphingosine 1-phosphate (S1P) and high density lipoprotein (HDL) on endothelial cells
12. FAT1 and *p53* on chemo-sensitivity of Glioma
13. FAT1 protein: Its processing and cellular function in glioma cells
14. Functional Characterization, Expression, and Clinical Significance of Cancer-Testis/ Germline Antigen POTE in Ovarian Cancer
15. Functional interaction of FAT1 and miRNA in glioma
16. Generation and characterization of lineage based envelope trimers from HIV-1C infected paediatrics neutralizers
17. Generation and characterization of paediatrics HIV-1 clade C envelope trimers towards immunogen design
18. Generation and characterization of pseudoviruses from children with perinatally acquired HIV-1 infection
19. Hypoxia and response to chemotherapy: A study in glial tumor cell lines
20. Identification of therapeutic combinations of small molecule modulators of TGF-beta and GPCR
21. Immunotherapeutic Potential of novel Prostate, Placenta, Ovary, Testis – Expressed Antigen in Ovarian Cancer.
22. Investigating the role of RNA methylation and IGF2BP expression in B-cell Acute Lymphoblastic Leukemia
23. Pathways in pre-clinical laboratory models of liver fibrosis
24. PhD Thesis: Influence of different grades of hyperglycemia on innate immune response in pathophysiology of active tuberculosis

25. PhD Thesis: Role of hyperglycemia on macrophage effector function in pulmonary tuberculosis
26. Role of 3D Genome Architecture as Epigenetic Regulator of Pericentromeric localized Cancer-Testis/Germline Antigen POTE in Cancer
27. Role of CO Signaling on trophoblast invasion in humans
28. Role of E7 in hijacking the function of the R2TP complex
29. Role of gamma delta T cells and scavenger receptors in vitiligo
30. Role of Human Heterogeneous Nuclear Ribonucleoprotein D (hnRNP D) in Oral Cancer
31. Role of IGF2BP1 in of ETV6-RUNX1 positive B cell Acute Lymphoblastic Leukemia
32. Role of Macrophages phenotype in the regulation of mesenchymal stem cell migration and development in breast cancer
33. Role of memory T cells in renal cell carcinoma
34. Role of Negative Regulators of EGFR in Malignant Transformation of Oral Dysplasia
35. Role of PIH1D1 complex of R2TP complex regulating cell cycle
36. Role of PPAR alpha in trophoblast invasion
37. Role of Prothymosin-  $\alpha$  in Glial Tumorigenesis
38. Role of RUVBL1 component of R2TP complex in DLBCL
39. Role of TAMs in autophagy and related molecules in Bladder Cancer
40. Study of B cell subsets and their immune regulatory functions in urothelial carcinoma of bladder
41. Study of ECM remodeling in adipose tissue dysfunctions in obesity
42. Study of innate lymphoid cells in the immunopathogenesis of Pemphigus vulgaris
43. Study of NK cells in the pathogenesis of Vitiligo
44. Study on mitochondrial metabolic reprogramming in pediatric acute lymphoblastic leukemia (ALL).
45. The synergism of RNA binding proteins, IGF2BP1/3 and the RNA methyltransferase, METTL14 in leukemogenesis
46. The synergism of RNA binding proteins, IGF2BP1/3 and the RNA methyltransferase, METTL3 in leukemogenesis
47. To study the immunomodulatory effect of tumor derived exosomes on gamma delta cells

### ***Completed***

1. A pilot study to analyze serum levels and intra-tumor expression of cancer-testis antigen POTE as a new biomarker for ovarian cancer. Extramural Grant: DHR- ICMR-MOHFW Genome-Wide DNA Methylation & Genomic Instability Profiling and Evaluating Its Potential as a Biomarker and Immunotherapeutic Target for Ovarian Cancer. DBT-Ramalinga-swami Award; 32.5 lakhs; (Five Years)
2. Analysis of cell-free nucleic acids in serum of patients with Acute-on-chronic liver failure
3. Comparative TNF alpha Profiling in P. Vivax Infected
4. Differential gene expression in pediatric acute lymphoblastic leukemia (ALL) in high and low mitochondrial DNA copy number groups
5. Estimate the Serum Levels of Cancer-Testis Antigen POTE as a Biomarker in Epithelial Ovarian Cancer. AIIMS-IMRG Award; 10 lakhs
6. Exploring the intracellular signalling pathway of sphingosine 1-phosphate receptor 1 after activation by high density lipoprotein (HDL) & albumin bound sphingosine 1 -phosphate
7. Generation and characterization of HIV-1 C chimeric envelopes towards identification of neutralizing determinants for future immunogen design
8. Molecular Signature of Glioma in the context of WHO 2016 classification of Glioma
9. Proteomics of Small Intestinal Biopsies in Celiac Disease
10. Regulation of FAT1 Gene Expression in Gliomas
11. Regulation of PARP-1 Expression by hnRNP D in Oral Cancer
12. Role of gamma delta T cells in Pemphigus vulgaris
13. Screening of a scFv phage library and selection of SARS-COV-2 spike protein binding clones
14. Severe and Mild Malaria Patients
15. Signaling interactions between FAT1, p53 and HIF1a in glioma
16. To study the gene expression in GBM cell lines under different degree of hypoxia and the role of p53 in HIF1 regulation under severe hypoxic condition

17. To study the role of B cells on macrophage polarization and their effector functions in immunopathogenesis of pulmonary tuberculosis

## **Collaborative projects**

### **Ongoing**

1. A novel therapeutic approach of anti-B7H4 therapy in Urinary Bladder Cancer, Urology
2. A randomised double blind placebo controlled pilot study evaluating the effect of topical urea as pre-treatment for preventing hand foot skin reaction in cancer patients on sunitinib therapy, Pharmacology
3. A study of epigenetics of Breast cancer by evaluation of tissue site-specific Promoter DNA methylation profiles in Breast Cancer, Surgery
4. A study on hydrogen sulphide mediated transcriptional modulation using trophoblast cells and their association in preeclampsia, Anatomy
5. Anemia Research Consortium as part of National Centre of Excellence and Advanced Research on Anemia (NCEAR-A), Community medicine
6. Artificial Intelligence in oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for cancer patient, Biochemistry
7. Assessment of single versus subsequent microosteoperforation stimulated IL-1beta levels during orthodontic tooth movement- a pilot study, Dental Surgery
8. Biomarker discovery in Celiac Disease, Gastroenterology
9. CARE in Pancreatic Diseases, Gastroenterology and Human Nutrition
10. Comparative analysis between different stage Cancer patients to discover Novel Blood-based biomarkers for detection of early stage breast cancer- A pilot study, Biochemistry
11. Cytotoxicity of intracanal medicaments used for root canal disinfection and their effect on proliferation and differentiation potentials of Stem Cells from Apical Papilla, CDER
12. Detection of prostate cancer biomarker using sensitive and rapid lateral flow device with diagnostic and prognostic significance, Biochemistry
13. Development of a novel cancer immunotherapeutic agent by integrating tumor antigen TRP-2 with Mycobacterium indicus pranii and analysis of its antitumor efficacy and immune-mechanisms using a mouse model. IMRG Award; 10 lakhs; 2019-2021(Two Years), IRCH
14. Development of single-cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on head and neck cancer School of Life Science, JNU, New Delhi
15. Effect of bioconjugated chemotherapeutic molecules on stem cell, cancer stem cells and their associated microenvironment, Biochemistry
16. Effect of vitamin D supplementation on seizure frequency in persons with drug resistant epilepsy and its correlation with biomarkers, Pharmacology
17. Efficacy of Energy Dense Nutritional Supplement as an adjunct to standard DOTS treatment in improving the treatment outcomes in TB patients, Pulmonary Medicine and CCM
18. Epigenetic regulation of pro-inflammatory and anti-inflammatory cytokine gene in post-traumatic sepsis and septic shock- defined by sepsis-3 classification A exploratory study in major trauma patients, JPN Apex Trauma Center
19. Evaluation of RANKL in GCF and rate of tooth movement during canine retraction assisted with low level laser therapy- a Randomised controlled trial, Dental Surgery
20. Expression of Reg-4 and MUC-4 in patients with carcinoma of pancreas, Gastroenterology
21. Extracellular Matrix Remodelling in Obesity Induced Adipose Tissue Dysfunctions and Insulin Resistance, Biochemistry
22. Gene expression, activation of signaling pathway and its correlation with clinical outcome among Trauma hemorrhagic Shock. JPN Apex Trauma
23. Generation and characterization of therapeutic BCMA (B cell maturation antigen) specific antibodies in multiple myeloma (MM), Medical oncology
24. Identification of factors predictive for weight loss after Bariatric Surgery: Building a Model for improving outcomes and maintaining weight loss, Surgical Disciplines
25. Identification of novel molecular subtypes of prostate cancer as potential therapeutic targets for immunotherapy”, Pathology
26. Identification of Potential Molecular markers (PRL3 phosphatase, CAV2, LAMA4 and GRP78) in Renal Cell Carcinoma (RCC): Predicting tumour behaviour, Urology

27. Influence of different grades of hyperglycemia on innate immune response in pathophysiology of active tuberculosis, Biochemistry
28. Interactome analysis of COVID-19 spike protein C-terminus; identification of potential druggable target for virus entry, Biochemistry
29. miRNA as biomarker in chronic pancreatitis patients who are at high risk for developing pancreatic cancer, Gastroenterology
30. Molecular Characterization of Endometrial Cancer and its correlation with clinicopathological Features, Pathology
31. Molecular Characterization of malignant lacrimal gland tumours, Dr RP Centre
32. Molecular characterization of NFkB pathway in uveal melanoma, Dr RP Centre
33. Nutritional status of pregnant women as assessed by nutrient intake, anthropometry and selected serum biomarkers in an urban slum of delhi-A community based prospective study, Community medicine
34. Prospective non-randomized controlled trial to compare the efficacy of subcutaneous etanercept versus oral methotrexate in moderate to severe chronic plaque psoriasis and to correlate response with Th1, Th2, Th17 and Treg cell patterns. Dermatology and Venereology
35. Prospective Study to Evaluate the Trend of Serum Procalcitonin Levels in Surgical Neonates and Infants and its Correlation with Events during the Post-Operative Period, Biochemistry
36. Role of cytokines IL17 and IL 22 in polytrauma patients with ventilator-associated pneumonia admitted in Trauma ICU, JPN Apex Trauma Center
37. Role of Epigenetics in Female Genital Tuberculosis, Obstetrics & Gynecology
38. Role of hyperglycemia on macrophage effector function in pulmonary tuberculosis, Biochemistry
39. Role of Macrophages phenotype in the regulation of mesenchymal stem cell migration and development in breast cancer, Biochemistry
40. Role of miRNA mediated modulation of signal transduction in pancreatic cancer, Gastroenterology
41. Role of mitochondrial heterogeneity in the progression and prognosis of Acute Myeloid Leukemia (AML), IRCH
42. Role of Serum CA-125 Level in Diagnosis and Monitoring of Treatment Response in Pulmonary and Extra-pulmonary Tuberculosis, Medicine
43. Screening of a scFv library and selection of SARS-CoV-2 spike protein binding clones, Biotechnology
44. Serum visfatin and adiponectin levels in patients with carcinoma endometrium, Obstetrics and Gynecology
45. Study of effect of Hyperglycemia on phenotypic and functional alteration in differentiated macrophages from THP1 cell line and monocytes from pulmonary tuberculosis patients, Biochemistry
46. Study of osteogenic humoral factors on fracture healing in patients with head injury: decoding the mystery, Orthopedics
47. Study of Vascular Endothelial Growth Factor (VEGF) and its Isoforms in Obesity associated Adipose Tissue dysfunctions, Biochemistry
48. The detection of current and persistent oral HPV infection using non-invasive method in Oral Potentially Malignant Disorders with their clinical and molecular characteristics, Centre for Dental Education & Research
49. The prognostic role of circulating tumor cells (CTC) and CXCR1 expression in patients with metastatic clear cell RCC, Urology
50. To determine. the concentration of Betel nut alkaloids and Catechin in current and past betel nut users and their association with pro- oncogenic cytokines and oral potentially malignant disorders, Centre for Dental Education & Research
51. To evaluate the role of R2TP complex as a novel regulator of PI3K/Akt/Mtor and AR signalling pathway in prostate cancer, Pathology
52. To evaluate the role of tumor markers CA-242, CEA and CA 19-9 in diagnosis and prognostication of carcinoma gall bladder, GI Surgery
53. To study the influence of CYP2C19 polymorphism on bortezomib blood concentration and clinical response in myeloma patients, Pharmacology
54. To study the influence of Cyp2C19 polymorphism on bortezomid in blood conc& clinical response in multiple myeloma patients, Pharmacology
55. To study the pattern of FOXP3, OX40, PD1 and TIM-3 among renal allograft patients and its correlation with risk of kidney injury”, Surgical Disciplines
56. To study the sequential changes in maternal CRH level during the course of pregnancy and correlate with outcome its role as an endocrine mediator of parturition, Obstetrics and Gynecology
57. Urinary novel microRNAs as a biomarker for prediction of acute kidney injury in sepsis, Anesthesia

### Completed

1. A Prospective, multicentric, Randomized, Double Blind, Parallel, Phase III Clinical study to Assess efficacy of PMZ-1620 along with standard treatment in patients of Acute Ischemic Stroke, Neurology
2. Assessment of single versus subsequent microosteoperforation stimulated IL-1beta levels during orthodontic tooth movement- a pilot study, Dental Surgery
3. Effect of benidipine alone and in combination with bosentan and sildenafil in monocrotaline induced pulmonary hypertension in rats, Pharmacology EHPVO, Paediatric Surgery
4. Estimation of novel Proteins among Older Subjects as biomarker for cognitive impairment, Geriatric Medicine
5. Evaluation of RANKL in GCF and rate of tooth movement during canine retraction assisted with low level laser therapy- a Randomised controlled trial, Dental Surgery
6. Evaluation of serum otolin-1 as a biomarker and significance of serum vitamin-d levels in benign paroxysmal positional vertigo patients, ENT
7. Exploring the phenotype and functional role of Natural Killer cells in immunopathogenesis of vitiligo, Biochemistry
8. Impact of Yoga and Meditation on Epigenetic Profile in Rheumatoid Arthritis”, Anatomy
9. IMRG: Role of Vascular Endothelial Growth Factor–in management of Recurrent Respiratory Papillomatosis, Otorhinology (ENT)
10. Interleukin-1 $\beta$  levels around Orthodontic Mini-Implants during Direct loading-A single-Centre, Split Mouth, Parallel group Prospective Randomized Controlled Trial, Orthodontics Centre For Dental Education & Research
11. MCh Thesis: Profile of serum hepatotrophic factors, serum ammonia levels and Quality of life in patients of
12. One carbon metabolism and cognitive impairment in older Indians, Geriatric Medicine
13. Role of cancer testis antigen POTEE in preoperative diagnosis of epithelial ovarian tumors: a pilot study, Obstetrics & Gynecology
14. Role of PARP1 and  $\gamma$ -Glutamylcysteine Synthetase Inhibitor in Cisplatin Sensitivity & Correlation With DNA Methylation in Ovarian Cancer, IRCH
15. The Role of Leukotriene A<sub>4</sub> hydrolase gene Polymorphism and Clinical outcome correlate in Corticosteroids treated Tubercular Meningitis Patients, Neurology
16. To evaluate the effect of intralipid Supplementation on implantation rate in Women with two or more failed in vitro Fertilization with elevated natural killer Cell levels– a pilot randomized controlled Trial, Obstetrics & Gynecology
17. To study the correlation between candida and proinflammatory cytokines and chemokines in Oral Leukoplakia with antifungal therapy, Centre for Dental Education & Research
18. To study the role of B cells on macrophage polarization and their effector functions in immunopathogenesis of pulmonary tuberculosis, Biochemistry

### PUBLICATIONS

Journals: 65

Abstracts: 5

### PATIENT CARE

#### Clinical Chemistry (Tumor Markers)

S. No.	Test Name	No. of Tests
1.	CEA	226
2.	CA 19.9	206
3.	Total PSA	332
4.	CA 125	70
5.	$\beta$ - HCG	56
6.	AFP	51
TOTAL TESTS		941



## Porphyria Tests

S. No.	Test Name	No. of Tests
1.	Plasma Porphyrin Screening	28
2.	Urine Porphobilinogen (Watson Schwartz Test)	25
3.	Urine Total Porphyrin/Creatinine Ratio (Spectro-Photometry)	25
TOTAL TESTS		78

### Quality control:

Apart from routine internal quality assurance scheme, Successful monthly participation in External quality assurance scheme (EQUAS) for last one year to deliver quality reports. Department has started porphyria tests and receiving samples from different depts. of the Institute.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Subrata Sinha** was continuing as Vice President since 2019 of the Indian National Science Academy as well as Convenor of its Delhi Chapter; Continuing as fellow of all National Academy of Sciences (NASI), Indian Academy of Sciences (IASc), the National Academy of Medical Sciences (NAMS); am currently on committee to scrutinize fellows for the NAMS and the National Academy of Sciences. I am also a fellow of the Indian Academy of Neurosciences. At INSA I head a committee for increasing the public outreach for COVID-19 related information, advocacy and guidance; Member of the policy making group for the National Biotechnology Policy constituted by the DBT; Continuing as Chairman of the Biology Sciences Award Section and member of the Core Committee of the Swarnajayanti Fellowships, DST; Chairman: BRITE Awards Selection Committee of the DBT—to select for prestigious fellowships like the National Biosciences Award, M K Bhan Award, Women Scientists Award etc; Institute Body, Institutional Bodies: Member of Governing Body, Standing Selection committee and Academic Committee JIPMER Pondicherry (2019); Society, Institute of Life Sciences, Bhubaneswar; Governing Body, Indian Association of Cultivation of Science (2019); Institute Body, Governing Body, Standing Selection committee and Academic Committee JIPMER Pondicherry (2019); Society, Institute of Life Sciences, Bhubaneswar; Governing Body, Indian Association of Cultivation of Science (2019); Scientific Advisory Committees (SACs): Scientific Advisory Committee (SAC) of Institute of Pathology, ICMR (2008-currently Chairman); Research Council (RC) Centre for Cellular and Molecular Biology, Hyderabad (2017-2020); RC, Indian Institute of Chemical Biology, Kolkata (2014-2016; 2017-20); SAC - Rajiv Gandhi Centre of Biotechnology (2008–2020); SAC–National Institute of Biomedical Genomics (2018); SAC-THSTI 2018); SAC- Institute of Life Sciences, Bhubaneswar (2017); Chairing / Member of a number of committees to review projects Committees of Scientific Ministries and Departments– Department of Science and Technology (DST): Chairman, Cognitive Science Research Initiative (2014–2020); Chairman, Science and Technology of Yoga and Meditation (2015–2020); Member PRC Medical Sciences (SERB) (2018-2020) Indian Council of Medical Research (ICMR); Chairman, PRC for Biochemistry, Immunology and Allergy (2012-continuing); Member, PRC for Translational Neurosciences 2014-continuing); Member, PRC for Cell and Molecular Biology (2013-continuing); Member, National Committee of Stem Cell Research and Therapy (2017–continuing); Member, PRC Nanotechnology (2017–continuing); Member NAC SCRT National Apex Committee, Stem Cell Research and Therapy (2018); Chairman– GTAC Gene Therapy Advisory Committee (2018)–I head the committee to formulate the National Gene Therapy Guidelines that were released under my chairmanship; A Member of the ICMR AIIMS mentoring Committee that has been overseeing the massive increase in molecular testing for COVID-19 during the initial period of the pandemic.

**Professor SS Chauhan** delivered Dr Khanolkar Oration of National Academy of Medical Sciences in 60th NAMSCON held online on 23 December 2020. He is National Coordinator of Biochemistry for National Board of Examinations, New Delhi. Professor Chauhan is Chairman of AIIMS Bio-safety Committee, Animal Ethics Committee and Ph.D. Grievance Committee. He is also Professor In-Charge of Institute's Small Animal Facility. He is member of SERB Young Scientist–Life Sciences Expert Committee of DST. He also served as expert for evaluation of intramural research grants at AIIMS, Jodhpur and selection of faculty at AIIMS Jodhpur, AIIMS Patna, AIIMS, PGIMER Chandigarh, Institute of Liver and Biliary Sciences, Delhi. He served as subject expert for selection of DBT-RA, CSIR-RA and ICMR post-doctoral fellowship. Considering his experience in the field of Medical education he was also appointed as member of UG expert committee by Board of Governors in Suppression of Medical Council of India. He continues to be the member of Library Committee, Biotechnology Teaching Advisory Committee, AIIMS, Bio-Safety committee, VP Chest Institute, University of Delhi, and DBT-nominee for Bio-safety committee of Institute of Genomics and Integrative Biology, Mall Road, Delhi, member, Board of Studies of Aligarh Muslim University, Aligarh and Central university of Haryana, Mahendergarh, and Course Curriculum Committee of King George Medical University Lucknow. Prof. Chauhan is on the Editorial Board of Research and Reports in Biochemistry and Indian Journal of Clinical Biochemistry as well as reviewer for various national and international scientific journals. He is life member of Society of Biological Chemists (India), Association of Clinical Biochemists of India, Indian Association for Cancer Research and Indian Academy of Biomedical Sciences.

**Professor MR Rajeswari** was President of “DNA Society of India”; Advisory Board member- Rare Disease society of India and Research board Member: University of Mizoram, Aizawal.

**Professor Kalpana Luthra** received AIIMS Excellence Research Award 2019 in Basic Research (1st Prize) in 2020.

Nitesh Mishra (Ph.D Student) received EMBO Short-term Fellowship for carrying out the research work titled, 'Exploration of the molecular architecture of glycan shield on clade C native-like SOSIP trimer to guide HIV-1 immunogen design,' in the lab of Dr. Max Crispin at University of Southampton, UK. (4 February 2021 to 3 May 2021); Life Member of ACBI, IIS, Antiviral Research Society, IABS; Executive Committee Member of the Indian Immunology Society; Chairperson for Institutional Ethics Committee at University School of Biotechnology Guru Gobind Singh Indraprastha University w.e.f 23 December 2020; Nominated as an external member of the Academic Committee at THSTI, Faridabad, for 2 years w.e.f 10 August 2019; Member of Scientific Advisory Group for Inter-Ministerial steering committee for SARS-CoV-2 genomics consortium (INSACOG); Member of the Advisory and monitoring committee, ICMR, for IP consortium under translational Immunological Approach to COVID-19, July 2020; Member of committee to evaluate BIRAC - COVID LOIs, June 2020 and review committee to review projects submitted under DBT COVID-19 ARP Therapeutics/Vaccines/Repurposing, April 2020; Member of DBT SAG committee for COVID-19 consortium & evaluates proposal under Vaccine Therapeutic Diagnostics, 20-21 November 2020; Member of a COVID-19 Project Review Committee (CPRC) to review various COVID-19 related projects at THSTI, April 2020; Member of DBT-BIRAC Advisory Committee for evaluation of proposals on Snakebite Envenoming; Member of Expert committee to review project proposals presented to Biotechnology Industry Research Assistance (BIRAC) under the National Biopharma Mission Program; Member of PRC of allergy immunology and Human Genetics, ICMR; Member of Expert Group review committee of ICMR to review proposals under Cell and Molecular Biology, Genomics and Stem Cell Research; Reviewer of manuscripts submitted to international journals: Frontiers in Immunology, Journal of Diabetes; Therapeutic Advances in Vaccines, National Journal: NMJI, Msphere; DBT Peer reviewer to review joint applications submitted under the UK research and Innovation (UKRI) for UK-India COVID-19 partnership initiative, December 2020; Member of Screening cum selection committee for considering promotion cases of Faculty of VPCI (University of Delhi) on 9 December 2020; External Expert member of screening committee for promotion under DCAP-2008 (Dynamic Assured Career Progression) for UCMS 28 November 2020 and 10 December 2020; Member of TEC for HRD scheme for health research (DHR) 8 December 2020; Peer reviewer of an International Training Fellowship project submitted to Wellcome Trust, September 2020.

**Professor Alpana Sharma** received Fellowship Awarded of National Academy of Medical Sciences, New Delhi for outstanding contributions in the field of Biochemistry and Biomedical Research; Expert Selection Committee for faculty posts at Kashmir University, Kashmir, KGMU, Lucknow, AIIMS Bhubaneswar and Superspeciality Children Hospitals at Noida; Dr Nidhi Gupta, PhD student awarded Dr Arun Fotedar Memorial Aiimsonian award for best paper of PhD Thesis 2020; Active member of American Association for Cancer Research, USA and Int Gyne Cancer Society, USA; External examiner for PhD thesis and viva conduction at PGIMER, Chandigarh, JN Med College, Aligarh Muslim Univ, and JIPMER, Puducherry; External examiner for MD at AIIMS, Rishikesh, MD Biochem at VMMC, Safdarjung Hospitals, New Delhi and Examiner for MSc AIIMS, New Delhi; Reviewed Adhoc research proposals of DBT, AYUSH and UPCST submitted for financial grant; Member, Annual Report Committee, AIIMS and Teaching Schedule Committee for UG at AIIMS.

**Professor Kunzang Chosdol** Honoured with the Prestigious LG Trophy and a certificate on 15 August 2020, during my official visit to Leh, in recognition of the Exemplary Contribution 'In Fight Against COVID-19' by Shri Radha Krishna Mathur, Hon'ble Lieutenant Governor of Ladakh for setting up COVID-19 diagnostic RT-PCR laboratory at Leh, UT Ladakh.

**Dr Sudip Sen** was PhD student (Devanjan Dey) received the ISSCR Zhongmei Chen Yong travel award for his abstract at the ISSCR 2020 Annual meeting (Virtual), 23 -27 June 2020; PhD student (Dr Janvie Manhas) was awarded the "Women Overseas Student Internship Award in STEMM- WISTEMM" by the Indo-U.S. Science and Technology Forum (IUSSTF). Janvie is visiting the 'Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research' at the University of Southern California (USC), Los Angeles, USA, to train under Prof Leonardo Morsut in the Dept. of Stem Cell Biology and Regenerative Medicine, Keck School of Medicine, USC, for 6 months (January to June, 2020). She is working on developing synthetic biology tools to target cancer stem cells in solid tumors. The fellowship consists of a grant-in-aid budget of USD 19,000.

**Dr Archana Singh** awarded by AIIMS Excellence Research Award 2019 in 2020 for the research paper on Association of Fok I VDR polymorphism with vitamin D and its associated molecules in pulmonary tuberculosis patients and their household contacts.

**Dr Jayanth Kumar** awarded by Global Health Travel Award (September 2020): Keystone Conference 'RNA Editing and Modifications: From Biology to Therapy'.

**Dr Ashok Sharma** was invited as an Expert member for Panel Session titled, 'The future of Soft Computing in Biomedical Applications-the promise, the hype and the reality!!' in the 10th International Conference on Soft Computing for Problem Solving (SocProS 2020) from 18-20 December 2020, organized by **Liverpool Hope University Liverpool UK** and co-organizing at IIT Indore along with the Soft Computing Research Society (SCRS), New Delhi, India; Invited as a Chairperson for the session "Cutting Edge Genomic Technology" in "Indian Cancer Genetics and Genomics Conference, 2020" held from 20-21 November 2020 organized by Department of Medical Oncology, AIIMS, and The Genomic Education Foundation (UK);

Member of the Editorial Board of Frontiers in Oncology, Cancer science and Cell Biology International Journal of Integrative Sciences, Innovation and Technology (IJIT); Guest Editor for Special Issue on Immunoepigenetics: A Future Sentinel for Tumor Directed Therapies, Journal of Oncology, Hindawi; Reviewer for: PLOS ONE, PLOS Genetics, PLOS Biology, BMC Cancer, Scientific Report, Frontiers in Neurology; Carcinogenesis- Oxford Journals, Laboratory Investigation– Nature, etc; Advisor for the Innovation and Technology Translation division of ICMR. Helped to establish the following technologies of MSMEs currently in the market, undergoing international export also. Some of such Translated technologies after third-party validation for quality and sensitivity 1. Indigenous glucometer (first Indian- validated glucose testing device (Sucheck)- Validated in my research lab 2. HbA1C testing device (low cost)- Validated in my research lab 3. Lab on bike-Labike (low-cost mobile biomedical lab); Research work in News and Media: 1. Common cold virus saved lives in India from COVID-19 published in Frontiers in Immunology is covered by national leading News Paper and News Channel “Times of India, TV9 and RSTV etc; (<http://timesofindia.indiatimes.com/articleshow/81640239>.) 2. Delivered podcast on Epigenetics - changing the destiny written in DNA. Hosts-Nishta Modi and Kanay Mathur Cover art - Priyanka Vinayak Support this podcast: <https://anchor.fm/epigenetics-kr/support> 3. Interview on “How to protect cancer patients with corona Infection” is published in Hindi Newspaper Rashtriya Sahara dated 20 July 2020.

**Dr Pramod Kumar Gautam** was Nodal Officer of the Department of Biochemistry for COVID-19 and infection control officer; Actively involved in departmental purchase, preparation of specification, participating in SPC meetings, and worked as assistant store in charge in the department; PhD Course work In-charge for newly registered PhD student; Invited to jury for “YSC 2020- Current Pandemic & Future Crisis” organized in the science India fest.

## 9.4. Biomedical Engineering

### Professor and Head

Naresh Bhatnagar

### Professor

Harpal Singh

### Associate Professors

Amit Mehndiratta

Sandeep Jha  
Anup Singh

Neetu Singh  
Dinesh Kalyanasundaram

### Assistant Professors

Jayanta Bhattacharyya

Arnab Chanda  
Sachin Kumar B

Deepak Joshi  
Biswarup Mukherjee

### Emeritus Professor

Veena Koul

### Honorary Professor

SK Guha

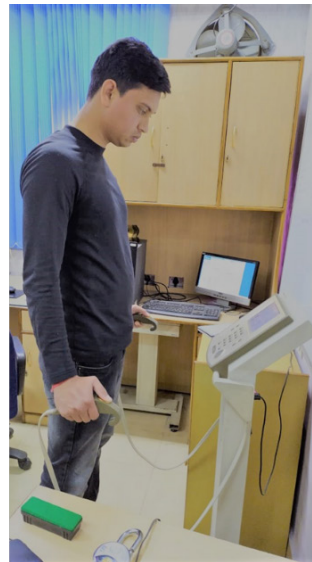
The Department of Biomedical Engineering (also known as CBME, Centre for Biomedical Engineering at IIT Delhi) now has strength of twelve permanent faculties, one emeritus professor and one honorary professor.

### HIGHLIGHTS

The department of biomedical engineering was established in 1971 as a joint venture of AIIMS, New Delhi and Indian Institute of Technology Delhi. The department has applied engineering principles to address medical and biological problems. The department has collaborative projects with major institutes and hospitals in India. The department has its vision of dissemination of knowledge and development of techniques, tools and methods for diagnosis, follow-up of treatment responses, drug delivery and help in disease treatment. The faculty of the department are dedicated towards research in the following priority areas:

- Biomaterials
- Bioinstrumentation
- Biomechanics
- Medical Imaging

In the past one year, a pilot study was conducted for understanding the correlation of facial features and obesity in Indian population in the “**Biomechanics Lab**” at the biomedical engineering department at AIIMS. Several other studies were conducted by the faculties involving healthy and unhealthy participants from different disease groups.



Apart from research, the department is engaged in teaching where PG, UG and Pre-PhD courses relevant to biomedical engineering are offered at IIT Delhi.



## EDUCATION

Fifty four PhD students are currently being supervised by the department's faculty. One PhD student graduated in the past year.

### Departmental Projects

#### *Ongoing*

1. Development of biodegradable polymers
2. Surface modification for better osseointegration of dental implants
3. Microfluidic aptamer based biosensor for detection of myocardial infarction using multiple cardiac biomarkers
4. Imaging in Osteoarthritis
5. Biologically derived nanoparticles for biomedical applications
6. Perfusion MRI
7. Biodegradable polymeric nanoparticles for cancer therapy
8. SWI-MRI
9. Image Processing of knee MRI Images
10. Neuromechanics
11. Development of biodegradable nanoparticles for delivery of anticancer agents
12. Neurorehabilitation
13. Understanding cell-cell and cell material and interaction for tissue engineering application
14. Perfusion Imaging and Image processing
15. Multi parametric prostate imaging
16. Chronic wound healing
17. Development of biodegradable nanoparticles for delivery of anticancer agents
18. Study of surface patterning on various materials for biomechanical applications
19. Tissue engineering to study cancer metastasis
20. Design development and biomechanical evaluation of orthopedic devices
21. Simulation and validation of biomedical models for musculoskeletal disorder
22. Upper Limb Rehabilitation in stroke using functional electrical stimulation
23. Design Synthesis and validation of biotherapeutics for type 2 Diabetes mellitus
24. Cancer immunotherapy Modelling and Mitigation of Unexpected Slips and Falls
25. Multi parametric MRI for improved diagnosis and treatment of intracranial mass lesions
26. Development of antimicrobial polymers for biomedical applications
27. Development of scaffolds for tissue engineering
28. Investigation of surface modification for biomedical and structural application
29. Assistive Technologies in biomedical applications
30. Microfluidic chip development biomedical application
31. Nanodelivery system for cancer therapy
32. Non Invasive biosensors for non-communicable disease
33. Development of Nanoplatfoms for cancer margin clearance
34. Multifunctional Nanoparticle cancer theranostics
35. Development of biopolymer based formulations for pre hospital care under combat operation
36. Design and Development of patient specific implants
37. Neurorehabilitation for spinal cord injury patients
38. Nanoparticle mediated RNAi
39. Electrical detection of pathogens by carbon dots
40. Cancer Imaging
41. Development of high expansion auxetic skin grafts for burn injury mitigation
42. Biodegradable polymeric nanoparticles for cancer therapy
43. MRI Data Analysis of Brain Tumor and Ischemic Stroke patients
44. Sonomyography based control for upper extremity bionic devices



45. Neuromuscular Biosignatures of sensorimotor control in individuals with upper limb amputation
46. Biomechanical Modelling of whole body soft Tissue surrogates
47. Microfluidic Lab On Chip for biomedical applications
48. Medical Resonance imaging for cancer diagnosis and prognosis
49. Design and development of drug eluting implants
50. Quantitative MRI and its ApplicationsGAIT restoration in cerebral Palsy
51. Development of a Biofidelic Footwear Traction Testing device
52. Nano based Platforms for Drug Delivery

### ***Completed***

Intravoxel Incoherent Motion (IVIM) and Multi-parametric MRI Analysis for Chemotherapy Response Evaluation in Bone Tumor

## **RESEARCH**

### **Patents filed: 1**

1. **Arnab Chanda, Ashutosh Tiwari, and Deepak Joshi**, Customizable and flexible forcesensing resistor, Indian Patent Application No: 202011029409, Filed on 10 July 2020

### **Funded Projects**

#### ***Ongoing***

1. Development of methodology for quantitative multi-parametric MRI and evaluating its potential along with Machine Learning in classification of brain tumor and treatment followup, Anup Singh, SERB, DST, Rs 30 lakhs
2. Re-engineering High End Audiometric Devices for Robust and Affordable audiological testing sound4All – phase 2. Dinesh Kalyanasundaram, Indo-German Science and Technology Center, Rs 55 lakhs
3. Artificial skin (Bio-inspired bi-layer polymeric hybrid Scaffold) for burn injuries and trauma care, Veena Koul, IMPRINT India, MHRD and MOH, Rs 220 lakhs
4. MUC1 pulsed DC-derived exosomes for cancer immunotherapy, Jayanta Bhattacharyya, DBT, Rs 63 lakhs

## **PUBLICATIONS**

**Journals: 23      Chapters in Books: 2**

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Neetu Singh** was selected for Janaki Ammal National Women Bio-scientist Award 2020

## **VISITING SCIENTISTS AND INVITED TALKS**

1. **Dr Soutik Betal**, Assistant Professor Department of Electrical Engineering, IIT Delhi, delivered a talk on Magnetoelectric Nanorobot (24 February 2021)

## 9.5. Biophysics

### SERB Distinguished Professor

TP Singh

### Professor and Head

Punit Kaur

### Professors

Savita Yadav

Sujata Sharma

### Additional Professors

G Hariprasad Rao

Sharmishtha Dey

### Associate Professors

Ethayathulla AS

Krishna Kumar Inampudi

Saroj Kumar

### Assistant Professors

Jyotirmoy Banerjee

Pradeep Sharma

### Scientists

Asha Bhushan

S Baskar Singh

Manoj Kumar

Uddipan Das

## HIGHLIGHTS

During the period under report, the department of biophysics had over 34 ongoing research projects funded by extramural grants. Research in the department of biophysics is concerned with determining the molecular basis of biological process, rational structure based drug design and discovering new specific biomarkers. The department provides facilities for data collection on protein and small molecule crystals, medical bioinformatics, protein sequencing and peptide synthesis, proteomics and dynamic light scattering. The department had received a Fund For Improvement of Science and Technology Infrastructure in Higher Educational Institutions (FIST) grant from Department of Science and Technology (DST), Govt. of India, which has been ongoing in the last year. In the past one year, faculty and scientists had 52 research publications in various peer reviewed journals. The department continued providing postgraduate education and short and long term training to MSc, PhD and MD students.

## EDUCATION

### Postgraduate

The faculty and scientists of the Department of Biophysics continued with teaching and guiding students for PhD degree, MSc (Biophysics) and MD (Biophysics). The postgraduate teaching includes theory classes, hands-on practical classes and a dissertation project.

### Short and Long term Training

The Department also imparted long- and short-term training to MSc and MTech students from different institutes and universities.

### Lectures delivered:

**TP Singh: 7**

**Punit Kaur: 1**

**Savita Yadav: 3**

**Sujata Sharma: 1**

**Sharmistha Dey: 3**

**Jyotirmoy Banerjee: 1**

**Manoj Kumar: 1**

### TP Singh

1. Structures of proteins and new drug discovery and entrepreneurship, National Webinar on Scope of Self-Employment and Entrepreneurship in Life Sciences, 3 July 2020, Sagar/Online
2. Current Crisis of how to handle new viral and bacterial infections with quick drug and vaccine development, COVID-19 Disease Control-Opportunities and challenges for Vaccine, Biotherapeutics and Diagnostics, 9 July 2020, Vellore/Online
3. Covid-19: Protein structure and drug discovery, CSIR-Summer Research Training Program – 2020, 20 July 2020, Jorhat/Online

4. Role of innate immune proteins against COVID-19, Workshop on Need of Translational and Applied Bio-Research International Conference on Molecular Medicine, 28 October 2020, Satna/Online
5. Protein structure determination by X-ray Crystallography, 1st Annual Symposium on Single Particle CryoEM and Cellular Tomography, 19 December 2020, Trivandrum/Online
6. Structure determination of proteins and structure based design of ligands, Computer Aided Drug Design and Protein Analysis, 22 February 2021, Varanasi/Online
7. Structural and functional studies of innate immunity proteins, Short Term Course on Recent Advances in Structural Bioinformatics, 27 February 2021, Allahabad/Online

#### **Punit Kaur**

1. Structure-based design of phospholipase A2 inhibitors, Expert Talk Series (2020-21), Panjab University, 26 February 2021, Chandigarh/Online

#### **Savita Yadav**

1. Exploring protein signatures by proteomics, recent advances in structural bioinformatics, 3rd March 2021, Allahabad/Online
2. The novel corona virus disease-2019 (COVID-19): An epidemic to pandemic crisis, ISSRF-2021, 20 February 2021, New Delhi/Online
3. Exploring protein-protein interactions in seminal plasma and their clinical implications, International Colloquium on Regulatory Mechanisms Underlying Behavior, Physiology and Development, 26 February 2021, New Delhi/Online

#### **Sujata Sharma**

1. Covid 19: Questions answered, think tank (Delhi Public School, RK Puram), 12 January 2021, New Delhi/Online

#### **Sharmistha Dey**

1. Development of novel blood-based biomarkers of Alzheimer's disease, Alzheimer's Association International Conference, 27 July 2021, Paris/Online
2. Elevation of serum SIRT2 in Parkinson's disease: Plausible diagnostic protein biomarker and therapeutic target, Indian Peptide Society 2021, 25 March 2021, Bangalore/Online
3. Diagnostic significance of serum p38 Isoforms (p38 $\alpha$ , p38 $\beta$ , p38 $\gamma$ , p38 $\delta$ ) in head and neck squamous cell carcinoma, bioinformatics webinar and workshop, ACTREC, 11 March 2021, Mumbai/Online

#### **Jyotirmoy Banerjee**

1. Differential spontaneous synaptic transmission in resected brain specimens obtained from patients with cortical dysplasia (CD) and non-CD drug resistant epilepsy pathologies., digital abstract presentation at SfN Global Connectome conducted by Society for Neuroscience (SfN), 11 January 2021, Online

#### **Manoj Kumar**

1. Protein-drug interactions, National Workshop with Hands-on Training through virtual platform on bioinformatics and biostatistics: A beginner's guide, (Under the aegis DBT Star College Scheme), 17 January 2021, New Delhi

#### **Oral papers/posters presented: 9**

1. Chowdhury SR, Kumar M, Kaur P, Singh TP, Ethayathulla AS, Structural and biophysical studies on Hsp31, Hsp15, and GrpE from Vibrio cholerae O395, Vigyan Yatra India International Science Festival 2020 (IISF) Organised by DBT-NIPGR, 22-25 December 2020, Online
2. Dey S, Singh AP, Dey AB, Elevation of serum SIRT2 in Parkinson's disease: Plausible diagnostic protein biomarker and therapeutic target, Indian Peptide Society 2021, 25 March 2021, Bangalore/Virtual
3. Dey, S Yadav, Y, Kumari S, Singh A, Tripathi M and Dey A, Development of Novel blood-based biomarkers of Alzheimer's disease, Alzheimer's Association International Conference, 27 July 2021, Paris/Virtual
4. Koley T, Madaan S, Chowdhury SR, Kumar M, Kaur P, Singh TP, Ethayathulla AS, Structural analysis of COVID-19 spike protein in recognising the ACE2 receptor of different mammalian species and its susceptibility to viral infection, Vigyan Yatra India International Science Festival 2020 (IISF), Organised by DBT-NIPGR, 22-25 December 2020, Online
5. Kumar S, Developing an early screening methodology based on non-invasive salivary exosomes, SciX-2020 [organized by Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), and SciX], 12 October – 23 November 2020, Online

6. Rastogi S, Rani K, Kumar S\*, Fluorescence-NTA based salivary exosome quantification: A novel method to monitor the progression of cognitive impairment to Alzheimer's disease, Alzheimer's Association International Conference (AAIC) Neuroscience Next 2020, 9 – 10 November 2020, Online
7. Rastogi S, Rani K, Nikolajeff F, Kumar S, Finding a novel method to understand the role of salivary exosome in progression of cognitive impairment to Alzheimer's disease, Alzheimer's Association International Conference 2020, 27 – 31 July 2020, Online
8. Sharmistha Dey, Diagnostic significance of serum p38 Isoforms (p38 $\alpha$ , p38 $\beta$ , p38 $\gamma$ , p38 $\delta$ ) in Head and Neck Squamous Cell Carcinoma, Bioinformatics Webinar and Workshop, ACTREC, 11 March 2021, Mumbai/Virtual
9. Yadav, M Tajmul, KB Chandra, A Saini, SR Mathur, JB Sharma, S Kumar, Multimerin (MMRN1 ) expression correlates significantly with progression of ovarian cancer, ISSRF-2021, 20 February 2021, New Delhi/online

## RESEARCH

### Funded projects

#### Ongoing

1. AMR-Diag: A Novel Diagnostic Tool for Sequence Based Prediction of Antimicrobial Resistance, Punit Kaur, Indian Council of Medical Research (Indo-Norway), 3 years, 2018-2021, Rs 136 lakhs
2. Characterization of silk fibroin film prepared from oak tasar (*Antheraea proylei*) cocoon for potential biomaterial applications, Punit Kaur, Department of Biotechnology -NER, 3 years, 2018-2021, Rs 29.67 lakhs
3. Comparative proteomics analysis to identify potent biomarkers during the transformation of premalignant oral conditions to malignant oral squamous cell carcinoma, S Baskar Singh, Department of Science and Technology, 3 years, 2019-2021, Rs 43 lakhs
4. Deciphering the role of fibroblast growth factor 8(FGF 8) in the progression of ovarian cancer, Savita Yadav , SERB-POWER Fellowship, 3 years, 2021-2024, Rs 30 lakhs
5. Design and development of novel imaging agents for the earlier diagnosis of Alzheimer's disease, Saroj Kumar, Indian Council of Medical Research, 3 years, 2019-2022, Rs 37 lakhs
6. Design and evaluation of novel peptide inhibitor as an anti-Parkinson's disease agent targeting Sirtuin 2, Sharmistha Dey, Council of Scientific and Industrial Research, 3 years, 2018-2021, Rs 34 lakhs
7. Development of a non-invasive novel method for early detection of cognitive impairment, Saroj Kumar, ICMR Extramural (Ad-hoc), 3 years, 2021-2024, Rs 47 lakhs
8. Development of digital ELISA diagnostics to monitor therapeutic efficacy of pharmacological interventions in dopamine dictated states of Parkinson's disease and Schizophrenia, Hariprasad G, All India Institute of Medical Sciences-IITD, 2 years, 2020-2022, Rs 20 lakhs
9. Development of novel and efficient carbohydrate enzymes for bioenergy and biovalued products, Punit Kaur, Department of Biotechnology-NER, 3 years, 2018-2021, Rs 23.99 lakhs
10. Development of potent inhibitors against drug-resistant EGFR kinase for the treatment of EGFR positive tumors, Krishna K Inampudi, Department of Science and Technology, 3 years, 2020-2023, Rs 40 lakhs
11. Development of potent inhibitors for NSP RNA polymerase and PL protease from novel corona virus for the treatment of COVID-19, Krishna K Inampudi, All India Institute of Medical Sciences (Intramural), 2 years, 2020-2022, Rs 8 lakhs
12. Drug repurposing against SARS-CoV-2 main protease: Structural and functional studies, Pradeep Sharma, All India Institute of Medical Sciences (Intramural), 2 years, 2020-2022, Rs 8 lakhs
13. Effect of Non-Ionizing Electromagnetic Field (EMF) on human health, Savita Yadav, Indian Council of Medical Research, 5 years, 2017-2022, Rs 61 lakhs
14. Effect of plasma jet on tumor tissues resected from patients with tumor linked refractory epilepsy, Jyotirmoy Banerjee, Department of Atomic Energy (DAE), 3 years, 2018-2021, Rs 33 lakhs
15. Elucidating region-specific alterations of glutamatergic excitatory neurotransmission in a rodent pilocarpine model of temporal lobe epilepsy, Jyotirmoy Banerjee, Department of Biotechnology, 3 years, 2018-2021, Rs 61 lakhs
16. Exploring male factors in recurrent pregnancy losses: A genomics and proteomics based approach, Savita Yadav, Indian Council of Medical Research, 3 years, 2019-2022, Rs 49 lakhs
17. Functional characterization of human multimerin 1 (in- vitro and in –vivo) and identification of its inhibitors as potential therapeutic target/s in ovarian cancer, Savita Yadav , SERB, 3 years, 2021-2024, Rs 54 lakhs
18. In silico structural and functional characterization of mycobacterium tuberculosis elongation factors, Prof. Sujata Sharma, Indian Council of Medical Research, 3 years, 2020-2023, Rs 24 lakhs
19. Investigating the role of metabolites and neurotransmitters in abnormal synaptic transmission associated with mesial temporal lobe epilepsy (MTLE) and focal cortical dysplasia (FCD): Possible biomarkers for localization

- of epileptogenic foci, Jyotirmoy Banerjee, Department of Biotechnology, Govt. of India under the project “Centre of Excellence for Epilepsy Research Phase-II”, 3 years, 2018-2021, Rs 168 lakhs
20. Proteomics study on COVID-19 – investigation of disease specific signature proteins, Punit Kaur, Intramural, 1 year, 2020-21, Rs 10 lakhs
  21. Rational structure-based ligand design for developing the novel antibacterial agents against the enzymes of CoA synthetic pathway in drug resistant bacteria, *Acinetobacterbaumannii*, Sujata Sharma, Indian Council of Medical Research, 3 years, 2020-2023, Rs 50 lakhs
  22. Rational structure-based ligand design for developing the novel antibacterial agents against proteins involved in the histidine biosynthesis pathway in *Acinetobacterbaumannii*, Pradeep Sharma, Indian Council of Medical Research, 3 years, 2020-2023, Rs 29.4 lakhs
  23. Role of  $\alpha 7$  and  $\alpha 4\beta 2$  subtypes of nicotinic receptors in abnormal synaptic transmission associated with hippocampal sclerosis, Jyotirmoy Banerjee, All India Institute of Medical Sciences (Intramural), 2 years, 2018-2020, Rs 10 lakhs
  24. Screening of therapeutic p53 activator molecules to restore the function of p53 oligomerization domain mutants in breast cancer, AS Ethayathulla, DHR, 3 years, 2020-2023, Rs 31 lakhs
  25. Structural analysis of P4 nuclease enzyme of *leishmania infantum*: Implications for the design of potent inhibitory molecules and vaccine candidates, Hariprasad G, Indian Council of Medical Research, 3, 2020-2023, Rs 13 lakhs
  26. Structural analysis of RNA polymerase enzyme from SARS-CoV.2: Implications for the design of potent drug molecules and vaccine candidates against COVID19, Hariprasad G, All India Institute of Medical Sciences (Intramural), 2 years, 2020-2022, Rs 8 lakhs
  27. Structural and Biochemical characterization of glyceraldehyde-3-phosphate dehydrogenase (GAPDH) from *A. baumannii* and design of inhibitors, Sujata Sharma, Indian Council of Medical Research, 3 years, 2019-2022, Rs 25 lakhs
  28. Structural and functional studies on trypsin cleaved functional fragments of lactoferrin and their binding with lipopolysaccharide, Sujata Sharma, Indian Council of Medical Research, 3 years, 2019-2022, Rs 60 lakhs
  29. Structure based in silico identification, Chemical Synthesis and Biological Evaluation for inhibitors against DNA Gyrase from *Salmonella Typhi*, Punit Kaur, Indian Council of Medical Research, 3 years, 2019-2022, Rs 56.5 lakhs
  30. Structure and function studies of peptidoglycan recognition proteins from innate immune systems, TPSingh, Department of Science and Technology-SERB, 5 years, 2014-2019, Rs 141 lakhs
  31. Structure based drug-design: In silico screening of inhibitors for cell division protein drug target FtsZ to develop antimicrobial agent against drug resistant *Acinetobacterbaumannii*, AS Ethayathulla, Indian Council of Medical Research, 2 years, 2020-2023, Rs 24 lakhs
  32. Therapeutic intervention of small molecule based novel activator of Sirtuin on rat model of Alzheimer’s disease, Sharmistha Dey, Indian Council of Medical Research, 3 years, 2019-2022, Rs 65 lakhs
  33. To investigate the role of dysfunctional benzodiazepine binding site on GABA<sub>A</sub> receptor in benzodiazepine-resistance associated with pharmaco-resistant epilepsy, Jyotirmoy Banerjee, Office of Principal Scientific Adviser to Govt. of India under the project “Advanced Epilepsy Research: A Multidisciplinary Approach”, 3 years, 2018-2021, Rs 136 lakhs
  34. Understanding the role of neuronal salivary exosomes in Parkinson’s disease, Saroj Kumar, AIIMS Early Career Intramural Research Grant, 2 years, 2020-2022, Rs 10 lakhs

### **Completed**

1. Design and evaluation of novel peptide inhibitor as an anti-Parkinson’s disease agent targeting Sirtuin 2, Sharmistha Dey, Council of Scientific and Industrial Research, 3 years, 2018-2021, Rs 34 lakhs
2. Evaluation of serum sirtuin level and their correlation with  $\alpha$ -tubulins,  $\alpha$ -synuclein oligomers in Parkinson disease, Sharmistha Dey, Department of Biotechnology, 3 years, 2016-2020, Rs 30 lakhs
3. Identification of inhibitors of Malate synthase from *Mycobacterium tuberculosis*, a novel drug target for Latent TB Infection, Manoj Kumar, All India Institute of Medical Sciences (Intramural), 2 years, 2019-2021, Rs 10 lakhs
4. Mechanistic details of 5-LOX inhibitor on activation of PIK3/Akt Signaling pathway in Alzheimer’s disease, Sharmistha Dey, All India Institute of Medical Sciences (Intramural), 2 years, 2017-2020, Rs 10 lakhs
5. PeptidyltRNA hydrolase (PtH): Structure and functional mechanism of PtH with non hydrolysable peptidyltRNA, Krishna K Inampudi, All India Institute of Medical Sciences (Intramural), 2 years, 2017-2020, Rs 9.8 lakhs
6. Proteomics of axillary sentinel lymph node tissues in early breast cancer: Implications for identification of biomarker to guide surgical intervention, Hariprasad G, All India Institute of Medical Sciences (Intramural), 2 years, 2018-2020, Rs 9.8 lakhs
7. Role of  $\alpha 7$  and  $\alpha 4\beta 2$  subtypes of nicotinic receptors in abnormal synaptic transmission associated with hippocampal sclerosis, Jyotirmoy Banerjee, All India Institute of Medical Sciences (Intramural), 2 years, 2018-2020, Rs 10 lakhs



8. Structural Investigation of SugABC transporter from *Mycobacterium tuberculosis*, Uddipan Das, All India Institute of Medical Sciences (Intramural), 2 years, 2019-2021, Rs 10 lakhs
9. Structural and functional characterization of translational rescue system by Peptidyl tRNA hydrolase by forming non-hydrolysable peptidyl tRNA complex to gain insights for drug development against tuberculosis, Krishna K Inampudi, Department of Science and Technology, 4 years, 2017-2021, Rs 4.9 lakhs

## Departmental projects

### Ongoing

1. Analysis of Anti-neurotoxicity of Amyloid Beta (A $\beta$ ) in Alzheimer's disease (AD) pathology targeting Lipoxygenases
2. Atherosclerotic Cardiovascular disease: Unravelling the early biomarkers from biofluidexosomes by iTRAQ based quantitative proteomics
3. Biomarker based understanding of Parkinson's disease pathogenesis by using proteomics and lipidomic profiling of blood, urine and saliva
4. Characterization and sequencing analysis of exosomes miRNA from biofluids of Coronary Artery Disease
5. Deciphering the role of  $\alpha$ 7-nicotinic receptors (nAChRs) in pilocarpine model of temporal lobe epilepsy
6. Design of inhibitors against MurB from S Typhi to develop drugs for MDR pathogens using in silico screening and structure based approach
7. Development of potent inhibitors against drug-resistant EGFR kinase for the treatment of EGFR positive tumors
8. Development of potent inhibitors for NSP RNA polymerase and P1protease from novel corona virus for the treatment of COVID-19
9. Elucidating the role of Semaphorin in epileptogenesis and hyperexcitability associated with temporal lobe epilepsy
10. Identification of DNA Aptamers against human sEGFR to treat lung cancer
11. Investigation on the role of astrocytic gap junctions in the pathogenesis of focal cortical dysplasia
12. Saline and urine derived biomarkers to comprehend Parkinson's disease pathogenesis
13. Structural and biophysical characterization of p73DBD with p53 natural promoter sequence
14. Structural and functional analysis of DNA gyrase from Salmonella Typhi
15. Structural and functional characterization of p53
16. Structural and functional reactivation of p53 mutant using natural compounds in human cancer cell lines harbouring mutation Y220C
17. Structural and functional studies of FtsZ cell division protein as a potential drug target against Salmonella Typhi
18. Structural and functional studies of Mycobacterium Tuberculosis Peptidyl tRNA hydrolase – A Novel drug target of Multidrug Resistance Tuberculosis
19. Structural and functional studies of Mycobacterium Tuberculosis Peptidyl tRNA hydrolase - A novel drug target of Multidrug Resistance Tuberculosis
20. Structure based design of nanobody inhibitors against EGFR: A protein engineering approach to develop novel therapeutics for lung cancer
21. Structure based inhibitor design of antileishmanial compounds using enzymes N-acetyl D-glucosaminylphosphatidyl inositol de-N-acetylase (NAGPIDA)
22. Structure determination of MurE ligase from Salmonella Typhi and structure based ligand design for developing new drugs
23. Study on circulating level of inflammatory proteins, their signalling cascade in metastatic breast cancer and therapeutic implications for the same.
24. Therapeutic intervention of Alzheimer's disease by targeting Sirtuin in in-vivo model
25. Understanding age dependent dysmaturity of cerebral cortex in cortical dysplasia.

### Completed

1. Biophysical investigations of the Trehalosebindingprotein from Mycobacterium tuberculosis
2. Characterization of fibroblasts to understand the possible role in breast cancer progression by FTIR imaging
3. Comparative study of p53 mutant with screened drug and Curcumin
4. Development of early screening technique and understanding of cognitive impairment
5. Identification of DNA Aptamers against human sEGFR to treat lung cancer
6. Peptide inhibitor designing and validation for sEGFR using computational Protein design
7. Structural and biophysical characterization of p73 DBD with p53 natural promoter sequence

8. To correlate the level of Osteocalcin in peri-implant crevicular fluid with crestal bone loss at different time intervals in immediate and delayed loaded dental implants: a randomized controlled pilot study
9. Understanding the role of salivary exosomes in the progression of cognitive impairment to Alzheimer's disease

## **Collaborative projects**

### **Ongoing**

1. Targeting drug resistant tumor harboring mutant EGFRs: A next generation molecular approach for the treatment of Non-Small Cell Lung Cancer Department of Chemistry, IIT Delhi, Department of Pulmonary Medicine and Sleep Disorders, AIIMS, New Delhi
2. A nanomedicine approach against drug-resistant EGFR kinase for the treatment of EGFR positive tumors, Department of Pulmonary Medicine and Sleep Disorders, AIIMS, New Delhi, Department of Chemistry, IIT Delhi, Department of Biochemistry, Microbiology and Immunology, University of Ottawa, Canada
3. Cerebrospinal fluid proteomics analysis to identify biomarkers to correlate with primary CNS vasculitis, Department of Neurology, AIIMS, New Delhi
4. CSF inflammatory markers in the diagnosis of autoimmune encephalitis, Department of Neurology, AIIMS, New Delhi, funded by Intramural Grant, Research Section, AIIMS, New Delhi.
5. Design and development of novel imaging agents for the earlier diagnosis of Alzheimer's disease, IIT BHU
6. Development of early detection technique for Parkinson's disease, Department of Neurology, AIIMS, New Delhi
7. Development of early screening technique and understanding of cognitive impairment, Department of Geriatrics and Neurology, AIIMS, New Delhi
8. Discovery of inhibitors against AChE and BuChE for the treatment of Alzheimer's disease, Indraprastha University
9. Effect of probiotics and repetitive transcranial magnetic stimulation on cognitive and motor function in 6-hydroxy dopamine rat model of Parkinson's disease, Department of Physiology, AIIMS, New Delhi
10. Elucidating the meditation associated epigenetic modulation in persons with temporal and temporal plus epilepsy, Department of Neurology, AIIMS, New Delhi
11. Elucidating the role of protein tyrosine kinase (Pyk2) signaling in the pathophysiology of temporal lobe Epilepsy (TLE). BR Ambedkar Center for Biomedical Research, University of Delhi, Delhi
12. Elucidation of circulating cell free miRNA in pathogenesis, disease progression and outcome in multiple myeloma using integrated bioinformatics and experimental approach, Lab Oncology, IRCH
13. Genomic Analysis of *S. Typhi*, Microbiology
14. Harmonized Diagnostic Assessment of Dementia (DAD) for Longitudinal Aging Study of India (LASI), Department of Geriatric Medicine
15. Potential of quercetin as a diuretic agent at high altitude by targeting carbonic anhydrase II, DRDO
16. Re-purposing of FDA approved drugs to target latent TB infection, Department of Biotechnology, AIIMS
17. Role of Inhibitors of Apoptosis Proteins in Gastroenteropancreatic Neuroendocrine Tumors, Department of Anatomy, AIIMS, New Delhi
18. Role of kynurenic acid, a glutamate receptor inhibitor, in hyperexcitability associated with mesial temporal lobe epilepsy (MTLE). Department of Neurosurgery, AIIMS, New Delhi, Funded by Department of Biotechnology (DBT), Govt. of India.
19. Role of mutations in *slc26A9* gene in cystic fibrosis conductance regulation in Indian patients, Department of Pediatrics, AIIMS
20. Role of mutations in STAMBP protein in severe microcephaly and multiple capillary haemangiomas in Indian children, Department of Pediatrics, AIIMS
21. Screening of inhibitory molecules against KIFC1, KIF4A, KIF15 and KIF20A and evaluation of anticancer activity of the identified molecules on breast cancer cells, National Institute of Pathology
22. Structure-based design of nanobody inhibitors against EGFR: A protein engineering approach to develop novel therapeutics for lung cancer, Life Sciences, Shiv Nadar University, Center for Computational Biology and Bioinformatics Central University of Himachal Pradesh, Department of Pulmonary Medicine and Sleep Disorders, AIIMS, New Delhi
23. Study of Regeneration of Skeletal Muscle in Old Age, Department of Geriatric Medicine
24. Understanding the interactions of DevR and SigA protein of *Mycobacterium tuberculosis*, Department of Biotechnology, AIIMS

### **Completed**

1. Cardio protective role of fisetin and azilsartan in ischemic reperfusion damage, Department of Pharmacology, AIIMS
2. Deciphering the role of ATF3 and TGF $\beta$  signaling in Mesial Temporal lobe epilepsy (MTLE) patients, Department of Neurology, AIIMS, New Delhi funded by Intramural Grant, Research Section, AIIMS, New Delhi.
3. Deciphering the role of GABA<sub>A</sub> receptor alterations in pediatric and adult patients with focal cortical dysplasia., Department of Neurosurgery, AIIMS, New Delhi funded by Intramural Grant, Research Section, AIIMS, New Delhi
4. Evaluation of peri-implant crevicular fluid metalloproteinase-8 (MMP-8) and cathepsin- k (CTSK) levels in immediate loaded and delayed loaded dental implants, Centre of Dental Education and Research, AIIMS, New Delhi
5. Spectrum of pathogenic variants in SRD5A2 in Indian children with 46, XY disorders of sex development and clinically suspected steroid 5 $\alpha$ -reductase 2 deficiency, Department of Pediatrics, AIIMS

### **PUBLICATIONS**

**Journals: 38**

**Abstracts: 2**

**Chapters in books: 1**

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Punit Kaur** was Member, Board of Studies, Banaras Hindu University; The department organized a workshop on “Structure based drug designing” from 10 -12 November 2020.

**Professor Savita Yadav** Awarded SERB-POWER Fellowship; Elected as Fellow of Indian Academy of Biomedical Sciences, India.

**Dr Sharmistha Dey** received the First Prize in AIIMS Oncology Research award, 2019 AIIMS, New Delhi.

**Dr Saroj Kumar** Fredrik Nikolajeff: Early diagnosis of Parkinson’s disease. IVA’s (Royal Swedish Academy of Engineering Sciences) 100 list 2020: From knowledge to sustainable competitiveness (<https://www.iva.se/projekt/research2business/ivas-100-lista-2020/>).

**Dr Jyotirmoyi Banerjee** was Co-Editor for the journal Neurology India; Reviewing Editor for the journal Frontiers in Neuroscience & Frontiers in Pharmacology (Neuropharmacology section).

### **VISITING SCIENTISTS**

Scientists and eminent academicians have visited the department for presenting lectures and scientific cooperation in the last year: Dr Sonika Bhatnagar, New Delhi, Dr Pushkar Sharma, New Delhi.

## 9.6. Biostatistics

**Professor and Head**  
Ravindra Mohan Pandey

**Professor**  
Sadanand Dwivedi

**Additional Professor**  
Maroof Ahmad Khan

**Assistant Professor**  
Anjali Pandey (Contractual)

	<b>Scientist-I</b>	
Mani Kalaivani	Shivam Pandey	Nilima

### HIGHLIGHTS

Department conducted a hands on workshop on various aspects of biostatistics for faculty/residents and PhD students in the Institute. Department had one ongoing extramural funded research project. Collaborative research projects with various Centers/Departments in the Institute, includes 76 ongoing and 30 completed research projects. Faculty and Scientist in the department had 144 research publications in various peer reviewed medical journals. Faculty and Scientist: Continued to be reviewer for almost all the major medical journals in the country and for several International Medical Journals from various medical specialties; Served on various administrative and scientific committees in the Institute; Invited members of various scientific committees of the ICMR, DBT, DST, AYUSH; served on Data Safety Monitoring Boards (DSMB) of several National and International Clinical Trials; delivered invited lectures in various Institutes/Universities in the country and abroad; and, served as examiners of PhD thesis submitted to various universities in the country.

### EDUCATION

Department continued teaching “Biostatistics and Essentials of Research Methods” for the undergraduate, paramedical and postgraduate courses, viz. MBBS, BSc(Hons.) in Medical Technology in Radiology, M Biotech, BSc and MSc Nursing, and MD Community Medicine. Department plays major role in conducting Research Methodology, Writing and Communication workshops for the residents in the Institute, a mandatory 5 days course work in four batches. On request, faculty members delivered series of lectures for the residents, PhD students and participated in departmental scientific presentations in various Centers/Departments in the Institute. Besides guiding PhD students in the department, faculty members and scientists contributed to the academic activities of other departments in the Institute as Co-Guides, DC Members of PhD, DM, MCH, MD/MS/MHA/MDS, students. Also, departmental faculty and scientists delivered 29 invited lectures in various workshops on Research Methodology and Biostatistics in various national and international workshops/conferences.

### CMEs/Workshops/Symposia/National and International Conferences

#### Events organized by the Department

1. Workshop on “Getting started with R - Data management and basic statistical analysis” 24February 2021 Department of Biostatistics, AIIMS, Delhi

#### Lectures delivered

<b>SN Dwivedi: 13</b>	<b>Anjali Pandey: 1</b>	<b>M Kalaivani: 2</b>
<b>Shivam Pandey: 1</b>	<b>Nilima: 3</b>	

#### SN Dwivedi

1. Advances in statistics and data science for sustainable human development, ISPS, Professor CR Rao Birth Centenary Celebrations International Webinar, 7-10 September 2020, University of Tirupati, Andhra Pradesh
2. Online panel discussion on modeling and analysis of demographic data, online panel discussion, 24 July 2020, BHU, Varanasi, UP

3. Prompting points under estimated of disease burden, Webinar on emerging scenarios related to Zoonoses in a warming environment, 19-20 June 2020, University of Allahabad, Allahabad, UP
4. Understanding of the research population regarding generalisation of the derived evidence, Webinar on World Population Day Celebration, 11 July 2020, Mahatma Gandhi Kashi Vidyapith, Varanasi, UP
5. Prompting points about data regarding epidemiological modelling, Webinar on World Population Day Celebration, 11 July 2020, BHU, Varanasi, UP
6. When should a clinical researcher contact a Biostatistician? Webinar, 17 July 2020, Center for Cancer Epidemiology, Tata Memorial Centre, Mumbai
7. Statistical tools under planning of a research study and analytical exploration, Webinar, 27th May 2020, Institute of Social Sciences, Dr Bhimrao Ambedkar University, Agra
8. Randomized controlled trials: Phases and planning, Webinar, 20 October 2020, Amity University, NOIDA, UP
9. Randomized controlled trials: Phases and planning, Webinar, 13 June 2020, Punjab University, Chandigarh
10. Statistics in social science research: Prompting Points, Invited talk, 27 February 2021, Institute of Social Sciences, Dr. Bhim Rao Ambedkar University, Agra
11. Basics in research AIIMS optometry explorer 2021, 21 February 2021, Optometry Students Association, AIIMS
12. Types of research and research process; Definition and sources of data; Sample size estimation; and tips for writing scientific articles, Research Methodology Pre-PhD Course, 21-30 December 2020, Hemwati Nandan Bahuguna Uttarakhand Medical Education University, Dehradun
13. (i) Biostatistical measures of association under epidemiological modelling (ii) “Multivariable Regression: Traditional versus multilevel models”, Statistical tools and data analysis using software, 24-26 March 2021, MD University, Rohtak

#### **Anjali Pandey**

1. Getting started with R-Data management and basic statistical analysis, Workshop on basic statistical analysis using R, 24 February 2021, AIIMS, Delhi

#### **M Kalaivani**

1. Data collection and management, Basic statistical methods and sample size calculation, ESI-INTAS Research Methodology Workshop, Endocrine Dissertation: A primer for Research, 9 October 2020, (on virtual platform)
2. Essential biostatistics: What surgeons must know? 13th Pediatric Surgery Update 2021, 13 March 2021, (on virtual platform)

#### **Shivam Pandey**

1. Quantitative data analysis using SPSS, Pre-conference CME-48 Annual Conference of Indian Association of Preventive and Social Medicine (IAPSMCON 2021) organised by Department of Community Medicine and School of Public health, PGIMER, Chandigarh, 11 March 2021, Chandigarh, (Online mode)

#### **Nilima**

1. Sample Size for health sciences research faculty development program, 2 February 2021, Online
2. Getting started with R-Data management and basic computations, Workshop on basic statistical analysis using R, 24 February 2021, AIIMS, Delhi
3. Sample size computation and basic statistical inference tests, Workshop on biostatistics, 25 February 2021, VPCI, University of Delhi

### **RESEARCH**

#### **Funded projects**

##### ***Ongoing***

1. Air pollution and its effect on health: 20 City Multi-site Study, RM Pandey, Ministry of Environment, Forest and Climate Change, Govt. of India, 3 Years, 2019-2021, Rs 26.40 lakhs

##### ***Completed***

1. Chron's disease in India: A multi-center study from a country where intestinal tuberculosis as well as Johne's disease is endemic (Data coordination and study monitoring), V Sreenivas, Department of Health Research, Govt. of India, 3.5 years, 2016-2020, Rs 28.0 lakhs



2. Multi-centric trial to study the effect of early active mobilization as compared to three weeks immobilization following tendon transfer procedures for claw hand (Data coordination and study monitoring), V Sreenivas, ICMR, New Delhi, 5 years, 2015-2020, Rs 21.22 lakhs

## **Collaborative Projects**

### **Ongoing**

1. A comparative clinical study to assess the outcome of full pulpotomy performed in either deep or extremely deep carious mature permanent teeth with symptomatic irreversible pulpitis, Dentistry
2. A population based prospective cohort study to unravel the causes of stroke and cognitive decline: A Cross-Cultural Perspective, Neurology
3. A randomized control trial to compare the efficacy of caregiver directed home based HABIT with and without tele-rehabilitation in Cerebral Palsy Children, Pediatrics
4. A randomized controlled study to evaluate the effect of excision of Nevus/Nevi in cases of Vitiligo with Halo Nevus, Dermatology and Venereology
5. A randomized trial for evaluation of the role of platelet-rich plasma in healing of chronic diabetic wounds associated with peripheral arterial disease as compared to standard medical care, Surgical Disciplines
6. A study of endothelial function and gene expression in healthy individuals, and their correlation with various somatotype classifications, Physiology
7. A study on cellular physiology of endometriosis-associated estrogenic action in endometrial stromal cells, Physiology
8. A study on safety and efficacy of pirfenidone and nintedanib in moderate to severe COVID-19 infection, Medicine
9. AN OMICS APPROACH to understand the molecular heterogeneity of breast cancer among Indian females, Biochemistry
10. Analysis of anti-neurotoxicity of Amyloid Beta (Ab) in Alzheimer's disease (AD) pathology targeting Lipoxygenase, Biophysics
11. Assessment of morbidity in patients with medically unexplained physical symptoms and development of comprehensive treatment module in the management of Patients with Medically Unexplained Physical Symptoms, Medicine
12. Assessment of the changes in quality of life and symptom burden in patients with pulmonary or airway related disease requiring pulmonary interventions- Prospective study, Onco-anesthesia and Palliative medicine
13. Assessment of workload and musculoskeletal symptoms among minimal access surgeons- a prospective study, Surgical Disciplines
14. Biological and behavioral risk factors for obesity among outpatients and perceived barriers to weight loss among obese patients in a hospital based set-up, Medicine; University of Delhi
15. Biostatistical aspects of prognostic factors including molecular parameters in breast cancer patients: An epidemiological appraisal, Radiotherapy
16. Clinical, radiological and functional correlation in treated pulmonary Tuberculosis Sequelae patients, Medicine
17. Comparison of Alpha Emitting <sup>225</sup>Ac-DOTATATE Versus Beta Emitting <sup>177</sup>Lu-DOTATATE therapy in advanced end-stage Gastroenteropancreatic Neuroendocrine Tumor (GEP-NET) Patients, Nuclear Medicine
18. Comparison of post extraction bleeding complication in patients taking oral anticoagulants, with and without bridging therapy: a pilot study, Dentistry
19. Comprehensive geriatric assessment of older adults attending fragility clinic in a tertiary health care setting in India, Geriatric Medicine
20. Development of a scale to measure eHealth literacy among college going students aged 18-24 years, (English Version) in Faridabad, India, Centre for Community Medicine
21. Development of Indian frailty registry of older adults, Geriatric Medicine
22. Effect of regional anesthesia on perioperative inflammatory cytokines alteration and clinical complications in orthopedic trauma surgery, Anesthesiology and intensive care, Jai Prakash Narayan Apex Trauma Center (JPNATC)
23. Effect of yoga on psychological, cognitive and glycemic control in patients with T2DM and depression: Two arm parallel randomized controlled trial, Endocrinology and Metabolism
24. Efficacy of fluoxetine in post-stroke anxiety -Prospective Randomized Open Blinded End-Point (PROBE) Study, Neurology
25. Efficacy of intensive dietary counseling on metabolic, anthropometric and ultrasound parameters among adult Indian Non-Alcoholic Fatty Liver Disease (NAFLD) patients: A Randomized Controlled Trial, Medicine; University of Delhi

26. Efficacy of yoga based cardiac rehabilitation in Post-PCI patients: A prospective randomized, open-label, blinded end-point trial, Cardiology
27. Enhancing mental health and substance use literacy among college going students in National Capital territory of Delhi-an intervention study, Centre for Community Medicine
28. Evaluation of 99mtechnetium labelled antibiotic scintigraphy in diagnosis of Tuberculosis with lymph node involvement, Medicine
29. Evaluation of safety and efficacy of Oral Metformin in Acute Ischemic Stroke (OMASIS): Prospective randomized open blinded endpoint (PROBE) trial, Neurology
30. Fever, hyperglycemia, swallowing and hypertension management in acute stroke: A cluster randomized controlled trial (Indian quality improvement in stroke care study), Neurology
31. Frequency and genetic characterization of mycoplasma pneumonia and Pneumocystis jirovecii in immunocompromised patients, Microbiology
32. Harmonized Diagnostic Assessment of Dementia (DAD) for longitudinal aging study of India (LASI), Geriatric Medicine
33. High dose dexamethasone for primary supratentorial intracerebral hemorrhage: A pragmatic parallel group open-level randomized trial with blinded endpoint assessment (PRoBE), Neurology
34. HIV self-testing as a mechanism to increase the uptake of HIV test among Men who have sex with Men (MSM): A Mixed Methods Study, Centre for Community Medicine
35. Human cytomegalovirus disease reactivation in Pediatric Leukemia, Infectious Disease Medicine
36. Identification of biomarkers in Parkinson's disease using NMR, NMR
37. Identification of serum proteins and differential expression of skeletal muscle specific microRNAs "myomiRs" using Next Generation Sequencing in Sarcopenic Asian Indian obese subjects, Medicine
38. Impact of frailty and geriatric syndromes on outcome of major orthopaedic surgery in older Indian, Geriatric Medicine
39. Impact of the COVID-19 pandemic on utilization of emergency services for the treatment of ST elevation myocardial infarction at a tertiary care public hospital, Cardiology
40. Incidence and determinants of outcome of Neutropenic Enterocolitis in pediatric cancer patients, Pediatrics
41. Mild cognitive impairment and associated factors among elderly persons in an urban resettlement colony in Delhi, Centre for Community Medicine
42. Minimally invasive evaluation of genomic aberrations in multiple myeloma, Laboratory Oncology, IRCH
43. Modification and validation of phantom models for surgical training Surgical Disciplines
44. Molecular characterization of neisseria meningitides isolated from cases of acute bacterial meningitides in Delhi and adjoining area, Microbiology
45. MR and other techniques based phenotyping and correlation with prakruti type in healthy population, NMR
46. Outcome of coronal and deep pulpotomy in mature permanent teeth with extremely deep carious lesion and symptomatic irreversible pulpitis- A randomized clinical trial, Dentistry
47. Outcome predictors of Secondary Hemophagocytic Lymphohistiocytosis, Infectious Disease Medicine
48. Phenotypic and genotypic characterization of Non-typeable Haemophilus influenza(NTHi) from North India, Microbiology
49. Pre-operative use of febusostat in cardiac surgery-A Double Blind Prospective Randomized Phase II Trial, CTVS
50. Prevalence of incidental findings on brain MRI in adults aged 50 years and above: A population based cross-sectional study, Neurology
51. Psychological trauma resilience in children adolescents: Development and psychometric properties of a multidimensional scale, Psychiatry
52. Pulmonary dysfunction in childhood Hodgkin Lymphoma Survivors, Pediatrics
53. Respiratory and voice outcomes of office based injection laryngoplasty in patients with unilateral vocal fold paralysis, Otolaryngology and Head Neck Surgery
54. Role of hydrogen sulphide on migration of human trophoblast cells, Anatomy
55. Role of magnetic resonance in assessing therapeutic efficacy of ayurvedic treatments, NMR
56. Role of MR guided Biopsy in detection of Prostate Cancer, NMR
57. Role of sperm molecular factors in recurrent pregnancy loss , Anatomy
58. Role of T-Regulatory cells (tregs) and their clinical correlation in epithelial ovarian cancer, Surgical Oncology

59. Smartphone applications-based intervention to reduce BMI and improve health related behaviour among school children with overweight/obesity: A controlled clinical trial, Pediatrics
60. Spinae plane block in patients undergoing percutaneous nephrolithotomy surgery: A Prospective Randomised Comparative Study, Anesthesiology, Pain Medicine and Critical Care
61. Study of cognition and quality of life in chronic intractable epilepsy using Functional Magnetic Resonance Imaging (fMRI), Neurology
62. Study of common mental disorders in adolescent living with HIV (ALHIV) attending the paediatric HIV services at AIIMS, New Delhi: A Case–Control Study, Centre for Community Medicine
63. Study on circulating level of inflammatory proteins, their signaling cascade in metastatic breast cancer and therapeutic implications for the same, Biophysics
64. The effect of ultrasound guided quadratus lumborum block on postoperative analgesia and neuroendocrine stress response in paediatric patients undergoing Elective Open Pyeloplasty. A Randomised Control Trial, Anesthesiology, Pain Medicine and Critical Care
65. The prognostic value of Myeloperoxidase and neutrophil CD-64 in prediction of mortality in critically ill adult patients with sepsis: A prospective observational study, Anesthesiology, Pain Medicine and Critical Care
66. Therapeutic efficacy of Abiraterone Acetate versus Concomitant 177Lu-DKFZ-PSMA-717 and Abiraterone Acetate therapy in patients with metastatic castration resistant prostate cancer: Open label, Two arm, Phase II trial, Nuclear Medicine
67. To compare diaphragmatic thickness fraction in patients undergoing VATS with erector spinae plane block vs with local infiltration, Anesthesiology, Pain Medicine and Critical Care
68. To compare pulmonary function in patients with lv dysfunction undergoing offpump vs on pump CABG, Cardiothoracic and Vascular Surgery
69. To evaluate efficacy of Bacillus Calmette-Guerin (BCG) in reducing the incidence and severity of COVID-19 in the high-risk population (BRIC): A phase III, Multicentric, Quadruple blind randomized controlled trial, Medicine
70. To study clinic epidemiological profile of patients presenting with acute abdominal pain in emergency department, Emergency Medicine
71. To study the effect of diesel exhaust exposure on male reproduction in the laboratory rat, Physiology
72. To study the effect of diesel exhaust exposure on male reproduction in the laboratory rat, Physiology
73. To study the effect of nationwide lockdown on the volume and characteristic of trauma due to global Ncov19 pandemic at a Level -1 trauma centre, Jai Prakash Narayan Apex Trauma Center (JPNATC)
74. To study the role of point of care ultrasound for carotid pulse check in cardiac arrest patients, Emergency Medicine
75. Understanding the structural and neurobiological changes in the patients with major depressive disorder using magnetic imaging and spectroscopy, NMR
76. Video-observed home-based Nordic walking training versus directly-observed Nordic walking training for pre-frail older adults, Geriatric Medicine

### **Completed**

1. A randomized control study to evaluate the efficacy of scrambler therapy in the management of oncological pain in cancer patients, IRCH
2. A study of pain status and corticomotor excitability in chronic low back pain patients: Effect of transcranial magnetic stimulation, Physiology
3. Association of vascular risk factors, Brain MRI Measures, Cognition and Gait in community dwelling adults aged 50 years and above: A population based cross sectional study, Neurology
4. Awareness and knowledge of Indian breast cancer patients pertaining to genetic aspect of breast cancer, IRCH
5. Comparison of critical care TEE vs. conventional TEE in low perfusion states in patients with Septic Shock- A double blinded observational study, Anesthesiology, Pain Medicine and Critical Care
6. Depressive disorders among adolescents in Ballabgarh, Haryana, India: A community-based cross-sectional study, Centre for Community Medicine
7. Designing and validation of evidence based questionnaire in English and Hindi for a population based cohort study in India, Neurology
8. Detection of Minimal Residual Disease (MRD) in B-cell Lineage acute lymphoblastic Leukemia by flow cytometry at end of induction, Pediatrics
9. Development of serum protein marker and study of antioxidative effect using potential modulator for Alzheimer's disease, Biophysics

10. Dosimetric study in children and adults with differentiated Thyroid Cancer Undergoing Radionuclide (<sup>131</sup>I-Na) Therapy, Nuclear Medicine
11. Effect of resveratrol supplementation on cognitive function and estrogen receptor profile in hypothalamus and hippocampus of arsenic trioxide-exposed adult female mice, Anatomy
12. Effect of structured yoga program on stress and professional quality of life among selected nursing staff in a tertiary care hospital of Delhi- A small scale phase-2 trial, Centre for Community Medicine
13. Evaluation of the blood inventory management in a hospital based blood bank and evolution of strategy to minimize shortage and outdate of blood, Clinical Biochemistry
14. Gait and balance assessment in patients attending memory clinic, Geriatric Medicine
15. Incidence, outcome and risk factors of paradoxical reaction in HIV negative lymph node tuberculosis, Medicine
16. Interventions of human leukocyte Antigen-G in HNSCC and its therapeutic implications, Biophysics
17. Investigation of role of transcranial magnetic stimulation in Parkinson's Disease, Neurology
18. Mapping functional and biochemical correlates in brain of Parkinson's patients with mild cognitive impairment, NMR and MRI facility
19. Metabolomics study of prostate cancer by using NMR spectroscopy, NMR
20. Molecular epidemiology of Mycoplasma pneumonia and Pneumocystis jirovecii in immunocompromised individuals, Microbiology
21. Predictors of severe Dengue and development of a scoring system for severity, Medicine
22. Predictors of successful weight loss outcome amongst obese adults undergoing comprehensive weight loss intervention at a tertiary care hospital medicine; University of Delhi
23. Prevalence and determinants of cerebral micro-bleeds in people aged 50 years and above residing in urban Delhi: A population based cross sectional study, Neurology
24. Q-sofa score as a predictor of 7 and 28 days outcome in patients with suspected infection presenting to Emergency Department, Emergency Medicine
25. Role of fluoride toxicity on renal pathogenesis in childhood nephrotic syndrome: An Ultra structural, Biochemical and Proteomic Study, Anatomy
26. Study of potential modulator targeting pathways involved in the hyperphosphorylation of tau in Alzheimer disease, Biophysics
27. Study of risk factor for breast cancer in Indian women: A case control study, Surgical Disciplines
28. Study on cytogenetic toxicity of low dose 131I therapy in hyperthyroid patients by using micronuclei assay, Nuclear Medicine
29. To study the role of vascular function and pain sensitivity in micro vascular angina, Physiology
30. Weight management module for menopause women: A practical guide for gynaecologists Medicine; University of Delhi

## PUBLICATIONS

**Journals: 131**

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Ravindra Mohan Pandey** had the following honors and significant events. Member: Epidemiology and surveillance COVID-19, set up by the NITI AYO, Govt of India. Ethics Committee: Chairperson of Indian Institute of Public Health (Under PHFI), Delhi; Member: United Nations Regional Centre for Biotechnology, Under DBT. Coordinator: Mandatory 5days workshop on Research Methodology, Writing and Communication, for the PG Students at the AIIMS; Member: Scientific Advisory Committee of National Institute of Epidemiology (ICMR); Steering Committee Member of Multi-centric collaborative study of the clinical, biochemical and molecular characterization of Lysosomal storage disorders in India; Expert Committee, Task Force project on Cleft Lip and Palate Anomaly (ICMR); Technical Advisory Group on grand challenges India/Nutrition and Health funded by Bill Milanda Gates Foundation and DBT; Expert Committee to evaluate R&D proposals on the possible impact of IMF Radiation Exposure from Mobile towers and handsets on life and related R&D initiative by DST; Expert Committee on estimation of burden of Pediatric HIV cases in India (ICMR); Member DSMB: Community based kangaroo mother care on newborn mortality, coordinated by WHO; Examiner: PhD thesis submitted at Delhi University, Delhi; CMC Vellore and Kerala University.

**Professor Sadanand Dwivedi** was Member of the Governing Council of Inter University Accelerator Centre (IUAC), An Autonomous Centre of UGC, New Delhi; Member (UGC Nominee), Advisory Committee, Department of Statistics, Calcutta University; External Member, Board of Post Graduate Studies in Statistics, Assam University, Silchar; Member, Governing

Body, Institute of Applied Statistics and Development Studies, Lucknow; Member, Task Force Committee on Methods and Project Review Committees, for Indian Council of Medical Research; Member of the Drug and Safety Monitoring Board for a research project at AIIMS; External Examiner for two Courses: (i) Industrial Statistics; and (ii) Engineering Statistics II; for 3 Years (2021-2023), at Department of Mathematics and Statistics, Faculty of Science and Technology, The University of West Indies, St. Augustine Campus, Trinidad and Tobago, West Indies; Advisor for two PhD students, University of Delhi; Member, National Organizing Committee for the 29th International Population Conference of International Union for Scientific Study of Population (IUSSP), to be held at Hyderabad (2021); Chief-Guest to address students and faculty at Department of Statistics, and other Departments, Institute of Social Sciences, Dr Bhimrao Ambedkar University, Agra; External Expert for a PhD student at Department of Biostatistics and Health Informatics, SGPGIMS, Lucknow; External Expert for a PhD student at Department of Home Sciences, University of Delhi; Chaired a Plenary Talk Session on “Data Quality Issues demographic, nutrition and health: National Data Quality Forum”, during Virtual Conference of the Indian Society for Medical Statistics; External Examiner to evaluate a PhD thesis for award of PhD Degree in Biostatistics of Thiruvalluvar University, Tamil Nadu; External Examiner to evaluate PhD thesis for award of PhD Degree in Statistics of Banaras Hindu University, Varanasi; External Examiner to evaluate PhD thesis for award of PhD Degree of Jawaharlal Nehru University, New Delhi and conduct its Viva Voce Examination; External Examiner to conduct project work viva-voce examination of MStat students at Department of Statistics, Institute of Social Sciences, Dr. Bhimrao Ambedkar University, Agra; Member of the Selection Committee for SGPGIMS, Lucknow; Member of the Editorial Board for World Journal of Meta Analysis; Statistical Editor, Indian Journal of child Health; Editor, Demography India; Editorial Board Member, Biostatistics and Biometrics Open Access Journal; Reviewer for BMJ Open; Reviewer for World Journal of Surgical Oncology; Reviewer, International Society for Clinical Biostatistics; Systematic Reviews; International Journal of Educational Research and Reviews; Member, Editorial Board of Indian Spine Journal; Reviewer, Indian Journal of Medical Research; Journal of Scientific Research, BHU, Varanasi; Member, International Society for Clinical Biostatistics; Elected Member, International Statistical Institute, and International Association for Statistical Education, Netherlands; Member, International Epidemiological Association, USA; Fellow, Royal Statistical Society, UK; Member, Institute Ethics Committee for Post Graduate studies; Chairman, Selection Committee, Research Section, AIIMS, New Delhi; Founder Vice-President, Society for Evidence Based Health Care.

**Dr Maroof Ahmad Khan** was the Editorial Board Member (Biostatistics)-International Journal of Scientific Reports; Scientific reviewer of American Journal of Public Health Research, USA; Scientific reviewer of Journal of Obesity, UK; Scientific reviewer of Journal of Biomedical research, UK; Scientific reviewer of American Journal of Medicine Research; Scientific reviewer of American Journal of Rural development; Scientific reviewer of American Journal of Medical case reports; Scientific reviewer of British Journal of Visual impairment; Scientific reviewer of BMC Medical Research Methodology etc.



## 9.7. Biotechnology

### Professor and Head

Shyam S Chauhan

### NASI Senior Scientist Platinum Jubilee Fellow

Jaya S Tyagi

### Associate Professor

Anushree Gupta

### Assistant Professors

Rupesh Kumar Srivastava

Sirish Kumar Ippagunta

Bhupendra Kumar Verma

Sumit Rathore

Vineet Choudhary

Vikram Saini

Mahendra Seervi

### Scientist

Shrabani Saugandhika

## HIGHLIGHTS

Department of Biotechnology runs a well-rated Masters in Biotechnology course with specialization in Medical Biotechnology admitting 12-14 students per batch. The department also runs a PhD program. The total strength of MSc and PhD students is about 35. Department runs a student mentorship and career awareness program, to cater the needs of students from diverse backgrounds. Departmental faculties have obtained large number of extramural grants from various funding agencies including the prestigious Wellcome Trust-DBT India Alliance Intermediate Fellowship Grant. Departmental faculties have received national level honors/awards from various scientific organizations in recognition of their outstanding contributions to the field of biotechnology. Departmental faculties have served as experts in several scientific committees organized by various institutes and universities of the Government of India. Departmental faculty have published a large number of peer review research articles in, various national and international, high impact factor journals. Department has 6 senior demonstrators (Drs Sakshi Dhingra, Kriti Sikri, Priya Kalra, Saurabh Sharma, Priyanka Duggal and Chaman Saini) who participate in the teaching and research activities of the department. Poster on PPE disinfection method developed by Professor Saini's group (Saini V et al, Gut Pathogens 2020) was selected for the 65th Institute day exhibition (Theme: AIIMS in the times of COVID-19). Establishment and successful running of India's first PPE disinfection facility at AIIMS that was based on the vaporized hydrogen peroxide method developed by Professor Saini's group. More than 4000 PPE suits used in COVID-19 ICU and Wards at AIIMS were disinfected in this facility for selective reuse. PPE disinfection work (Saini V et al, Gut Pathogens 2020) prominently features in WHO guidelines (2020) as a recommended method for PPE disinfection to mitigate shortages and emergency situations. Bureau of Standards, Govt. of India incorporating the vaporized hydrogen peroxide method for disinfection of PPE. Also, Ministry of Textile, Govt. of India, incorporated this as recommended method for decontamination of PPE to the industry producing Single and Multi-use PPE. Dr Kamini Gautam from Professor Saini's lab is awarded National Post-doctoral Fellowship (NPDF).



1. Director AIIMS Professor Randeep Guleria, Dean Research Professor Subrato Sinha and Dr VikramSaini, Convenor, PPE Disinfection Committee AIIMS at India's First Research Facility on PPE Recycling at AIIMS, New Delhi.
2. Dr Harshvardhan, Hon'ble Minister of Science and Technology, Minister of Health and Family Welfare and Minister of Earth Sciences at the Dept. of Biotechnology's work on PPE recycling at the Covid19 special Exhibition in the institute.

## EDUCATION

### Post Graduate Teaching

- The Department conducts 2 years post graduate course in Biotechnology with emphasis on Medical Biotechnology leading to M. Biotech degree. The teaching program covers 16 subjects, namely, Cell and Developmental Biology, Genetics, Human Biochemistry, Medical Microbiology, Immunology and Immunotechnology, Molecular Biology, Infectious Disease Biology, Genetic Engineering and Genome Technology, Biophysics (Principles, Techniques and Applications in Medicine), Bioinformatics, OMICS (Genomics, Transcriptomics, Proteomics & Metabolomics), Biostatistics, Seminars in Laboratory Techniques (Principles & Instrumentation), Medical Biotechnology (Journal Club and Communication Skills), Seminars in Molecular Medicine and Biotechnology and Dissertation in frontier areas of medical research.
- The Department has introduced five new credit courses in the course curriculum of M Biotechnology (2019-2021) namely, Infectious Disease Biology, OMICS: Genomics, Transcriptomics, Proteomics, and Metabolomics, Intellectual Property Rights, Bioethics and Biosafety (IBB), Molecular Diagnostics and Clinical Biochemistry (MDB) and Laboratory course on Medical Microbiology and Infectious Disease Biology”.

- Students are given individual attention and extensive hands-on training in Practical classes.
- Experts are invited from PGIMER, JNU, IGIB, ICGEB, NII, IIT, THSTI, RCB, BCIL, TERI, Jamia Hamdard and University of Delhi in addition to AIIMS faculty from various specialties, to deliver seminars in biotechnology, bioinformatics, molecular medicine, genomics, proteomics etc.
- The Department conducts a PhD program in the area of Medical Biotechnology.
- The Department mentors and supports young Scientists having DBT and DST National Post-Doctoral and Young Scientist award.

#### **CMEs/Workshops/Symposia/National and International Conferences**

1. Entrepreneurship and Skills Development Programme, May-June, 2020, Dr Rupesh K Srivastava, Dr Bhupendra K Verma. Department of Biotechnology, AIIMS, New Delhi

#### **Lectures delivered**

**Shyam Chauhan: 1**

**Rupesh Kumar Srivastava: 8**

**Vikram Saini: 5**

**Sumit Rathore: 1**

**Vineet Choudhary: 2**

**Jaya S Tyagi: 2**

**Bhupendra Kumar Verma: 3**

**Sirish Kumar Ippagunta: 1**

**Mahendra Seervi: 2**

#### **Shyam Chauhan**

1. Cysteine Cathepsins and their Prognostic and Therapeutic Significance in Leukemia, VR Knolkar Oration in 60th NAMSCON held online, 23 December 2020, New Delhi

#### **Jaya S Tyagi**

1. Next generation diagnostic tests for Tuberculosis, Report India, 10th Annual Meeting, 9 February 2021, Virtual
2. Panel discussant – Host pathogen interaction, Panel discussant on CSIR Panel Discussion on Lessons from COVID-19 pandemic for TB held on World TB Day, 24 March 2021, Virtual

#### **Rupesh Kumar Srivastava**

1. Immunology of COVID-19, International Webinar “Confronting the Impact of COVID-19 Pandemic” 26-27 September 2020 Burdwan University, Burdwan, West Bengal
2. Study Design for Animal Experiments, UGC-Human Resource Development Centre sponsored “Short-Term Course on ‘Research Methodology for Science’” 16-22 October 2020, Doctor Harisingh Gour Vishwavidyalaya, Sagar (MP)
3. COVID-19: Immunology, Immunopathogenesis and Potential Therapies, UGC-Sponsored Refresher Course in “Current Trends in Life Sciences” 8-22 March 2021, Doctor Harisingh Gour Vishwavidyalaya, Sagar (MP)
4. Study Design for Animal Experiments: Avoiding Common Errors and Optimizing Results, Part of the MSc Biochemistry Course, 19 January 2020, Department of Biochemistry
5. Study Design for Animal Experiments: Avoiding Common Errors and Optimizing Results PhD Course (Research Methodology) 2020-2021 Module, 26 October 2020, CMET
6. My Journey in Academia: Lessons Learned, “Young Science Leader” series (initiative of Tri-Science Academies of India), 16 October 2020, Central University of Punjab, Bhatinda Punjab
7. Immunology of COVID-19, International Webinar on COVID-19: Challenges and Opportunities, 7 June 2020, Nehru Gram Bharti (deemed University), Prayagraj, UP
8. Lactobacillus Rhamnosus attenuates bone loss and maintains bone health by skewing Treg-Th17 cell balance in Ovx mice, Seminars in Molecular Medicine, Department of Biotechnology, AIIMS, 30 March 2021, New Delhi

#### **Bhupendra Kumar Verma**

1. Gene Editing: Current scenario and future perspective, Webinar series “Advances in Microbiology: An interdisciplinary approach, Microquest 2021, Annual Department Fest”: Organised by Bhaskaracharya College of Applied Sciences, University of Delhi, 13 March 2021, New Delhi
2. Minor spliceosome mediated gene regulation and links to Human disease, Amity University, Noida, 10 October 2020, Noida, UP
3. Spliceosome: Many facets, Seminar in Molecular Medicine, Biotechnology, AIIMS, New Delhi, 29 March 2021, New Delhi

### **Vikram Saini**

1. Understanding the role of environmental factors as the key determinants of tuberculosis latency, drug resistance and therapy. AIIMS-University of Queensland (UQ)-IITD Research Symposium on Functional Genomics, 5 November 2020, Online
2. Biosafety Laboratories (BSL3), working and regulatory processes in India”, International Workshop on Biosafety and security, and outbreak response, jointly conducted by Odisha State University of Agricultural sciences and Technology and The Pennsylvania State University, USA, 29 January 2021, Online
3. Innovation in Infectious Disease Research: Challenges, and Opportunities, Institute of Home Economics, Delhi University, India, 6 March 2021, New Delhi
4. Oxalate Suppresses Macrophage Immunometabolism and Anti-bacterial response to Uropathogenic E. coli (UPEC) infection 27th SFRBM’s Annual Conference, 18-20 November 2020, Online
5. Safe and Effective Disinfection of PPE for Selective Reuse. 65th Institute day exhibition (Theme: AIIMS in the times of COVID-19). 25 September 2020, New Delhi

### **Sirish Kumar Ippagunta**

1. Development of novel mouse model for psoriasis based on the human susceptibility locus TNIP1. Seminars in Molecular Medicine, Department of Biotechnology, AIIMS, 13 April 2021, New Delhi

### **Sumit Rathore**

1. Malaria invasion Biology: What it Takes to Enter Webinar Lecture Series, Institute of Home Economics, Department of Microbiology, University of Delhi, 6 March 2021, New Delhi

### **Mahendra Seervi**

1. Anastasis, a mechanism of cell rescue from the brink of death and its impact on cancer disease and treatment Virtual Symposium “Recent Trends in Modern Biology” at PDPIAS, CHARUSAT University, Changa, Gujarat, 11 December 2020, Anand, Gujarat
2. Anastasis and its impact in cancer relapse and therapy, Seminar series in molecular medicine at Department of Biotechnology, AIIMS, 8 April 2021, New Delhi

### **Vineet Choudhary**

1. Lipid droplet biogenesis: Implications for human pathophysiology, E-colloquium on “Emerging Trends in Health and Disease Research” ETHDR-2020; Organized by Amity Institute of Biotechnology (AIB), Amity University Haryana (AUH). 20 October 2020, Gurugram, Manesar Biogenesis of Lipid Droplets from specialized ER subdomains: Implications for lipodystrophy disease, Seminars in Molecular Medicine, 13 April 2021, Department of Biotechnology

### **List of oral papers/posters presented: 2**

1. Srivastava RK. “Sodium Benzoate (NaB) attenuates osteoporosis and enhances bone health via modulating host osteoimmune system” American Society of Bone and Mineral Research (ASBMR) 2020, Annual Meeting, Virtual Event, 11-15 September 2020, Washington DC, USA
2. Srivastava RK. “Harnessing potential of “GUT-Immune” axis in management of Osteoporosis” EMBO-EMBL Symposium: Inter-Organ Communication in Physiology and Disease, 15-18 March 2020, Heidelberg, Germany

## **RESEARCH**

### **Funded projects**

#### **Ongoing**

1. Aptamer-based tuberculosis diagnostics toolbox (collaborative project), VikramSaini, Jaya S Tyagi (Co-PI from 1 June 2019), DBT, 3 years, 2018-2021, Rs 16.52 lakhs
2. Cellular and immunomodulatory functions of Dipeptidyl peptidase III in Esophageal Cancer, Shyam S Chauhan, ICMR, India, 3 years, 2019-2022, Rs 35 lakhs
3. Characterization of L, D-transpeptidases from mycobacterium abscessus: An Emerging Opportunist Pathogen, VikramSaini (Mentor to Namrata Kushwaha Woman Scientist) DHR, Government of India, 3 years, 2020-2023, Rs 30.9 lakhs
4. Characterization of parasite ligand-host receptor interactions in plasmodium vivax infections, Sumit Rathore, Indian Council of Medical Research, 3 years, 2019-2022, Rs 65 lakhs



5. Circulating miRNA in Plasmodium vivax severe malaria, Sumit Rathore, All India Institute of Medical Sciences, 2 years, 2019-2021, Rs 10 lakhs
6. Combating the challenge of antibiotic tolerance: Combining conventional anti-tubercular drugs with DevR dormancy regulator-targeted approaches for improving M tuberculosis clearance. Vikram Saini (PI since 01.06.2019 upon superannuation of Dr Jaya S Tyagi), Jaya S Tyagi (Co-PI from 1 June 2019), DBT, 3 years, 2018-2021, Rs 47.30 lakhs
7. Cysteine cathepsins in acute lymphoblastic Leukemia: Implication(s) in prognosis and therapeutics, Shyam S Chauhan, ICMR, India, 1 year, 2019-2020, Rs 5 lakhs
8. Cytoplasmic stress granules: Dynamic regulators of anastasis in cancer cells?, Mahendra Seervi, DST-SERB Core research Grant, 3 years, 2021-2024, Rs 64 lakhs
9. Decoding spliceosome in context of COVID-19, Bhupendra K Verma, AIIMS, 1 Year 2020-2021, Rs 9.2 lakhs
10. Development of novel mushroom based synbiotic food supplement for management of Osteoporosis, Rupesh K Srivastava, AIIMS-IIT-Delhi Inter Institutional Collaborative Research Grant, 2 years, 2019-2021, Rs 20 lakhs
11. Discovering the anti-inflammatory effects of novel Toll-like receptor signaling inhibitors on rheumatoid arthritis mononuclear cells and synovial fibroblasts: An in vitro study to identify TLR signaling inhibition as future potential strategy to control inflammation in rheumatoid arthritis, Sirish Kumar Ippagunta, ICMR 3 years, 2021-2024, Rs 71 lakhs
12. Elucidation of cellular mechanisms involving GUT resident regulatory T cells in probiotics mediated inhibition of Osteoporosis, Rupesh K Srivastava, DST-SERB, 3 years, 2019-2022, Rs 65 lakhs
13. Exploring the immunomodulatory activities of novel Toll-like receptor-signaling inhibitors in peripheral blood mononuclear cells from lupus patients: A study to identify TLRs as drug targets for lupus. Sirish Kumar Ippagunta, Science and Engineering Research Board, Government of India, 3 years, 2020-2023, Rs 68.01 lakhs
14. "Generation of high affinity recombinant murine monoclonal antibody fragments (scFv) against spike protein of SARS-CoV-2", Sumit Rathore, All India Institute of Medical Sciences, 1 year, 2020-2021, Rs 8 lakhs
15. HarGobind Khorana Innovative Young Biotechnologist Award (IYBA), Department of Biotechnology, Government of India, VikramSaini, DBT, 3 years, 2019-2022, Rs 59.06 lakhs
16. Host transcriptomic profiling in mildly symptomatic, sick and sicker COVID-19 patients, VikramSaini, All India Institute of Medical Sciences, 2 years, 2020-2022, Rs 10 lakhs
17. Identification and functional characterization of tRNA derived RNA fragments in DENV pathogenesis, Bhupendra K Verma, DST-SERB, 3 years, 2019-2022, Rs 39.41 lakhs
18. Identification of novel blood based biomarker for early detection of human gallbladder cancer, Shyam S Chauhan, DRDO, India, 3 year, 2018-2021, Rs 46.61lakhs
19. Investigate the role of seipin protein in ectopic lipid droplet formation Vineet Choudhary, AIIMS Intramural Research Grant, 2 years, 2021-2023, Rs 10 lakhs
20. Investigation of role of tRNA derived non-coding RNAs in EMT and its relevance to malignancies, Bhupendra K Verma, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
21. Modulation of host bioenergetics health and redox function via selenium supplementation as a novel approach to tuberculosis management, Vikram Saini, DST-SERB, 3 years, 2019-2022, Rs 53.85 lakhs
22. Molecular mechanisms of lipid droplet biogenesis, VineetChoudhary, Welcome Trust/DBT India Alliance. Scheme: Intermediate Fellowship Grant in the field of Basic Biomedical Research, 5 years, 2021-2026, Rs 360 lakhs
23. National Consortium for one health to address zoonotic and transboundary diseases in India, including the Northeast Region, VikramSaini (PI at AIIMS), DBT, GOI, 3 years, 2021-2024, Rs 57.12 lakhs
24. Probing the biology of Toll-like receptor and Interleukin-1 Receptor in peripheral blood mononuclear cells of healthy donors using novel small molecule inhibitor, Sirish Kumar Ippagunta, All India Institute of Medical Sciences, 2 Years, 2020-2021, Rs 5 lakhs
25. Probiotics mediated bioenergetics health modulation as a novel approach to the management of microbial infections, Vikram Saini, DRDO, India, 3 years, 2020-23, Rs 75.50 lakhs
26. Role of ALDH1A3 in anastasis and associated cancer stem cells-like cellular transformation in breast cancer cells. MahendraSeervi, All India Institute of Medical Sciences (AIIMS) Intramural Research Grant, 2 years, 2021-2022, Rs 10 lakhs
27. "To establish the role of regulatory B cells (Bregs) in post-menopausal Osteoporosis" Rupesh K Srivastava, AIIMS-Intramural, 2 years, 2020-2022, Rs 10 lakhs



### **Completed**

1. Mechanism of anastasis in cancer cells: its impact in disease relapse and therapy, Mahendra Seervi, DST-SERB Young Scientist, 3 years, 2016-2019, Rs 26 lakhs
2. Novel gene regulatory circuits associated with Dengue Virus: exploring therapeutic potential, Bhupendra K Verma, AIIMS, 2 years, 2018-2020, Rs 9.9 lakhs
3. Selenium supplementation and mycobacterial infections, VikramSaini, AIIMS Intramural, 2 years, 2018-2020, 10.00 lakhs
4. Study the Role and Regulation of Human Heterogeneous Ribonucleoprotein D Expression in Oral Carcinogenesis, Shyam SChauhan, DST, India, 3 years, 2016-2019, Rs 74.66 lakhs
5. To Dissect the role of Treg-Th17 cells in Lactobacillus rhamnosus mediated inhibition of Bone loss in ovx mice, Dr. Rupesh K. Srivastava, AIIMS- Intramural Research Grant, 2 years, 2018-2020, Rs 10.00 lakhs
6. To study the role of High salt Diet (HSD) in male fertility: Role of bone hormone osteocalcin, Dr. Shrabani Saugandhika, AIIMS Intra Mural, 2 years, 2018-2020, Rs10.00 lakhs

### **Departmental projects**

#### **Ongoing**

1. Adaptation of Mycobacterium tuberculosis in vitamin C dormancy model.
2. Analysing the effect of novel Pyrazole-based small molecule inhibitor on endosomal TLR-induced signaling activation in healthy peripheral blood mononuclear cells.
3. Analysing the effect of novel Pyrazole-based small molecule inhibitor on cell surface TLR-induced signaling activation in healthy peripheral blood mononuclear cells
4. Analysis of host transcriptional response to Mycobacterium tuberculosis in vitamin C ex vivo model of infection and comparison with clinical responses in active TB and latent TB infection.
5. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer
6. Characterization of spliceosome in context of SARS-CoV2
7. Comparative study of p53 Y220 mutant with screened drug and Curcumin
8. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics
9. Decoding spliceosome in context of COVID-19
10. Development of Aptamer Based Assay for detection of Plasmodium Infection.
11. Engineering of an HIV-1 native-like trimeric envelope glycoprotein construct towards development of a clade-C based immunogen.
12. Evaluation of immunomodulatory activities of Toll-like receptor signaling inhibitors in lupus peripheral blood mononuclear cells.
13. Functional characterization of roles of RNases in Dengue virus replication.
14. Identification and functional characterization of tRNA derived RNA fragments in DENV pathogenesis
15. Identification of DevR binding sites in Mtb genome by CHIP-Seq analysis
16. Investigation of role of tRNA derived non-coding RNAs in EMT and its relevance to malignancies
17. Molecular modelling of P1 nuclease enzyme of Leishmaniainfantum: Implications for the design of potent inhibitory molecules and vaccine candidates for Leishmaniasis
18. Role of Human Heterogeneous Nuclear Riobonucleoprotein D (hnRNPD) in Oral Cancer
19. Role of Negative Regulators of EGFR in Malignant Transformation of Oral Dysplasia
20. Role of Prothymosin-  $\alpha$  in Glial Tumorigenesis
21. Screening of a scFv Phage library and selection of SARS-CoV-2 spike protein binding clones
22. Spliceosomal regulation in Dengue pathophysiology
23. Structural analysis of RNA polymerase enzyme from SARS-COV2: Implications for the design of potent drug molecules and vaccine candidates against COVID-19
24. Subcellular Localization of Mitochondrial Carrier Protein of Plasmodium falciparum.
25. Targeting of DevR for combating drug tolerance of M tuberculosis
26. To study the effect of MC-LR in regulating Bone remodeling
27. To study the effect of Sodium Benzoate (NaB) in regulating Bone remodeling

28. To study the role of *Bifidobacterium longum* in modulating Bone Health via regulating the host Osteo-immune system

### **Completed**

1. Analyzing the effect of novel small molecule antagonist on cell surface toll-like receptor-induced pro-inflammatory cytokine expression in healthy peripheral blood mononuclear cells.
2. Analyzing the effect of novel small molecule antagonist on endosomal toll-like receptor-induced pro-inflammatory cytokine expression in healthy peripheral blood mononuclear cells.
3. Characterization of functional interaction between minor spliceosome and polyadenylation machinery
4. Characterizing pre-mRNA splicing in context of Dengue virus
5. Identification of interacting proteins of *Plasmodium vivax* Tryptophan Rich Antigen 26.3 (PvTRAg26.3) with erythrocyte surface
6. Impact of micro-nutrient supplementation of microbial infections
7. Regulation of PARP-1 Expression by hnRNP D in Oral Cancer.
8. Surface Proteomics of reticulocytes in *Plasmodium vivax* severe malaria patients
9. To dissect the role of TH17-Treg cells in Microcystin-LR induced bone loss
10. To study the nexus between probiotic *Lactobacillus rhamnosus* (LR) and T cell lineages in Ovx mice

### **Collaborative projects**

#### **Ongoing**

1. A study of epigenetics of Breast cancer by evaluation of tissue site-specific Promoter DNA methylation profiles in Breast Cancer, Surgery
2. Antisense oligo mediated therapies in Ataxia Talangiectasia, Paediatrics
3. Clinical significance of cancer stem cells markers and its proteins in different grades astrocytomas, RP Center
4. Development of novel mushroom based synbiotic food supplement for management of Osteoporosis, IIT-Delhi
5. Exploring the Tryptophan metabolism via Kynurenine pathway and their correlation with clinical outcome in Keratoconus and Fuch's endothelial corneal dystrophy patients undergoing corneal transplantation, RP Center
6. Expression of Reg-4 and MUC-4 in patients with carcinoma of pancreas, Gastroenterology
7. Expression profile of tRNA-derived fragments in T-lineage acute lymphoblastic leukemia, IRCH
8. Gut Microbiome and NaB, NCCS, Pune
9. Link between mitochondrial morphology and mitochondrial biogenesis in Acute lymphoblastic leukemia, Biochemistry
10. Minor spliceosomal & Dengue, THSTI
11. miRNA as biomarker in chronic pancreatitis patients who are at high risk for developing pancreatic cancer, Gastroenterology
12. Phytotherapeutics and Bone Health, IIT-Kharagpur
13. Role of BPA on Bone health, Delhi University
14. Role of Immune system in Pancreatitis, Gastroenterology
15. Role of Immune system in TB, Physiology
16. Role of miRNA mediated modulation of signal transduction in pancreatic cancer, Gastroenterology
17. Role of Th9 cells in Osteoclastogenesis, THSTI, Faridabad
18. To elucidate the role of intracellular gases in M tuberculosis, Physiology
19. To study the role of iPSC derived hematopoietic progenitor cells for hematopoietic failure among trauma Hemorrhagic shock using animal model, Emergency Medicine
20. YBX proteins in RNA splicing and stability, THSTI, Faridabad

### **Completed**

1. miRNA as evaluation Biomarker for tuberculosis treatment response ICGEB New Delhi, and InStem Bangalore

### **PUBLICATIONS**

**Journals: 23     Abstracts: 4**

## AWARDS HONOURS AND SIGNIFICANT EVENTS

**Professor Shyam S Chauhan** delivered Dr Khanolkar Oration of National Academy of Medical Sciences in 60th NAMSCON held online on 23 December 2020; He is National Coordinator of Biochemistry for National Board of Examinations, New Delhi; Professor Chauhan is Chairman of AIIMS Bio-safety Committee, Animal Ethics Committee and PhD Grievance Committee; He is also Professor In-Charge of Institute's Small Animal Facility; He is member of SERB Young Scientist –Life Sciences Expert Committee of DST; He also served as expert for evaluation of intramural research grants at AIIMS, Jodhpur and selection of faculty at AIIMS Jodhpur, AIIMS Patna, AIIMS, PGIMER Chandigarh, Institute of Liver and Biliary Sciences, Delhi; He served as subject expert for selection of DBT-RA, CSIR-RA and ICMR post-doctoral fellowship. Considering his experience in the field of Medical education he was also appointed as member of UG expert committee by Board of Governors in Suppression of Medical Council of India; He continues to be the member of Library Committee, Biotechnology Teaching Advisory Committee, AIIMS, Bio-Safety committee, V.P. Chest Institute, University of Delhi, and DBT-nominee for Bio-safety committee of Institute of Genomics and Integrative Biology, Mall Road, Delhi, member, Board of Studies of Aligarh Muslim University, Aligarh and Central university of Haryana, Mahendergarh, and Course Curriculum Committee of King George Medical University Lucknow; Professor Chauhan is on the Editorial Board of Research and Reports in Biochemistry and Indian Journal of Clinical Biochemistry as well as reviewer for various national and international scientific journals. He is life member of Society of Biological Chemists (India), Association of Clinical Biochemists of India, Indian Association for Cancer Research and Indian Academy of Biomedical Sciences.

**Dr Jaya S Tyagi** was awarded the G N Ramachandran Gold Medal for Excellence in Biological Sciences and Technology of CSIR (2020). She is recipient of NASI Senior Scientist Platinum Jubilee Fellowship; She is Honorary Visiting Professor, THSTI, Faridabad, Fellow of Indian National Science Academy; Fellow of Indian Academy of Sciences; Fellow of National Academy of Sciences (India), Member of Guha Research Conference; Vice-President and Council member of National Academy of Sciences (India); Member, Panel on Scientific Values, Indian Academy of Sciences, Bengaluru; Member, Scientific Advisory Committee of National Institute for Research in Tuberculosis, Chennai; Member, Scientific Advisory Committee of THSTI; Member, RAP-SAC of National Institute of Immunology and Centre for DNA Fingerprinting and Diagnostics; Member, DBT Expert Group on Tuberculosis; Member, DBT Steering Committee and Task Force on HRD; Member, DBT Technical Evaluation Committee for Infectious Disease Biology; Member, DBT Technical Evaluation Committee in Medical Biotechnology-II for NER; Chairperson, Institutional Human Ethics Committee of IGIB; Member, Technical Advisory Group of National Biopharma Mission, BIRAC DBT; Evaluation Panel Member for Quest 2020 of Tata Trusts; Convenor of SAC Disease Biology Sub-committee, DBT-IISc partnership programme for Advanced Research in Biological Sciences and Bioengineering at IISc, Bengaluru; Member, DBT Sample Access and Steering Committee for RePORT India; Member, Progress Review Committee of BIRAC-NESTA Boost Grants program; Member, Governing Council Sun Pharma Science Foundation; Member, INSA Women in Science Panel; Member, Selection committee for Faculty positions at National Institutions; Member, CSIR SRF/RA Selection Committee (Medical sciences and Pharma sciences); Chair, CSIR FTT FTC Monitoring Committee under Healthcare Theme.

**DrAnushree Gupta** is Central public Information Officer for the Department of Biotechnology, Bioinformatics course Coordinator, Attended one-week short Faculty Development Programme on “Computational Biology and Translational Bioinformatics” at IIT Roorkee from 30 September- 4 October 2019.

**Dr Rupesh Srivastava** is Featured among Elsevier's Bone Reports “top-downloaded and top-cited authors” list; Part of “Young Science Leadership” (YSL) program of Tri-Science Academies of India; M Biotech Program Coordinator; Member, Institutional COVID-19 literature appraisal committee, Institutional eGrants update and eNewsletter committee, Institutional IPR committee, Institutional CCRF-FLOW Cytometry committee, Departmental Infection Control Committee for COVID-19; Review Editor, Frontiers in Cell and Developmental Biology and Frontiers in Molecular Biosciences; Editor, Frontiers in Biosciences; Associate Editor, Frontiers in Immunology (Inflammation).

**Dr Bhupendra Kumar Verma** is M.Biotech Program Coordinator; Nodal officer for COVID-19 management, AIIMS; Co-ordinator, Departmental Infection Control Committee for COVID-19; Member, COVID-19 diagnostic management committee; COVID19 Literature appraisal committee for Immunology, Molecular Biology and Vaccine Development.

**Dr Vikram Saini** is the HarGobind Khorana Innovative Young Biotechnologist Fellow Department of Biotechnology, Government of India and a recognised expert in infectious disease, biosafety and biosecurity. DrSaini serves as an expert member and consultant for the National Biodefense Programme, and National Committee for the technical evaluation of development of the priority-pathogen containment facilities, Department of Defense, Govt of India. DrSaini also serves as an expert on the National committee constituted by the Office of Principal Scientific Advisor to Govt. of India to address the issue of quality, performance and reuse of PPE kits; technical expert and consultant to National Center for Disease Control (NCDC), India; DRDO, India, and to Govt. of Utrakhand State, India/World Bank sponsored initiative for development of high containment Biosafety facilities in these regions. DrSaini is selected nominee for Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Department of Animal Husbandry and Dairying, GOI; and

a principal investigator (at AIIMS) in National Consortium for One Health to address Zoonotic and Transboundary Diseases in India, including the Northeast Region. Additionally, DrSaini is involved in several initiatives at AIIMS including being the Principal investigator and technical expert for RAISE programme of Ministry of Power, GOI for examining efficacies of various technologies for pathogens disinfection for improving hospital air quality; the convener of PPE Decontamination and Re-use committee for COVID-19, Member Secretary of Institutional COVID-19 Diagnostic Committee, Member of Central Resource Committee, and member of Selection of PPE usage at the AIIMS, New Delhi during COVID-19, and Member, Institutional Purchase Committee. In addition, DrSaini is member/special invitee to various institutional bodies/committees including Institutional Biosafety Committee (IBSC), Institutional Animal Ethics Committee (IAEC), Core Committee CCRF, Committee for nude-mice/Transgenic mice facility; Facility In-Charge and Coordinator for CCRF-BSL-3 laboratory, AIIMS; and Member-Secretary for A-BSL3 facility at Central Animal Facility, AIIMS; coordinator of Career awareness program in Biotechnology at Dept. of Biotechnology, AIIMS. In addition, DrSaini serves as the review editor at journal *Frontiers in Microbiology* and reviewer for various journals and funding agencies DBT, DST-SERB, Swiss National Science Foundation (SNF), etc. Invited as an expert member and consultant for the National Biodefense Programme, and National Committee for the technical evaluation of development of the priority-pathogen containment facilities, Department of Defense, Govt of India. Invited as an expert member on the National committee constituted by the Office of Principal Scientific Advisor to Govt. of India to address the issue of quality, performance and reuse of PPE kits. Establishment and successful running of India's first PPE disinfection facility at AIIMS based on the vaporized hydrogen peroxide method developed by Dr Saini's group at AIIMS, New Delhi. PPE disinfection method features in *Royal Society of Chemistry Magazine* feature and also prominently features in WHO guidelines (2020) for PPE disinfection methods to mitigate shortages and emergency situations. Bureau of Standards, Government of India incorporating the vaporized hydrogen peroxide method for disinfection of PPE. Also, Ministry of Textile, Government of India, Incorporated this as recommended method for decontamination of PPE to the industry producing Single and Multi-use PPE.

**Dr Vineet Choudhary** is a recipient of the prestigious Welcome Trust/DBT India Alliance Intermediate Fellowship Grant. This is the first time someone from AIIMS, New Delhi has been awarded such a prestigious Grant in the field of Basic Biomedical Research. Dr Choudhary is participating at the departmental level as Course Coordinator for Structural Biology and NMR Technology, and Cell and Developmental Biology; The *Journal of Cell Biology* article by DrVineetChoudhary (6 July 2020;219(7):e201910177;doi: 10.1083/jcb.201910177) was featured in a SPOTLIGHT commentary entitled "building the lipid droplet assembly complex" in *Journal of Cell Biology*. <https://rupress.org/jcb/article/219/7/e202006025/151882/Building-the-lipid-droplet-assembly>; The same article also featured in a *Microbial Cell Review*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7380455/> Moreover, as an Outreach the same article was selected as a SPOTLIGHT for the European Commission (EU) research results section CORDIS, and results in brief entitled "The unexpectedly complex issue of putting on and losing fat" was published in six languages: <https://cordis.europa.eu/article/id/422501-the-unexpectedly-complex-issue-of-putting-on-and-losing-fat>; Dr Choudhary serves as a reviewer for various national and international scientific journals; He is a member of American Society for Cell Biology and American Society for Biochemistry and Molecular Biology; He was an invited speaker at the E-colloquium on "Emerging Trends in Health and Disease Research" ETHDR-2020, organised by Amity Institute of Biotechnology (AIB), Amity University Haryana (AUH), Gurugram, Haryana (20 October 2020).

## VISITING SCIENTISTS

1. Dr Manjula Kalia, PhD, Associate Professor, RCB, Faridabad has delivered seminar on 16 April 21
2. Dr Nimesh Gupta, Faculty, NII, New Delhi has delivered seminar on 16 April 21
3. Dr Sunil K Arora, PhD, Professor, PGI Chandigarh has delivered seminar on 17 April 21
4. Dr Upasana Ray, Senior Scientist, IICB, Kolkata has delivered seminar on 17 April 21
5. **Dr Ritobrata Goswami**, Assistant Professor, IIT, Kharagpur has delivered seminar on 20 April 21
6. Dr Amaresh Panda, Scientist-D, ILS, Bhubaneswar has delivered seminar on 22 April 21
7. Dr Sharath Chandra, Scientific Officer D, ACTREC, Mumbai has delivered seminar on 22 April 21
8. Dr Dimple Notani, Faculty, NCBS, Bangalore has delivered seminar on 22 April 21
9. Dr Saravanan Matheshwaran, Assistant Professor, IIT, Kanpur has delivered seminar on 23 April 21
10. Shailza Singh, Scientist at NCCS, Pune has delivered seminar on 24 April 21
11. Dr Anwesha Bhattacharyya, Faculty, JMI, New Delhi has delivered seminar on 24 April 21
12. Dr Rajiv Kumar, Assistant Professor, BHU, Varanasi has delivered seminar on 27 April 21
13. Dr Javed Agrewala, Professor, IIT Ropar, has delivered seminar on 28 April 21



## 9.8. Centre for Community Medicine

### Professor and Head

Shashi Kant

### Professors

Sanjeev Kumar Gupta  
Baridalyne Nongkynrih

Kiran Goswami  
Puneet Misra  
YS Kusuma Kumari

Anand Krishnan  
Sanjay Kumar Rai

### Additional Professors

Kapil Yadav

Sumit Malhotra

Anil Kumar Goswami

### Associate Professors

Partha Haldar

Ravneet Kaur

Harshal Ramesh Salve

Rakesh Kumar

### Assistant Professor

Mohan Lal Bairwa

## HIGHLIGHTS

As we draft this report amidst the ongoing severe second wave of the COVID-19 pandemic gripping the country and New Delhi, the faculty members of this department have been posted again for covid care services. The faculty members of Centre for Community Medicine (CCM), at AIIMS, New Delhi have been providing support to the government of India in crafting a response to the pandemic by being part of the National Task Force for COVID-19 response. They produced three consensus statements of public health experts of India on COVID-19 response and have contributed as investigators for vaccine safety, effectiveness trial and that has helped release the COVAXIN vaccine nationally as well as globally. Despite the ongoing pandemic, regular teaching continued, at times through virtual mode. Community based teaching, research and service provision has been the focus of faculty and staff housed within Centre for Community Medicine (CCM), at AIIMS, New Delhi. Strong outreach programmes and models of care are rendered through Urban Field Practice Area (at Dakshin Puri Extension, New Delhi) and Comprehensive Rural Health Services Project (CRHSP), Ballabgarh; Technical inputs are regularly provided to several national health programmes and initiatives of the Government of India. The CCM serves as the National Institute for HIV Surveillance and supports the National AIDS Control Organization (NACO), Government of India in tracking the HIV epidemic in the country. The department houses WHO collaborating centre for Research and Capacity Building on Community-based Non-Communicable Diseases (NCD) Prevention and Control. The department is also designated as the National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A) and spearheads Anemia Mukht Bharat in the country along with stakeholders. Mortality Surveillance in the country is strengthened through AIIMS Technical support unit for Sample Registration System (SRS) based verbal autopsy in collaboration with Registrar General of India (RGI), Ministry of Home Affairs and network of institutions (MINErVA). The CCM has collaborative projects with CDC Atlanta for the Strengthening evidence-based advocacy for influenza prevention and control in India. Support to Comprehensive Primary Health Care (CPHC), under Ayushman Bharat, is nurtured through an Innovation and Learning Centre that provides technical strengthening to Health and Wellness Centres (HWCs) in aspirational district, Nuh, Haryana. They also provided inputs during an interaction with the Prime Minister of India. The faculty members of CCM are part of many inter-departmental collaborative projects and theses within the Institute.

## EDUCATION

Due to COVID, all teaching and assessment had to be changed to online mode; Besides Lectures, innovations were discussed amongst faculty members on how the field based postings, which is the basic tenet of undergraduate posting in CCM could be continued; The Urban Health Posting, Family Health Advisory Services and Rural Postings had to be hence innovated amidst the limited options available, and were replaced to some extent by family-based exercise for clinical case, family workup, management discussion and health education. The undergraduate research exercise was based on an online data collection platform on relevant topics, and appropriate study participants. Online presentations were coordinated by the Department where all faculty members attended. Assessment included online spotting exercises (prepared in 3 sets for each batch), case discussion, project presentation, health talk and viva. Student feedback was regularly collected. Postgraduates were posted in COVID wards, so their seminars had to be scheduled according to convenience. Journal clubs were



online whenever the pandemic was on a surge. Once the surge subsided, the journal clubs were conducted on a hybrid mode- with some participants attending in physical mode with social distancing along with arrangements for parallel online sessions for the rest of the group.

### **Undergraduate MBBS students**

MBBS students of the 7th Semester, of the All India Institute of Medical Sciences, New Delhi, are posted at CRHSP Ballabgarh, in four batches for 6 weeks each. Due to COVID pandemic, this year, we adopted a hybrid mode of teaching. Out of 6 weeks, 3 weeks posting was residential and remaining 3 weeks was carried out on Online Mode. During posting they were taught concepts of epidemiology, were given an orientation to community health, including social determinants of health, community aspects of child health and mental health, health systems at various levels, and health programmes. There were special modules to train on Integrated Management of Neonatal and Childhood Illness (IMNCI) and epidemiology. The students also undertook a brief qualitative method-based research project under module Orientation of Undergraduates to Community Health (OUCH) during this posting. Each posting of 6 weeks was concluded by an internal assessment. Two skill modules namely, Glucometer use and Glowing & Gowning were also covered during residential posting at CRHSP Ballabgarh.

### **Interns**

The interns are posted for a total duration of three months at the CRHSP Ballabgarh. This period is divided into 6 weeks at SDH, and 3 weeks at each of the PHCs located at Dayalpur and Chhainsa; The entire posting is residential. At SDH, interns are posted in OPD and Wards that help them in learning basic clinical skills, as well as in-patient management, including conducting normal deliveries. They are rotated in all the available clinical disciplines at SDH under the supervision of respective Senior Resident (SR); During PHC posting, interns participate in health care delivery at the clinics of PHC, sub-centres as well as in antenatal clinics; They are also posted at the delivery hut at each PHC under overall supervision of SR of Community Medicine. They get experience in community level activities such as supervision of health workers, follow-up of patients that have defaulted while on anti-tuberculosis treatment, supervision of sub-centres, undertaking outreach activities, immunization and other ongoing activities at the PHC. Interns are also involved in special activities at PHCs such as Kayakalp assessment, annual census, public awareness generation and school health related activities. At the end of the CRHSP posting interns submit their log-book duly signed by respective SRs under whom they were posted for end posting assessment.

### **Postgraduate students of Community Medicine**

The postgraduate students of Community Medicine are posted at CRHSP Ballabgarh for 18 months. This posting is residential. Out of the total duration, they spend 5 months and 10 days each, at the sub-district hospital and both PHCs on a rotation. This gives them adequate opportunity to gain the necessary skills and experiences both at the SDH and PHC. They are encouraged to take active participation in decision making and administration at the PHC. The regular teaching programme includes seminars, family and clinical case presentations, problem exercises based on hospital and field-practice areas.

### **BSc Nursing and Post certificate Nursing Students**

BSc nursing students and post certificate nursing students are posted for one and half months at CRHSP Ballabgarh. This posting is residential in nature. They spend one month at SDH and 2 weeks in either of the two PHCs. They are provided training in antenatal care, management of ward, and immunization. They are posted both in OPD and in ward. They provide health talks, and IEC in OPD, and ward; Training of nursing students is supervised by a Faculty Member from the College of Nursing, AIIMS, New Delhi.

### **In-service Training**

In addition to teaching of students, periodic in-service training was conducted for different cadres of staff working at the CRHSP Ballabgarh. The trainings conducted during 2020-21 were as following:

1. A refresher training on Neonatal Resuscitation for nursing staff and field health workers of the intensive field practice area was conducted in March 2021, in collaboration with Faculty members of the College of Nursing.
2. A total of 50 hours of in-service training for Health Workers and ASHA workers (24\*2=48) were conducted at PHC Dayalpur and Chhainsa (figures are inclusive). These are conducted during the meetings, each month. Topics were decided based on the training needs identified during field supervision; for the reporting period, these were as following: identification of JSY beneficiaries and facilitating them to avail benefit, management of animal bite cases, management of LBW babies, family planning - methods, importance and how to improve coverage, management of biomedical waste management, Tracking of High Risk Pregnancy and management, postnatal care for mother and newborn including complication

management and kangaroo mother care, IMNCI-Identification and management of sick baby, identification, care and management of malnutrition at field level, Training on cold chain management PHC to immunization site and back to PHC, Diagnosis and management of TB cases.

## **CMEs/Workshops/Symposia/National and International Conferences**

### **1. MINErVA Webinars**

- 9 October 2020 – Improving Quality of Cause of Death ascertainment by doctors – attended by Coders of MINErVA. Attended by 236 participants
- 18 December 2020- Improving the quality of medical certification of Cause of Death. Attended by 118 participants.
- 5 March 2020 – Excess Mortality Estimation approach from Mortality datasets. Attended by 110 participants.

### **2. WHO/SEARO Webinars**

- WHO/SEARO Workshop on Virtual Approaches for Training and Capacity-Building of Health Workforce for NCD Service Delivery 19 June 2020

### **3. JHU-IPSI Webinars**

- 24 February 2021 – AIIMS ND and John Hopkins University co-hosted the webinar on: “Primary Health Care in the COVID-19 Response: Global Experiences”
- 24 March 2021 – AIIMS ND and John Hopkins University co-hosted the webinar on: “A tale of two cities: urban primary health at the time of COVID-19”.

### **4. WHO SEARO Online Course on Package of Essential Non-Communicable Disease (PEN) Interventions for Primary Health Care:**

The course is a multi-institutional multi-disciplinary team effort of All India Institute of Medical Sciences (AIIMS), New Delhi (Centre for Community Medicine, Department of Cardiology, Department of Endocrinology, and Centre for Dental Education and Research), Public Health Foundation of India (PHFI), New Delhi (Centre for Control of Chronic Conditions), Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh (Department of Pulmonary Medicine), and National Institute of Mental Health and Neurosciences, Bengaluru, India. The course ran from October 2020 to January 2021 with a total of 75 hours, of which 25 hours was faculty contact time. Course was delivered through a blended approach where participants were required to complete online modules supplemented by facilitation of faculty. Zoom platform was used for faculty-participants interaction. About 100 healthcare professionals of different levels in healthcare systems (from senior officials in the ministries of health to nurses and pharmacists in primary health care centres) from Bangladesh, Bhutan, Nepal, and Sri Lanka attended the course. The course is hosted at: <https://ccm-searo.aiims.edu/>

5. Organized “National consultation meeting” for HIV and Hepatitis Sentinel Surveillance at AIIMS, New Delhi from 18-19 August 2020
6. Organized “National Pre-Surveillance Workshop” for Regional Institutes, State AIDS Control Societies (SACS), Central Team Members (CTM), Regional Institute Members, and officials of state AIDS Control Societies of all 35 States and union territories of India at AIIMS New Delhi from 12 - 17 October 2020
7. Organized “Pre-Surveillance Orientation and Planning Workshop on ANC, Prison, and HRGs HIV Sentinel Surveillance 2021 (HSS 2021)” for faculty members of various medical institutions, and officials of state AIDS Control Societies of five northern states (Bihar, Jharkhand, Delhi, UP, and Uttarakhand) at AIIMS New Delhi, 14-15 December 2020
8. NMO talk on social stigma COVID on 27 May 2020
9. World Yoga Day Lecture, DayalBaag Educational Society on 21 June 2020
10. Delhi Judicial Academy Class on Vector Borne diseases on 22 August 2020
11. AI and Geospatial Analysis on 27 August 2020
12. DST Program advisory committee on 16 - 17 September 2020
13. Lecture for MPG students on 22 November 2020
14. National Institute of Public Cooperation and Child Development (NIPCCD)-Consequences of Anemia for Anganwadi Workers and Child development Project Officers, a series of 4 lectures were delivered from January - February 2021
15. A Training programme on the use of “Larvicide and Insecticides for the Prevention and Control of Vector Borne Diseases” was organized for staff of DPORC on 9 May 2021 at CCM, AIIMS
16. Organized a health awareness programme on “COVID-19” at Dakshinpuri Extension, New Delhi on 31 February 2021, Total Participants-150

## Lectures delivered

**KiranGoswami: 1**

**PuneetMisra: 4**

**SumitMalhotra: 5**

**RavneetKaur: 2**

**Mohan LalBairwa: 4**

**Anand Krishnan: 7**

**Sanjay K Rai: 6**

**Anil KumarGoswami: 2**

**Harshal Ramesh Salve: 6**

**BaridalyneNongkynrih: 7**

**KapilYadav: 2**

**ParthaHaldar: 2**

**Rakesh Kumar: 3**

### **Kiran Goswami**

1. Project Step One, Addressing COVID-19: changing perspective, 14 August 2020, Online

### **Anand Krishnan**

1. Impact of COVID on access to mitigative and treatment services, “Promoting Equity in National COVID-19 responses” WHO/SEARO, 19 August 2020, New Delhi
2. Pandemic, Air Quality and Health Impacts, Effect of pandemic (covid-19) on air quality & initiatives for post-Pandemic conditions, 29 October 2020, New Delhi
3. Rethinking Capacity Building of Health Workforce to Deliver People-centered NCD Services, WHO-SEARO Online Course for Accelerating NCD Service Delivery in the Regional Countries, 27 November 2020, New Delhi
4. Budgetary requirements and How to get funding? Workshop on “How to Write Research Proposal for Funding and Exploring collaborative Research in Medicine” SGT University, 22 Dec 2020, Gurugram
5. Role of community Medicine professionals in Accelerating action on ground, Tackling antimicrobial resistance: Accelerate action on the ground at IAPSMCON2021, 18 March 2021, Chandigarh
6. National NCD Surveillance and Monitoring Survey: Methodological Issues and Challenges, Building a robust NCD surveillance system for evidence based NCD Programme IAPSMCON 2021, 20 March 2021, Chandigarh
7. “Introduction to Monitoring and Evaluation, International Public Health Management Development Program” (IPHMDP), 26 March 2021, Chandigarh

### **Baridalyne Nongkynrih**

1. Risk-based CVD management and integrated management of hypertension and diabetes, WHO SEARO online course on people centered NCD service delivery in South East Asia, 27 Oct 2020, Delhi (online)
2. Risk-based CVD management and integrated management of hypertension and diabetes, WHO SEARO online course on people centered NCD service delivery in South East Asia, 30 Oct 2020, Delhi (online)
3. Risk-based CVD management and integrated management of hypertension and diabetes, WHO SEARO online course on people centered NCD service delivery in South East Asia, 17 Nov 2020, Delhi (online)
4. Fundamentals of palliative care, WHO SEARO online course on people centered NCD service delivery in South East Asia, 15 Dec 2020, Delhi (online)
5. Coder engagement webinar: MINERVA, Current Status of MINERVA, 18 Dec 2020, Delhi (online)
6. Fundamentals of palliative care, WHO SEARO online course on people centered NCD service delivery in South East Asia, 9 Jan 2021, Delhi (online)
7. Primary health approach towards NCD and screening for NCDs: Evidence, issues and challenges, International Course on Public Health Approaches to NCDs, 2-6 March 2021, 5 March 2021, Delhi (online)

### **Puneet Misra**

1. Malaria for Vigyan Bharti, TV program, 25 April 2020, Online
2. Webinar-Live with Corona, CSIR, 14 May 2020, Online
3. Webinar on Covid, IPHA conference, 20 June 2020, Webinar
4. Lecture on Anemia on AMB for National Institute of Public Cooperation and Child Development (NIPCCD), Anemia Mukta Bharat, 25 June 2020, Webinar

### **Sanjay K Rai**

1. Public Health approach to control the pandemic, Public Health Emergency & Management in response to COVID-19 pandemic, 10 September 2021, Virtual mode, NIHF, New Delhi
2. Key note address on Nutrition Security, National Conference on Nutrition, 12 September 2020, Virtual mode, AIIMS, Mangalagiri

3. Keynote speaker on COVID-19 trajectory and role of vaccine in India, South Asian Medical Students' Association Conference 2020 (SAMSACON 2020), 12 October 2020, Virtual mode, Kolkata
4. Race for a COVID-19 Vaccine: Atmanirbhar Bharat and Health: Successes and Challenges ahead, The 6th International Science Festival (IISF), 23 December 2020, Virtual mode, Kolkata
5. Plenary speaker on COVID – 19 Vaccine – A path forward, Annual Scientific National Conference of Epidemiological Association of India (EFICON 2020), 19 December 2020, Hybrid Mode at AIIMS, Rishikesh
6. “Covid Vaccine in India: To Take or Not to Take”, Forum for Odisha Dialogues, 23 January 2021, Virtual Mode at Bhubaneswar

#### **Kapil Yadav**

1. Anemia Mukht Bharat: Sharing Experiences, National Conference on Nutrition and Health, 13 September 2020, AIIMS Mangalagiri, Andra Pradesh
2. Success story of USI in India and lessons learnt for Public Health Nutrition programs', 48th Annual Conference of Indian Association of Preventive and Social Medicine, 19–21 March 2021, PGIMER, Chandigarh

#### **Sumit Malhotra**

1. Formulation of research question and hypothesis, Basic research methodology in orthodontics (Online), 20 April 2020, AIIMS, Delhi
2. ECHO model training for PHCs in Haryana, Web based workshop on the virtual approaches for training and capacity building of health workforce for NCD delivery in three countries, 19 June 2020, New Delhi
3. Components of original research-match between hypothesis and methodology adopted, Indian Society of Pedodontics and Preventive Dentistry (ISPPD)- Effective peer review - reviewers training workshop (Online), 24 Nov 2020, New Delhi
4. MINerVA coder engagement strategy, DeCoDe-VA: Deriving cause of death from verbal autopsies Webinar, 18 Dec 2020, New Delhi
5. Patient and community engagement, Virtual in-service education programme on Patients for Patient Safety: An initiative for safer health, 25 March 2021, New Delhi

#### **Anil Goswami**

1. International Panel Discussion on “Social Work in Health Care during Pandemic: Indian and Global perspective”, All India Association of Medical Social Work Professionals (South Zone) and Kerala Association of Professional Social Work, 18 June 2020, Online
2. Webinar on “Social Stigma and Public Health in times of COVID-19”, All India Association of Medical Social Work Professionals (North -East Zone) & in Collaboration with Department Of Community Medicine, RIMS, Imphal, 19 September 2020, Online

#### **Partha Haldar**

1. Know your Sentinel Sites for the Monitoring Plan, Regional Pre-Surveillance Meeting of RI-AIIMS (Central Zone), 14 September 2020, Online
2. Laboratory Procedures: Specimen Collection, Processing, Packaging, and Transportation - ANC, HRG and Prison sites, Regional Pre-Surveillance Meeting of RI-AIIMS (Central Zone), 15 September 2020, Online

#### **Ravneet Kaur**

1. Maternal Nutrition – Critical but often missed, PoshanCon 2020 – The first National conference of MIYCN National Working Group of IAPSM, 17 October 2020, Virtual MIYCN National Working Group of IAPSM
2. Strategies under Anemia Mukht Bharat, 42nd Annual National Conference of the Indian Association of Preventive and Social Medicine., 19-20 March 2021, Online (PGIMER), Chandigarh

#### **Harshal Ramesh Salve**

1. Public Health as focal for Climate Change Discourse, Climate Change: Putting Public Health First by WHO – India Country Office, 2 June 2020, Online (New Delhi)
2. Climate change and biodiversity- Indian Perspective, Climate change and biodiversity webinar by NCDC and WHO India Office, 5 June 2020, Online (New Delhi)

3. Epidemiology and control and prevention strategies of mental illness in India, 6th International Course on Public Health Approaches to Non Communicable Diseases - 2021 by AIIMS – PGIMER and World NCD Federation, 2 March 2021, Online (PGIMER, Chandigarh)
4. Air Pollution and Health Risks–Case studies from Delhi, 48th Annual National Conference of Indian Association of Preventive and Social Medicine IAPSMCON 2021 – CME on Basic Health Risk Assessment, 16 March 2021, Online (PGIMER, Chandigarh)
5. Engaging Medical institutes for air pollution control, 48th Annual National Conference of Indian Association of Preventive and Social Medicine IAPSMCON 2021, 20 March 2021, Online (PGIMER Chandigarh)
6. Approaches to estimation of Excess Mortality due to COVID – 19, MINErVA Webinar Series by AIIMS – Technical Support Unit, 5 March 2021, Online (New Delhi)

#### **Rakesh Kumar**

1. Verbal autopsy coding: some challenges, DeCoDe-VA: Deriving Cause of Death from Verbal Autopsies (Webinar), 9 Oct 2020, New Delhi, Online
2. Challenges and prospects of Covid 19 vaccination in India, Webinar at Sree Narayana College, Kannur, Kerala, 12 Feb 2021, Sree Narayana College, Kannur, Online
3. Leveraging MINErVA Network for estimation of excess COVID-19 deaths in India, DeCoDe-VA: Deriving Cause of Death from Verbal Autopsies (Webinar), 5 March 2021, New Delhi, Online

#### **Mohan Bairwa**

1. Strategies to improve the Cause of Death data, DeCoDe-VA: Deriving Cause of Death from Verbal Autopsies, 18 Dec 2020, Online
2. Monitoring, Surveillance and Evaluation, VI International Course on Public Health Approaches to NCDs, 5 March 2021, Online
3. Monitoring, Evaluation and Building Information system (HMIS) for NCDs, VI International Course on Public Health Approaches to NCDs, 5 March 2021, Online Assessing quality of Medical Certification of Cause of Death: Proposed nationwide study, MINErVA Network Meeting, 24 March 2021, Online

#### **List of oral papers/posters presented: 8**

1. Debnath A, Salve HR, Sagar R, Nongkynrih B, Krishnan A, Accessibility and distribution of mental health care facilities in District Faridabad, 48th Annual National Conference of Indian Association of Preventive and Social Medicine IAPSMCON 2021, 20 March 2021, Online (PGIMER Chandigarh)
2. Debnath A, Salve HR, Sagar R, Nongkynrih B, Krishnan A, Community perspective of mental health and mental health care in district Faridabad: A mixed method study, 48th Annual National Conference of Indian Association of Preventive and Social Medicine IAPSMCON 2021, 20 March 2021, Online (PGIMER Chandigarh)
3. Gopal G, Kumar R, Manchanda S, Haldar P, Sreenivas V, Kant S, Dey A B, Krishnan A, Development and validation of a clinical algorithm for diagnosis of community acquired pneumonia among older adults, 48<sup>th</sup> Annual Conference of Indian Association of Preventive and Social Medicine, 19-21 March 2021, PGIMER, Chandigarh (Virtual conference)
4. Mohapatra S, Sharma P, Shwetha JV, Sneha KC, Vibhor Tak, Panigrahi R, Chaudhuri S, Gautam H, Sood S, Das BK, Kapil A, Hari P, Salve HR, Antimicrobial resistance pattern of Community-acquired Urinary Tract Infection from different geographical regions of India, FIS/HIS International 2020, 30 March 2021, Online
5. Preety, Krishnan A, Kumar R, Salve HR, Evaluation of Pradhan Mantri Ujjwala Yojana (PMUY) and its impact in improving the respiratory health of women and children in rural Haryana, 48th Annual Conference of Indian Association of Preventive and Social Medicine, 19-21 March 2021, PGIMER, Chandigarh (Virtual conference)
6. Salve HR, Jaiswal A, Kumar R, Kant S, Community practices in COVID-19 outbreak in rural Ballabgarh, Haryana- a mixed methods study, 48th Annual Conference of Indian Association of Preventive and Social Medicine, 19-21 March 2021, PGIMER, Chandigarh (Virtual conference)
7. Yadav K, Delivering for Nutrition in India: Insights from Implementation Research, IFPRI's D4N conference, 14-18 September, 2020, Online
8. Yadav K, Development of Anemia free India Programme, Micronutrient Forum CONNECTED Conference, 11 November 2020, Online



## RESEARCH

### Funded projects

#### Ongoing

1. A Multi-Centric Novel Coronavirus (COVID-19) Population-Based Age-Stratified Sero-Epidemiological Study (In Urban, Rural and Tribal Communities at Selected Centers in India: A Prospective Study), Puneet Misra, W.H.O, 1 year, 2020- 2021, Rs 2.39 crores
2. A study to understand the effectiveness of the tele-mentoring Extension for Community Healthcare Outcomes model in improving ASHA's knowledge, skills and practice in comprehensive health care in Nuh district, Haryana, Sumit Malhotra, ECHO India, 2 years, 2019-2021, Rs 21.75 lakhs
3. Advancing Biomedical Interventions for prevention of RSV infection in under-5 Children N-2111, Anand Krishnan, IAVI, 15 months, 2020-2021, Rs 30.9 lakhs
4. An Adaptive, Seamless Phase 1, Followed by Phase 2 Randomized, Double-blind, Multicenter Study to Evaluate the Safety, Reactogenicity, tolerability and Immunogenicity of the Whole-Virion Inactivated SARS-CoV-2 Vaccine (BBV152) in Healthy Volunteers, Sanjay K Rai, Bharat Biotech, 1 year, 2020-2021, Rs 46 lakhs
5. An Event-Driven, Phase3, Randomized, Double-blind, Placebo-controlled, Multicenter Study to Evaluate the Efficacy, Safety, Immunogenicity, and Lot-to-Lot consistency of BBV152, a Whole virion Inactivated SARS-CoV-2 Vaccine in Adults  $\geq$  18 Years of Age., Sanjay K Rai, ICMR, 1 year, 2020-2021, Rs 71.3 lakhs
6. Assessment of implementation and barriers related to weekly iron folic acid supplementation programme in out of school adolescents within National Territory of Delhi, Sumit Malhotra, Delhi State Health Mission, Department of Health and Family Welfare, Government of NCT of Delhi, 3 years, 2018-2021, Rs 16 lakhs
7. Assessment of risk factors for coronavirus disease 2019 (COVID-19) in health workers: A case control
8. Capacity building of primary health care providers in comprehensive primary health care packages for operationalization of health and wellness centres using tele-mentoring platform in northern parts of India, Sumit Malhotra, National Health Mission, Haryana, 2 years, 2020-2022, Rs 6.89 lakhs
9. Community practices in COVID-19 outbreak in rural Ballabgarh, Haryana: A mixed method study, Harshal R Salve, AIIMS Intramural Project, 1 year, 2020-2021, Rs 2.75 lakhs
10. Community's compliance to health advisory during COVID-19 pandemic: a socio-ecological framework to understand the compliance with implications on future disease prevention strategies, YS Kusuma, AIIMS, New Delhi, 1 year, 2020-2021, Rs 3.5 lakhs
11. Comparative assessment of various models of Mobile Medical Units in rural and remote areas, Ravneet Kaur,
12. Delhi Cluster – Delhi Research Implementation and Innovation (DRIIV): Tackling air pollution in Delhi NCR, Harshal R Salve, Office of Scientific Advisor, GoI, 2 years, 2020 - 2022, Rs 8 lakhs
13. Developing an app-based bilingual e-learning module for primary health care workers in response to COVID -19 pandemic, Ravneet Kaur, AIIMS Intramural, 1 year, 2020-2021, Rs 5 lakhs
14. Development of online teaching and learning resources for package of essential NCD (PEN) interventions for primary health care workers and setting up of a virtual learning network in the South-East Asia Region, Anand Krishnan, WHO, 6 months, 2020, Rs 21.42 lakhs
15. Effect of glycemic status on initial presentation and treatment response in newly diagnosed sputum, positive pulmonary tuberculosis patients: a prospective study, Dr Rakesh Kumar, AIIMS, Intramural, 2 years, 2019-2021, Rs 9.85 lakhs
16. Effect of structured yoga program on stress among frontline healthcare workers during COVID-19 pandemic, Dr Puneet Misra, Department of Science and Technology (DST), 1 year, 2021- 2022, Rs 14.6 lakhs
17. Effectiveness of point of care testing by front line workers- ANM, AWW, and ASHA) in anemia control, Kapil Yadav, ICMR, 2 years, 2020-2022, Rs 98.49 lakhs
18. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy in improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Rakesh Kumar (Co-PI and coordinator), ICMR, 2 years 5 months, 2020-2022, Rs 98 lakhs
19. Establishing a technical support unit for Verbal Autopsy based cause of death ascertainment in the sample registration system, Registrar General of India, Anand Krishnan, Ministry of Home Affairs (ORGI), 5 years, 2020-2025, Rs 2.8 Cr
20. Guidance to member states of south east Asia region for promoting Equity in their COVID-19 Response, Anand Krishnan, WHO, 6 months, 2020, Rs 7.5 lakhs
21. HIV sentinel surveillance for India project, Sanjay K Rai, NACO, MoHFW, GoI, 2 years, 2018-2020, Rs 2.34 crores

22. Household transmission investigation for coronavirus disease 2019 (COVID-19) in a rural and urban population of North India, Kapil Yadav, WHO, 9 months, 2020-2021, Rs 63.8 lakhs
23. Human Resource Development Health Research Scheme-Operational Research, Sumit Malhotra, Department of Health Research, Ministry of Health and Family Welfare, Government of India, 7 years, 2014-2021, Rs 56 lakhs
24. Improving healthcare access and quality in the context of achieving universal health coverage among scheduled tribes: an implementation research in Visakhapatnam district, Andhra Pradesh, YS Kusuma, ICMR, 2 years 5 months, 2020-2022, Rs 29.2 lakhs
25. Innovation Learning Centre for supporting implementation of Comprehensive Primary Health Care in a selected district of Haryana, Sumit Malhotra, National Health Systems Resource Centre (NHSRC), Ministry of Health and Family Welfare, 3 years, 2018-2021, Rs 41.45 lakhs
26. Mortality burden of ambient PM exposure in Delhi NCR, Harshal R Salve, AIIMS-IIT Joint Collaborative Project Grant, 2 years, 2018-2020, Rs 8.90 lakhs NHSRC, MOHFW, 2 years, 2019-2021, Rs 25 lakhs
27. Nutritional status of pregnant women as assessed by nutrient intake, anthropometry and selected serum biomarkers in an urban area of Delhi – A community-based study, Ravneet Kaur, AIIMS Intramural, 2 years, 2019-2021, Rs 8,25,000/- positive pulmonary tuberculosis patients: a prospective study, Dr Rakesh Kumar, AIIMS, Intramural,
28. Reducing Premature Mortality due to CVDs (Cardiovascular Diseases) Identification of Delays and Barriers to acute Cardiac care in National Capital Region – Delhi I-1119, Anand Krishnan, ICMR, 2 years, 2019-2021, Rs 25.3 lakhs
29. Setting up regional pool of experts for accelerating NCD service delivery through PEN HEARTS program in South East Asia Region – a step towards 2025 regional commitments, Anand Krishnan, WHO, 5 months, 2019-2020, Rs 12.0 lakhs
30. Strengthening evidence-based advocacy for influenza prevention and control in India (N-1814), Anand Krishnan, CDC, Atlanta, 5 years, 2018-2023, Rs 9.3 Cr study, Ravneet Kaur, World Health Organization, 1 year, 2020-2021, Rs 21.63 lakhs

### **Completed**

1. Assessment of Iodine status amongst pregnant women in select district of India, Kapil Yadav, ICMR, 2 years 5 months, 2016-20, Rs 57.6 lakhs
2. Developing Community level Climate based Early Warning System (CCEWS) for Vector Borne Diseases in National Capital Region, India, Harshal R Salve, Climate Change Program (SPLICE) Department of Science and Technology, Government of India, 3 years, 2017-2020, Rs 55.62 lakhs
3. Effect of structured yoga program on hypertension, diabetes, stress and wellness in a community setting, its feasibility and long-term sustainability, Puneet Misra, Department of Science and Technology (DST), 2 years (Plus 1 year extension), March 2018- March 2021, Rs 47.5 lakhs
4. Pilot study on implementation of screening and management protocol for COPD/Asthma under NPCDCS in rural North India, Harshal R Salve, NCDC, 6 Months, 2019-2020, Rs 40,750
5. Prevalence of Anemia among elderly persons residing in an Urban Resettlement Colony of Delhi, Anil K Goswami, AIIMS, New Delhi, 1 year, 2019-2021, Rs 5 lakhs
6. Priorities for Advancing Research on Health Effects of Air Pollution in India, Harshal R Salve, Health Effects Institute, Boston USA, 5 months, 2019-2020, Rs 19.93 lakhs
7. Sero prevalence of novel coronavirus infection (SARS CoV-19) among select high risk groups (healthcare workers, older adults) in Ballabgarh block of Haryana, India, Rakesh Kumar, AIIMS (Intramural), 1 year, 2020-2021, Rs 5.73 lakhs

### **Departmental projects**

#### **Ongoing**

1. A Double Blinded Randomized Controlled Trial To Compare The Effectiveness Of Oral Multiple Micronutrient Supplement (MMS) Vs Oral Iron And Folic-acid, for Anemia Prophylaxis Among Non-anemic Pregnant Women In Rural Haryana
2. Assessment of Mental Health Services in District Faridabad – A Mixed Method Study
3. Assessment of Select Nutritional Problems among Adolescent Girls in an Urban Resettlement Colony, New Delhi- A Mixed Method Study
4. Community based Operational Research Feasibility of introducing yoga and its effect on stress and Perceived well-being on new medical under-graduate students of AIIMS, New Delhi

5. Community based Operational Research Study on involvement of ASHA in Strengthening of Primary Eye Care Services for Urban Vulnerable Population of Delhi
6. Development of a scale to measure eHealth Literacy among college going students aged 18-24 years (English version) in Faridabad, India
7. Diabetes and hypertension among elderly persons in an urban resettlement colony of Delhi.
8. Dietary diversity and associated factors among women of reproductive age in an urban resettlement colony in Delhi
9. Economic burden, prevention and control of pneumonia among elderly
10. Effect of Structured Yoga Program on Hypertension, Diabetes, Stress and Wellness in Community Setting, its Feasibility and Long-Term Sustainability. 2018-2021
11. Enhancing mental health literacy and reducing stigma for mental illness among college going students in National Capital Territory of Delhi: An interventional study
12. Estimation of cardiovascular risk among adults aged 30-59 years using updated WHO CVD risk charts in the rural population of Ballabgarh, Haryana
13. Evaluation of Population Based Screening (PBS) under National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) using Lot Quality Assessment Sampling (LQAS) technique in Nuh (Mewat) District, Haryana
14. Feasibility of Implementation of Hospital Based Trauma Registry for Road Traffic Injuries at Different Level of Health Care Setting and its Effect on Quality of Patient Care
15. Health and nutrition behavior needs assessment of community-based youth in north India.
16. Healthy food purchase and retail food environment in an urban resettlement colony of Delhi
17. HIV Self-Testing as a Mechanism to Increase the uptake of HIV Test Among MSM: A Mixed Methods Study
18. Impact of COVID 19 lockdown on routine immunisation services in a rural community of north India.
19. Impaired lung function among patients successfully treated for pulmonary tuberculosis at Ballabgarh Tuberculosis Unit, district Faridabad, Haryana
20. Knowledge and acceptability of pre-exposure prophylaxis (PrEP) for HIV among men who have sex with men (MSM) and transgenders (TGs) in Delhi
21. Knowledge and Practices related to Ambient Air Pollution and App- based Air Quality Alert System in an Urban Population in Delhi
22. Management of Headache Disorders in adults residing in Rural Ballabgarh: Patient and Healthcare Provider perspective
23. Mild cognitive impairment and associated factors among elderly persons in an urban resettlement colony in Delhi.
24. Patterns and determinants of cooking fuel use and barriers to adoption of Pradhan Mantri Ujjwala Yojana in rural Ballabgarh, Haryana - A mixed method study”
25. Prevalence of anemia among elderly persons in a resettlement colony of Delhi.
26. Prevalence of anemia among women in a rural area of Haryana who had received intravenous iron sucrose during pregnancy for treatment of moderate anemia: 6 and 12 months post infusion
27. Prevalence of Gestational Diabetes Mellitus among 1st and 2nd trimester pregnant women in a rural community of Haryana using Government of India operational guidelines.
28. Prevalence of low back pain and its associated factors among elderly persons in an urban resettlement colony of Delhi.
29. Quality assessment of Adolescent Friendly Health Clinics (AFHCs) under Rashtriya Kishore Swasthya Karyakarm in the National Capital Territory of Delhi
30. Relevance and capture of narratives in verbal autopsies for cause of death
31. Status of COVID-19 specific IgG antibodies among recovered COVID-19 patients residing in a rural community of Faridabad, Haryana
32. Study of Common Mental Disorders in adolescent living with HIV (ALHIV) attending the paediatric HIV services at AIIMS, New Delhi: A Case-Control Study
33. Utilization of maternal healthcare services in a rural area of Ballabgarh, Haryana during Covid-19 pandemic.

## **Completed**

1. Assessment of anemia control measures in district Faridabad, Haryana with focus on iron folic acid supply chain and anemia diagnostic facilities: a mixed method study
2. Assessment of Select Nutritional Problems among Adolescent Girls in an Urban Resettlement Colony, New Delhi- A Mixed Method Study
3. Consumption of High Fat, Salt, Sugar (HFSS) food among adolescents in rural Haryana, India
4. Depressive disorders among adolescents in Ballabgarh, Haryana, India: A community-based cross-sectional study.
5. Evaluation of coverage of population-based screening under National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) using Lot Quality Assessment Sampling (LQAS) technique in Faridabad District, Haryana.
6. Patient costs and treatment delays among newly diagnosed adult tuberculosis patients registered under Revised National Tuberculosis Control Programme in Ballabgarh block of district Faridabad, Haryana

## **Collaborative projects**

### **Ongoing**

1. A cross sectional study to assess the financial toxicity and non-compliance with its associated selected background variables among patients undergoing chemotherapy at IRCH, AIIMS New Delhi, College of Nursing
2. A Phase III, Randomized, Double-blind, Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac (Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients, Pulmonary Medicine and Sleep Disorders
3. A population based prospective cohort study to unravel the causes of stroke and cognitive decline: A cross-cultural perspective, Neurology
4. A prospective multicentric observational study on the role of blood coagulation and Fibrinolysis in the emergence of ARDS in patients with New Coronavirus Pneumonia (COVID-19), Hematology
5. A study to identify the risk factors and prevalence of oral cancer through screening among security personnel working at AIIMS, New Delhi., College of Nursing (MSc Thesis)
6. Advanced Nodal Centre for Surveillance Network of AMR in Typhoidal Salmonella in India, Microbiology
7. Assessment of quality of death certification practices at AIIMS, New Delhi and testing quality improvement solutions, Hospital Administration
8. Assessment of the prevalence and pattern of traumatic dental injuries in Kabaddi players of Delhi-NCR region, Centre for Dental Education and Research
9. Combined Trans -muscular Quadratus Lumborum Block and Sacral Erector Spinae Block Versus Intrathecal morphine for perioperative analgesia in patients undergoing Open gynaecological oncological surgery: An Open label Prospective Randomized Non inferiority trial. Anaesthesiology, Pain Medicine and Critical Care
10. Delhi Emergency Live Heart-Attack Initiative - "MISSION DELHI" Saving Heart Saving Lives, Emergency Medicine
11. Development of longitudinal growth reference and assessment of growth velocity, cardio-metabolic measures and its correlates among children in India- a prospective study, Biostatistics
12. Development of panic and anxiety Indian questionnaire (PANIQ), Psychiatry
13. Effect of itraconazole on allergic fungal rhinosinusitis: A clinico-radiological co-relation study, Otorhinolaryngology
14. Emerging drug resistance in community-acquired urinary tract infection and molecular insights into dynamics of resistance traits in Indian isolates- A multi-centric cross-sectional study. Microbiology, Medicine
15. Genome based antigenic diversity analysis of *P. vivax* in Indian populations to identify global vaccine candidates. Microbiology, Medicine
16. Human Microbiome Initiative of Select Endogamous population of India, Gastroenterology
17. ICMR Task Force Centre on Rational use of drugs, Pharmacology
18. Impact of Comprehensive Nutritional Package (CNP) on Nutritional Status of Under-Five Malnourished Children at secondary care hospital in Ballabgarh, Haryana, College of Nursing
19. Indian Multiple Sclerosis and Allied Demyelinating Disorders Registry and Research Network, Neurology
20. Mortality burden of ambient PM2.5 exposure in Rural Ballabgarh, Haryana, North India, IIT Delhi
21. National Viral Hepatitis Control Programme, Sentinel Surveillance Laboratory, Microbiology
22. Prevalence of antibiotic resistant genes in the healthy gut flora of individuals residing in rural community setting, Gastroenterology

23. Prevalence of congenital heart disease in adults residing in Ballabgarh block of Haryana, India: A population based study, Cardiology
24. Psycho-social Dynamics of Pregnancy Loss: Development of a Multidimensional Scale & Development and Efficacy (a Randomized Control Trial) of a Group Psychological Intervention Module, Psychiatry
25. The Systematic Medical Appraisal, Referral and Treatment (SMART) mental health program, The George Institute for Global Health India

### **Completed**

1. Extent of mental health issues and addictive behaviour among adolescents seeking help in adolescent friendly health clinics in Delhi, National Drug Dependence Treatment Centre
2. First contact and pre-referral management and compliance to treatment in patients with uveitis, Dr RP Centre for Ophthalmic Sciences.

## **PUBLICATIONS**

**Journals: 69**

## **PATIENT CARE**

### **Comprehensive Rural Health Services Project( CRHSP) report**

Comprehensive Rural Health Services Project (CRHSP), Ballabgarh is the rural program of the Centre for Community Medicine of the All India Institute of Medical Sciences, New Delhi. It comprises a sub district hospital (SDH), and two Primary Health Centres (PHCs) at Dayalpur, and at Chhainsa. The Intensive Field Practice area of CRHSP, as of 31 March 2021 consisted of a total population of **1,04,699**. The public health care infrastructure at the Intensive Field Practice area of CRHSP is set up through a network of 12 sub-centres associated with the two aforementioned PHCs. The Mission of CRHSP Ballabgarh is to achieve excellence in public health by undertaking teaching, research and patient care in rural settings. CRHSP Ballabgarh is involved in patient care, teaching, training and research activities. MBBS 7th semester students, Interns, postgraduate students and Senior Residents of various disciplines, and Nursing students, are posted at CRHSP Ballabgarh for their training through exposure to health care provision at a sub-district facility, and at PHC level. The students are also sensitized to the social determinants of health, through their residential teachings at these PHCs, wherein they interact with the community members.

Healthcare provision statistics at CRHSP Ballabgarh (1 April 2020 to 31 March 2021)

- OPD services – 1,70,237 patients,
- In-patient services- 9,183 patients,
- Emergency services – 43,276 patients
- A total of 2,723 deliveries were conducted for pregnant women
- Total number of surgeries - 972 (only at the SDH Ballabgarh)

Following note provides a detailed description of the activities at the CRHSP Ballabgarh, which includes the two PHCs for the financial year 1 April 2020 - 31 March 2021:

1. Patient Care
2. Newer Initiatives

### **I. PATIENT CARE**

Patient care at the CRHSP Ballabgarh is described under following two categories

- A.** Patient care services provided at the Sub-district Hospital, Ballabgarh
- B.** Patient care services provided at the Primary Health Centres

### **Outpatient Departments:**

<b>Daily</b>	<b>Once weekly</b>
General Medicine	Non Communicable Disease Clinic
General Surgery	Physical Medicine and Rehabilitation (PMR)
Paediatric	Paediatric Surgery
Obstetrics and Gynaecology	Neurology
Ophthalmology	Plastic surgery
Psychiatry	Nutrition OPD



Daily	Once weekly
Dental	Thrice weekly
AYUSH (Homeopathy)	Ante-natal clinic
AYUSH (Ayurveda)	Twice weekly
Orthopaedics	Dermatology
	Ear, Nose and Throat

#### A. Patient care services provided at SDH Ballabgarh: (2020-21)

##### Total Outdoor Patients

Out Patient Department (OPD) Total (New + Old)	1,70,237
New OPD patients (%)	94,958 (55.8%)
Medicine (New + Old)	59,675
Paediatrics (New + Old)	28,332
Obstetrics and Gynaecology (New + Old)	20,621
Antenatal care Clinic registrations, Total visits, (New + Old)	13,137
Ophthalmology (New + Old)	9,192
Surgery (New + Old)	3,430
ENT (New + Old)	1,291
Dental	3,978
Physical Medicine & Rehabilitation (New + Old)	179
Non-Communicable Ds clinic, Total (New + Old)	1,715
Dermatology (New + Old)	566
AYUSH (Homeopathy + Ayurveda)	9,361
Orthopaedic (New + Old)	12,334
Psychiatry	6,330
Nutrition OPD	79
Plastic Surgery	5
Neurology	0
Pediatric surgery	12

#### 2. In-patient services

- Total no. of beds:50

<b>a. Total Admissions(including births)</b>	<b>9,183</b>
Admission through casualty	4,864
Admission through OPD	1,611
Admission of New Born (births)	2,708
<b>b. Disaggregation of admissions, by specialty (N = 12,608)</b>	
Obstetrics and Gynaecology	5,769
Paediatrics	85
Ophthalmology	423
Surgery	99
Medicine	86
ENT	13
Physical Medicine and Rehabilitation (PMR)	0
c. Average Bed Occupancy Rate (%)	82.96%
d. Average duration of stay for all patients (in days)	1.72
e. Total Deliveries Conducted (including IUD)	2,723

<b>Casualty Services: No of beds – 10</b>	
Patients registered	43,276
Medico-legal cases	4,415
Emergency admissions	308

<b>Total Surgical Procedures at SDH Ballabgarh</b>	
1. Ophthalmology	385
2. Obstetrics and Gynaecology	472
3. General Surgery	94
4. Paediatrics Surgery	3
5. ENT	18
6. PMR	0
<b>Total</b>	<b>972</b>

<b>Laboratory and Diagnostic Services</b>	
a. Laboratory investigations (biochemical and haematological)	1,30,109
b. X Ray	12,181
c. USG	6,858
d. Malaria Slides	1,292
P.vivax	NIL
Pfalciparum	NIL
e. Counselling and testing services provided for HIV	9068

#### **National Tuberculosis Elimination Programme:**

SDH Ballabgarh is a Tuberculosis Unit (TU) under National Tuberculosis Elimination Programme. Three designated microscopy centres (DMCs) are attached to this unit. Total tuberculosis cases treated at Ballabgarh Hospital from 1 April 2020 - 31 March 2021 were as follows:

<b>Total cases started on treatment</b>	<b>769</b>
a. New case	740
b. Previously treated case	29

#### **B. Community Health Services**

CRHSP, Ballabgarh provides community health services in Intensive Field Practice Area (IFPA) of 28 villages through a network of two Primary Health Centres (Dayalpur and Chhainsa), and 12 sub centres. Domiciliary, outpatient, inpatient, and referral services are provided in the IFPA. Important demographic indicators for the IFPA for year (2020-21) were as follows:

<b>Indicator</b>	<b>Value</b>
Population	1,04,699
Birth Rate per 1,000 population	17.4
Death Rate per 1,000 population	5.9
Sex ratio at Birth (females per 1,000 males)	939
Infant mortality rate per 1,000 live births	22.8
Under 5 mortality rate per 1,000 live births	29.1

### 1. OPD Services in Intensive Field Practice Area:

This includes health care services provided at OPD of the PHC, as well as the OPD of the Extended Health Clinics, that are conducted at each of the villages of IPHA

PHC	New Cases	Repeat Visits	Total
Dayalpur	12,909	15,210	28,119
Chhainsa	13,910	15,106	29,016
<b>Total</b>	<b>26,819</b>	<b>30,316</b>	<b>57,135</b>

Total No. of AYUSH OPD Patients registered at PHC Dayalpur: **3,880**

### 2. Inpatient Services provided at the PHCs:

PHC	Total
Dayalpur	323
Chhainsa	333
<b>Total</b>	<b>656</b>

### 3. Emergency Services at PHCs:

PHC	Total
Dayalpur	9,477
Chhainsa	2,948
<b>Total</b>	<b>12,425</b>

### 4. Family Welfare and Maternal Child Health

The following services are provided as per the guidelines of National Health Mission

Indicator	Value
Total ante natal registration	2,226
Complete TT coverage of registered cases (%)	90.2
<b>Percentage of Institutional delivery in IFPA</b>	
PHC Chhainsa (%)	98.7%
PHC Dayalpur (%)	98.0%
<b>Total deliveries in delivery huts at the PHCs</b>	
PHC Chhainsa	333
PHC Dayalpur	323

### 5. Other National Health Programmes

#### National Vector Borne Disease Control Programme:

Collection of blood slides are done as a part of passive surveillance in OPD and as active surveillance during domiciliary visits in the IFPA.

Indicator	PHC Chhainsa	PHC Dayalpur
Total number of malaria slides tested	881	1,564
Total number of positive cases	0	0
Annual Parasite Incidence (per 1,000 population)	0	0
Annual Blood Examination rate (%)	1.7%	2.9%
Slide Positivity Rate (%)	0	0

### National Tuberculosis Elimination Programme:

The National Tuberculosis Elimination Programme is carried out in the IFPA according to national guidelines. Dayalpur PHC has been designated as a Microscopy Centre and caters to all villages under the IFPA. Tuberculosis patients treated in the IFPA (category wise) is as follows:

Indicator (2019-2020)	PHC Chhainsa	PHC Dayalpur
Total number of patients started on treatment	79	80
New Cases	78	80
Previously treated cases	1	0

### 7. Special services:

Outreach Speciality OPD (ORSO) is a special activity conducted at each PHC where Senior Residents posted at SDH Ballabgarh attend the patients at PHCs on a weekly basis. The services were started in June 2013. For the period, 1<sup>st</sup> April 2020 to 31<sup>st</sup> March 2021, the cases attended to at each PHC were as follows:

Services	PHC Chhainsa	PHC Dayalpur
Gynaecology	45	
Paediatrics	34	68
Ophthalmology	38	94
Psychiatry	45	25
<b>Outreach Speciality OPD (ORSO) (Total)</b>	<b>958</b>	<b>2130</b>

### 8. Animal Bite Management Clinic:

Both PHC Chhainsa and Dayalpur has Animal Bite Management Clinic. A total of 818 doses of Anti rabies vaccination was provided in PHC Chhainsa and 452 doses in PHC Dayalpur.

Special services to pregnant women	PHC Chhainsa	PHC Dayalpur
Pregnancy received IVIS	107	198
PPIUCD	62	108
High Risk Pregnancy	338	356

### 9. IEC Activities

#### Group Health Talks:

#### Group health talk was delivered on following topics:

A total of 28 and 55 health talks were conducted in PHC Chhainsa and Dayalpur respectively. Neonatal care and kangaroo mother care, Breast feeding and weaning, Antenatal care, high risk pregnancy, anaemia in pregnancy, importance of institutional delivery, Immunization, Malaria and Dengue, Tuberculosis, anaemia in children, malnutrition in children, Vitamin-A deficiency, Diabetes, Hypertension, HIV/AIDS, accidents in children, personal hygiene, family planning methods, postnatal care and diet, care of newborn, swine flu, geriatric care, Mental health programme, etc.

### 10. Short film shows:

Films were screened in Child welfare centre, Ballabgarh, PHC Dayalpur, and PHC Chhainsa on important topics i.e. breastfeeding, antenatal care, child care, female feticide, eye care, Vitamin A deficiency, malnutrition, and diarrhoea during OPD timings.

### 11. Special activities during financial year 2019-20 at PHCs

1. **Kayakalp award:** PHC Dayalpur and PHC Chhainsa were selected as best and second best PHCs in district Faridabad under kayakalp award 2017-18.
2. **Intensive Mission Indradhanush:** Both the PHCs participated in Intensive Mission Indradhanush where almost 60 pregnant women and 275 kids were immunized against seven vaccine preventable diseases.

3. **Assessment for National Quality Assurance Standards:** Both the PHCs have been working very hard with a mission of providing quality comprehensive care to the beneficiaries. Both the PHCs were certified that they follow National Quality Assurance Standards

## 12. Awards and accolades

1. **Kayakalp award at primary Health Center:** Among all the Primary Health Centers in the District Faridabad, CRHSP's PHC Dayalpur was recognized as the best, for Kayakalp Award, while CRHSP's second Primary Health Center, i.e. PHC Chhainsa the commendation award, for Kayakalp Award for the Kayakalp programme in 2017-18.
2. **Kayakalp award at sub district level hospital:** At the state level, CRHSP's sub district level Ballabgarh hospital received the commendation award, for Kayakalp Award for the Kayakalp programme in 2017-18.

## 13. COVID response in CRHSP Ballabgarh and PHC Dayalpur and Chhainsa.

Due to COVID Pandemic and nationwide lockdown, in order to avoid overcrowding in the hospitals and decrease burden on already stressed out HCWs, OPD services were shut down from 23 March 2020 to 15 April 2020. All emergency services and maternity care were continuing. Screening in ward was started for symptomatic (influenza like illness). Screening was carried out by Junior Residents and interns wearing level 3 PPE under supervision of Senior residents and Faculty members. Special Labor room was set up for COVID-19 positive ANC mothers with imminent delivery. From 30 March Flu clinic was started for patients with ILI/COVID suspects. Flu clinic continued till 31<sup>st</sup> July 2020. Patients who were COVID-19 suspects were referred to B.K Hospital for testing. COVID-19 antigen-based testing was also started at CRHSP, Ballabgarh for suspected COVID-19 cases for IPD admission and OT, from 20<sup>th</sup> August 2020. All OPD services with almost all specialty clinics were resumed after lifting of national lockdown in a phased wise manner. SOPs for maintaining COVID Appropriate Behaviour (CAB) were laid down and implemented in CRHSP Ballabgarh. Markings were made inside OPD at 6 feet distance. Chairs were also marked with crosses for maintaining social distancing while sitting. IEC material pertaining to COVID-19 precautions/symptoms/help-line numbers were put throughout the CRHSP Ballabgarh campus. Patients coming to OPD were provided with triple layer surgical masks and advised to follow cough etiquettes. Alcohol based hand sanitizers were placed at accessible places for patients. Training of all staff in Hospital Infection Control guidelines of AIIMS was carried out.

	OPD Attendance at FLU clinic	Adults	Paediatrics	Referred Adults	Referred Children
March 2020	40	25	15	0	0
April 2020	355	264	92	9	7
May 2020	464	340	124	25	1
June 2020	625	593	32	248	14
July 2020	597	461	136	229	52
<b>Total</b>	2082	1683	399	511	74

## Chhainsa

All services were shut down during the initial period of lockdown except for emergency. Flu clinic in PHC was started immediately during the lockdown for COVID suspects and ILI cases. Community based survey was done to identify ILI cases. COVID positive were advised for Home isolation, hospitalization, and referral to Dedicated COVID Care Center according to the severity of illness. Routine Immunization services were again initiated on 8 April 2020 in PHC and 15 April 2020 in Sub-center. OPD services were started on 18 April 2020 in PHC. Fever clinic was merged with general OPD in August 2020. ANC services at PHC was started on 20 July 2020 and at Sub centers it was started on 5 August. EHC clinics at sub centers started on 1 December 2020. Vaccination drive for COVID-19 was started from 21 January for health care workers and from 8 March for elderly and people aged 45-59 years with comorbidities.

S. No.	Indicator	
1.	No. of RT-PCR tests done till 31/03/2021	1177
2.	No. of RAT tests done till 31/03/2021	2174
3.	No. of positive cases by RT-PCR till 31/03/2021	11
4.	No. of positive cases by RAT till 31/03/2021	94
5.	Total no. of positive cases in PHC area till 31/03/2021	260



## Dayalpur

All services were shut down during the initial period of lockdown except for emergency. Flu clinic in PHC was started immediately during the lockdown for COVID suspects and ILI cases. Community based survey was done to identify ILI cases. COVID positive were advised for Home isolation, hospitalization, and referral to Dedicated COVID Care Center according to the severity of illness. Routine Immunization services were again initiated on 8<sup>th</sup> April 2020 in PHC and 15 April 2020 in Sub-center. OPD services were started on 18 April 2020 in PHC. Fever clinic was merged with general OPD in August 2020. ANC services at PHC was started on 20 July 2020 and at Sub centers it was started on 5 August. EHC clinics at sub centers started on 1st December 2020.

Vaccination drive for COVID-19 was started from 19 January for health care workers and from 8 March for elderly and people aged 45-59 years with comorbidities.

S. No	Indicator	
1.	No. of RAT tests done till 31 March 2021	2124
2.	No. of RT-PCR tests done till 31 March 2021	5873
3.	Total number of positive cases in PHC Dayalpur area till 31 March 2021	488

### COVID-19 Vaccination till 31 March 2021, in both PHC:

S. No.		
1	No. of Health care workers	779
2	Front line workers	118
3	Elderly	2968
4	45-59 years with comorbidity	1064

## B) Urban Health Programme

The field practice area of the Urban Health Programme, Centre for Community Medicine is located at Dakshinpuri Extension, Dr Ambedkar Nagar in South Delhi, consisting of Blocks 1-7,14,15,19, Subhash camp, Dakshinpuri catering to a population of around 36,582. Patient care services are provided at the Urban Health Centre.

### Clinical Services

#### Urban Health Centre was closed due to COVID-19 from 23 March 2020 - 30 September 2020

	Activities	Number
OPD	Outpatient attendance (including immunization & ANC)	5442
Laboratory services	Total Lab Tests	949
	No. of Hb. Test Conducted	326
	Of which numbers having Hb. <7 gm%	9
	Of which numbers having Hb. <11gm%	139
	Blood Sugar	569
	Urine albumin and sugar tested	16
	RDT for Malaria	6
	Blood group	33

## Child Health services

### Number of immunization sessions held - 49

BCG	28
DPT 1 = 0/pentavalent 1	110
DPT 2 = 0 /pentavalent 12	111
DPT 3 = 1 /pentavalent 3	135
OPV 0 dose (birth dose)	15
OPV 1	113
OPV 2	129
OPV 3	135
Hepatitis-B 1	0
Hepatitis-B 2	0
Hepatitis-B 3	0
Injectable IPV Fractional 1	109
Injectable IPV Fractional 2	136
Rotavirus 1	110
Rotavirus 2	111
Rotavirus 3	135
MR1 <sup>st</sup> dose	142
MR2 <sup>nd</sup> dose	162
MMR	NA
DPT/OPV Booster 1 (1.5 years)	160
DPT/OPV Booster 2 (5-6 years)	261
Typhoid Vaccine	290
Td-10 years	310
Td-16 years	112
Vitamin A Administered between 9 months and 5 yrs	607
Albendazole under 5 children	65
Number of severely underweight provided health checkup (0-5 yr)	19

### Maternal Health Services

Antenatal Care	Total number of times pregnant women seen in the Urban Health Centre (new cases within 12 weeks = 25)	151
	Number of pregnant women given Td-1	31
	Number of pregnant women given Td-2 = 12 + Td Booster = 4	16
	Total number of pregnant women given 180 IFA tablets	15
	Pregnant women – Albendazole given	6
Family Planning	No of Condoms distributed	250
	No of females motivated & referral for tubal ligation	7
	Females counselled for CuT	13
	New RTI/ STI Cases Identified	Male-6, Female-48 Total = 54

**Health Education material developed, formatted and designed:**

S. No.	Topic	Material	No.	Language
1.	Developed 2 Pamphlets on “Guidelines for Home Quarantine of Covid-19 Suspected persons” in Hindi and English	Pamphlets	02	Hindi & English
2.	Developed 2 Pamphlets on “Guidelines for Home Isolation of Asymptomatic and Mild Covid-19 patients” in Hindi and English	Pamphlets	02	Hindi & English
3.	40 FAQs on COVID-19 were developed in English and translated in Hindi and uploaded at AIIMS website for Public awareness and queries	FAQs	40	Hindi & English
4.	Article Publication	Poster	01	English

**National Service Scheme (NSS) Activities at AIIMS:**

- 30 Students volunteered and joined AIIMS Helpline on COVID-19 for clearing public’s doubts during Covid-19 pandemic during the year.
- An Exhibition was organized on “**World Leprosy Day**” at Dakshinpuri Extension on 30 January 2021, (60 Community people participated)
- An Exhibition was organized on “**World T.B. Day**” at Dakshinpuri Extension on 24 March 2021, (50 Community people participated)

**Other significant events:**

Date	Activities
31 March 2021	522 Posters on “Covid-19” were displayed at Various OPD, Wards and Common sites of AIIMS and other satellite centres like Urban Health Centre Dakshinpuri Ext New Delhi, National Cancer Institute Jhajjar, National Drug Dependence Treatment Centre Gaziabad and Comprehensive Rural Health Services Project Ballabgarh and 28 Villages under CRHSP Ballabgarh
1 July 2020	“Heat Stroke” Posters were displayed and exhibited at 54 places at AIIMS, New Delhi and UHC AIIMS (Dakshinpuri Extension)
15 December 2020	“Dengue, Malaria and Chikungunya” Posters were displayed at 54 sites at AIIMS Campus and UHC, AIIMS (Dakshinpuri Extension)
15 March 2021	“Sheet Lahar” Posters displayed at various 18 sites at AIIMS New Delhi and UHC, AIIMS (Dakshinpuri Extension)
30 January 2021	Health Exhibition on “Leprosy” was organized on “World Leprosy Day” at our Urban Health Centre, Dakshinpuri Extension, New Delhi
24 March 2021	“World T.B. Day Exhibition” was organized at Dakshinpuri Extension, New Delhi, on 3 March 2021 (50 participants attended)
	<ul style="list-style-type: none"> <li>• A total of 6,250 (Hindi), booklets on Dengue, Chikungunya, Malaria and 6,560 on Diabetes Mellitus were distributed to various OPDs, Emergencies and Centres of AIIMS during 2020-21.</li> <li>• A total of 64,400 pamphlets on Home Quarantine and Home Isolation were distributed in Covid-19 screening OPD and in Emergency Department of AIIMS for public awareness and prevention and control of Covid-19 during 2020-21.</li> <li>• Participated in a National Annual “Kaya Kalp Monitoring &amp; Evaluation Programme” at AIIMS New Delhi on 24-26 March 2021.</li> <li>• Health Education Activities: Apart from organising and Conducting 97 health talks in the online mode were supervised under Urban Health Centre posting.</li> <li>• 520 projections were carried out during teaching and training activities of UGs and PGs by the Cinematographers.</li> <li>• 280 New paper Clippings were displayed at New of the Week notice board for awareness and sensitizing students’ staff and faculty.</li> </ul>

## AWARDS, HONOURS

**Professor Kiran Goswami's** poem was selected in "Feel, imagine, think" picture contest and published; Scopophobic with a stethoscope Research and Humanities in Medical Education 2020; 7: 171

## SIGNIFICANT EVENTS

**Professor Shashi Kant** was a member of the National Task Force on COVID-19; As a member of the Epidemiology and Surveillance Working Group of ICMR, reviewed the project proposals submitted to the ICMR; was a member of the Governing Body, and the Institute Body of All India Institute of Medical Sciences, Nagpur; participated in the selection of the Faculty members for AIIMS, Nagpur; also discharged my duties as a member of the sub-committee on Human Resources of AIIMS, Nagpur; am a member of the Scientific Advisory Committee of National Institute of Cholera and Enteric Diseases, Kolkata; the Lead Person of the National Centre of Excellence and Advanced Research on Anemia Control in India; a member of the National Working Group on HIV estimation in India; a member of the Technical Resource Group for HIV Sentinel Surveillance in India; a member of both Regional Institute, as well as, National Institute for HIV Sentinel Surveillance in India; assisted the Indian Council of Medical Research as the Chair of the Project Review Committee; was a member of the National Operational Research Committee of the Revised National Tuberculosis Program of India; Member of the Dean's Committee of All India Institute of Medical Sciences, New Delhi.

**Professor Sanjeev Kumar Gupta** was Reviewer of many journals, e.g., Frontiers in Psychiatry, The National Medical Journal of India, Indian Journal of Public Health, Indian Journal of Medical Research. Life member of Jansankhya Sthirata Kosh of the Ministry of Health and Family Welfare, Government of India. Member of the Data Safety Management Board (DSMB) for the project entitled "Determination of efficacy of 9 months, 12 months and 18 months of anti-tubercular treatment (ATT) for tuberculous meningitis (TBM): A randomized controlled, non-inferiority trial." (PI: Deepti Vibha, Associate Professor of Neurology, Neurosciences Centre, AIIMS.) and a member of the Main Negotiation Committee (DO) of the AIIMS.

**Professor Kiran Goswami** was Member-Curriculum Committee AIIMS for development of curriculum for CBME; National Institute and Central Region Institute HIV Sentinel Surveillance, Technical Advisory group SEED, DST; Internal Complaints Committee for Prevention of Sexual Harassment at workplace, IIHMR; Expert group Faculty Development Programme for PG teachers, MCI; NTA expert group for UGC NET. Reviewer-IJPH, IJABMR, DST Projects, Thesis-AIIMS, Rishikesh and Jodhpur, BFUHS. Examiner-DNB, MD-AIIMS Rishikesh, NIHFW, MBBS- BFUHS and MPH-AIIMS Rishikesh. Subject Expert-Faculty selection interview-AIIMS Kalyani, Jodhpur, Patna, Guwahati.

**Professor Anand Krishnan** was Head, WHO Collaborating Centre on Research and Capacity Building on Community-based NCD Prevention and Control, AIIMS, technical Support Unit for SRS-VA and the MINerVA Network. Chair, Scientific Advisory Committee of ICMR-NIREH Bhopal, Scientific Advisory Committee of ICMR-NIOH, Ahmedabad, Non-communicable Diseases and Environment Chapter in Indian Academy of Public Health. Regional Councilor, SE Asia, World NCD Federation. Chairperson Scientific Committee for Environmental Determinants of Infectious Diseases in India (Focus COVID-19), IIHMR, New Delhi Date: 7th to 10th December 2020. Undertook research prioritization for COVID-19 for WHO/SEARO; Conducted health research capacity assessment in Maldives and Timor Leste; Prepared the report of Assessment of Implementation of Ayushman Bharat-Health and Wellness Centres in 18 states for MoHFW. Member, UN-DESA/WHO Technical Advisory Group (TAG) on COVID-19 Mortality Assessment, WHO Working Group in Influenza Burden of Disease. Member, Project Appraisal Committee, Health Technology Assessment India, Department of Health Research, Centre for Excellence, Climate and Health for Cardio-pulmonary Disorders at AIIMS New Delhi, Expert Committee on Technology Preparedness for dealing with National Disruptions: Medical and Health related disasters, Committee to Review the Disaster Management Act, 2005, School Board, School of Health Sciences, IGNOU, Centre Committee for Centre for Social Medicine and Community Health, JNU, NCD Policy Group for the Comprehensive National Nutrition Survey (CNNS) constituted by MOHFW, Governing Body of National Health System Resource Centre, MoHFW, Member, PG expert Committee of Medical Council of India, Member, Selection Committee for Community Medicine, SCTIMST, JIPMER, Member, National Tobacco Regulators Forum for India".

**Professor Baridalyne Nongkynrih** was eight publications in indexed medical journals- international and national journals. Reviewer for the Indian Journal of Community Medicine, Global Health Action, Indian Journal of Maternal and Child Health and Journal of Health, Population and Nutrition, ICDDR Bangladesh, International Journal of Medicine and Public Health, International Journal of Advanced Medical Research, WHO South-East Asia Journal of Public Health, Cancer Biology & Medicine etc. National trainer for state and district program officers of National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular diseases and Stroke (NPCDCS) programme in managerial skills and primary health care, 2018. Member of core team and National trainer for MINerVA Network for SRS by Registrar General of India and AIIMS New Delhi. National trainer for state and district program officers of NPCDCS programme in managerial skills and primary health care. Worked with the WHO Headquarter Geneva as a Medical Officer, Non Communicable Diseases for 6 months (16 March-15 September 2020). Coordinated the WHO SEARO online course on people-centred NCD service delivery in

South East Asia from 1 October 2020–25 February 2021. Member of the ICMR Project Review Committee for NCDs. Contributed to the development of Guidelines for Prevention and Control of Noncommunicable Diseases For Organized Workplaces in India in October 2020 – a collaboration with NIMHANS Bangalore supported by WHO India. External examiner for AIIMS Jodhpur final MBBS (December 2020); External examiner for NEIGRIHMS, Shillong final MBBS (January 2021). Resource person for the International Course on Public Health Approaches to NCDs, 2-6 March 2021.

**Professor Puneet Misra** was reviewer of PLOS one, IJCM, BMJ, Lancet Public Health, Indian Journal of Public Health, Indian Journal of Pediatrics, NMJI, BMC, International Journal of Diabetes in Developing Countries, Addictive Behaviors, International Journal of Adolescent Medicine and Health, BMC Public Health, BMC Women’s Health, BMC Infectious disease, Biomedical and Environmental Sciences, Family Medicine and Community Health, NMJI, Proposals for DST, ICMR, DBT, Fulbright scholarship and many others. Program Advisory committee DST, Gov of India, SYST, AWSAR. Expert committee and paper reviewer, SEED Division, DST, Gov of India. Member Data Safety Monitoring Board (DSMB) for our upcoming Vi- DT typhoid conjugate vaccine phase III clinical trial in Nepal – 23-24 October Nepal. ICMR Expert Committee member, ICMR task force PCOS, Research section AIIMS, selection committee. TEC member ICMR on Diabetes, Metabolic Disorders, Kidney and Liver Disorders, Cardiovascular diseases. Project Reviewer for ICMR, DST, DBT and other agencies. More than 50 programs on TV for different media channels including DD news, LS TV, RS TV, ABP news, Zee TV, CNN, Aaj Tak, India TV etc. Chaired session Young Scientist Conclave, IISF 2020 and also Chaired Session at North East students for IISF 2020. Ph D Thesis evaluator and examiner for KGMU and DU, PhD examiner for DU, MD Examiner for LHMC and AIIMS Rishikesh and MD Thesis for AIIMS Rishikesh.

**Professor Sanjay K Rai** was Delivered more than 30 online lectures for different professional organizations e.g. Indian Association of Preventive and Social Medicine, India Public Health Association, Indian Chest Society, Association of Physicians of India, The British Council etc.; Nominated by Guru Govind Singh University, as a member of the Board of Examiners for MD Community Medicine. As an external examiner conducted MD Community Medicine examination at VMMC & Safdarjung Hospital New Delhi from 6-7 July 2020. As a member of Scientific Advisory Committee (SAC) of ICMR-NICED, participated as an expert in 48th SAC meeting of ICMR-NICED on September 24, 2010 at ICMR-NICED Kolkata. Nominated by National AIDS Control Organization (NACO), Ministry of Health and Family Welfare, Government of India as a “*focal person*” of NACO designated National Institute for HSS at AIIMS New Delhi to provide technical assistance for HIV Sentinel Surveillance (HSS) of entire country. Made numerous visits to several districts of Uttar Pradesh, Bihar, Jharkhand, Andaman and Nicobar to support the ongoing HSS in these states. As a member of AIIMS Engineering Advisory Committee (EAC) participated in several engineering advisory committee meetings to streamline the working of engineering services. As a Professor In-Charge of the store of CCM participated in budget preparation, and procurement of various items for CCM during 2020-21. Member of the Technical Resource Group (TRG) of NACO, MoHFW, GoI on HIV Estimations in India and participated in several TRG meetings during 2020. As a subject expert, supported the members of the Standing Selection Committee of All India Institute of Medical Sciences, Bibinagr, Telangana, All India Institute of Medical Sciences, Guwahati, Assam, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand, and All India Institute of Medical Sciences, Raipur, Chhattisgarh, assisted for the selection of various faculty positions from 27-29 September 2020, 11 November 2020, 21 December 2020 and 25 February 2021 at AIIMS Bibinagar, Telangana, AIIMS Bhubaneswar, and through virtual mode respectively. Elected “*President*” of Indian Public Health Association for the year 2019-2022.

**Dr Kapil Yadav** was continued as Focal Point for “National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A)”, Ministry of Health and Family Welfare, Government of India. Taking forward the agenda of Anemia Mukht Bharat (AMB), NCEAR-A convened all key stakeholders from academia including 6 new AIIMS and organised Training of Trainers (ToT); Dr Kapil Yadav also actively participated as a lead resource person in State launches of AMB. Dr Kapil Yadav continued his work on Iodine and other micronutrients and authored chapters for textbooks of Public Health Nutrition on above topics.

**Dr Sumit Malhotra** was Member of working committee of Clinical Research Unit (CRU) under Research Section, AIIMS, New Delhi; teaching member of fellowship programme for AIIMS faculty on clinical research methodology and evidence based medicine, focal point for “Innovation and learning Centre” for supporting implementation of comprehensive primary health care in aspirational district, Nuh, Haryana; national trainer for community health officers for rolling out newer packages related to geriatric and palliative care, mental and neurological diseases [training packages developed by National Health Systems Resource Centre, Ministry of Health and Family Welfare (MoHFW), Government of India (GOI)], emergency and trauma care as part of comprehensive primary health care and running tele-mentoring programmes for community health officers, continued to be faculty for postgraduate teaching programme on research methodology under research section, AIIMS, Delhi. Nominated as part of central multi-disciplinary team to visit all private hospitals within north and north west districts of Delhi to check the status of compliance of various directives issued by MoHFW, GOI for testing and treating COVID patients (17-18 November 2020), was deputed as part of central health research team constituted by MoHFW and ICMR to supervise operationalization of rapid diagnostic tests for SARS CoV-2 (18-20 June



2020), member of AIIMS technical Support Unit for SRS-VA and the MINErVA Network and National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A). Contributed to MCQs question bank for PhD Examination conducted by JIPMER Puducherry and AIIMS, Delhi; evaluated MD and MPH thesis for PGIMER, Chandigarh and IIPH (Indian Institute of Public Health)- Delhi. Was external examiner for MD examination – including the supplementary examination 2019-20 (Community Medicine) for Maulana Azad Medical College, New Delhi under Delhi University. Was internal examiner for MBBS Pre-Professional Examination and Supplementary Examination 2020-21 at AIIMS, Delhi. Reviewer for research projects related to vector borne diseases by ICMR, New Delhi and reviewer of many national and international indexed journals.

**Dr Anil Goswami** was Patron of a National Body “All India Association of Medical Social Work Professionals” Chandigarh. 2016-21. Designated Nodal Officer of “Disease Prevention Outbreak Response Cell” (DPORC) AIIMS since 2008. Monitoring and Evaluation activities were taken at AIIMS Campuses for the Prevention and Control of Vector Borne Diseases. Designated Nodal Officer of “samsqaanakiraja BaaYaakayaa-nvayana saimait” AIIMS since 2012. Use of Hindi language was promoted at Centre for Community Medicine in daily use and specially by developing health education material on various public health topics. Member of sub-committee for Hygiene Promotion” (KRA-7 of Clean and Green AIIMS) under KAYA KALP (Clean Hospital Campaign), sub-committee for “Public Feedback” (KRA-8 of Clean and Green AIIMS) under KAYA KALP (Clean Hospital Campaign). Nominated by Director AIIMS, New Delhi as a member of the “Expert Committee for Development of New Specified Health Warnings” in the Tobacco Control Division, Ministry of Health & Family Welfare, Nirman Bhawan, New Delhi.

**Dr Partha Halder** is a member of the Clinical Epidemiology Unit of the AIIMS New Delhi. He conducted the Session: Cost Effective Technologies for Nutritional Assessment in India under the Horizontal: Remote and Rural Health Reaching the unreached, under the Prime Minister of India’s VAIBHAV initiative, wherein he also invited Scientists of Indian Diaspora for the deliberations. He has been, and continues to be a member of the Technical Resource Group (TRG) for Hepatitis Surveillance in India, constituted by the National Center for Disease Control (NCDC), Ministry of Health and Family Welfare, Government of India. He continues to conduct the Health Economics module for MD students of Centre for Community Medicine. Dr. Partha Halder is also a Member of Technical Resource Group (TRG) for HIV Self Testing in India, constituted by the National AIDS Control Organization, Ministry of Health and Family Welfare, Government of India. He was Internal Examiner for MBBS Final Professional Examination of Community Medicine 2020-21 at AIIMS, Delhi. He was nominated by Director AIIMS New Delhi, as a peer reviewer of medical institutions under Kaya Kalp 2020-2021. He was assigned as a nodal officer for medicine and equipment audit of the Department of Transfusion Medicine. He continues to be a member of NACO designated National Institute for HSS at AIIMS New Delhi (NI-HSS), and the National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A). He was entrusted with evaluation of MPH theses from National Institute of Epidemiology, Chennai. He is a reviewer of many National and International journals including: Scientific Reports, BMJ Open, PLOS One, BMC Pregnancy and Childbirth, International Journal of Hypertension, Journal of Clinical Pathology, Journal of Neurology, Neurosurgery and Psychiatry, National Medical Journal of India, Indian Journal of Public Health.

**Dr Ravneet Kaur** was Member of the Institute Ethics sub-committee on Severe Adverse Events in Clinical Trials. Faculty for SET (Skill, e-learning and Telemedicine) facility, AIIMS and prepared skill modules for undergraduate teaching. Moderated a plenary session titled “Food Fortification: A Sustainable Public Health strategy for control of Micronutrient deficiency: From Iodine to Iron” on 21 March 2021 at the 42nd Annual National Conference of the Indian Association of Preventive and Social Medicine, hosted by the Department of Community Medicine and School of Public Health, Postgraduate Institute of Medical Education & Research (PGIMER), Chandigarh from 19-21 March 2021. Judged a poster session on the theme “Nutrition” at the 42nd Annual National Conference of the Indian Association of Preventive and Social Medicine, hosted by the Department of Community Medicine and School of Public Health, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh from 19–21 March 2021. Member of the organizing committee in Poshancon 2020 - the first National conference of MIYCN National Working Group of IAPSM held online from 16 and 17 October 2020. Reviewer of journals (Global Health Research and Policy, BMJ Open, Indian Journal of Public Health, Indian Journal of Medical research, National Medical Journal of India, Journal of Postgraduate Medicine).

**Dr Harshal Ramesh Salve** was at SEAR regional level; worked as an expert member from India for Developing the roadmap of implementation of Global Action Plan on Physical Activity (GAPA) Guidelines; is part of WHO Collaborating Centre for Capacity Building and Research in Community-based Noncommunicable Disease Prevention and Control at Centre for Community Medicine. At national level, worked as a member of Inter-Ministerial Team (IMCT) by Ministry of Home Affairs, GOI for overseeing Lockdown implementation in Jaipur Rajasthan as a part of COVID 19 response; is part of the Faculty Team at CCM who are contributing to MINErVA Network in the form of developing manuals, creating a network of medical colleges and coder for verbal autopsy coding of cause of death and training of Supervisors of RGI. MINErVA is funded by RGI under the Ministry of Home Affairs, GoI; contributed to various national health programmes: National programme for Control of Diabetes, Cancer, Cardio-vascular diseases and Stroke - As national trainer for medi-

cal officers and staff nurses for Population based screening, review of NPCDCS programme for WHO at national level. National Programme for Climate Change and Human Health - as technical expert for programme review, capacity building and research; part of the Centre of Excellence for Climate change and Cardio-pulmonary diseases by NCDC, Ministry of Health GoI. Resource person for various technical webinars on air pollution and health by NCDC; received a grant under AIIMS – IIT Collaborative Project for a project on Mortality assessment due to PM 2.5 exposure in Delhi NCR; received a Grant from Office of Principal Scientific Advisor GoI to carry out innovative interventions for addressing the Air Pollution problem in Delhi NCR; carried out community based study to understand perception and practices related to COVID 19 in CRHSP Ballabgarh, Haryana. At the Institute, developed module on Glucometer use for MBBS students under SET facility and implemented it in MBBS teaching at CRHSP Ballabgarh; coordinating MBBS teaching during 7th Semester at CRHSP Ballabgarh; actively participated in both undergraduate and postgraduate teaching / training programme of the Department; included and taught new topics related to Climate change and health to post-graduates in our Department; posted in CRHSP Ballabgarh as Faculty; At CRHSP Ballabgarh; In-charge of Store, OPD services and health management Information System; initiated the process of redevelopment of HMIS.

**Dr Rakesh Kumar** was part of the Expert Advisory Committee of project entitled “Strengthening Mechanisms for Tuberculosis Death Reporting under the Revised National Tuberculosis Control Program (RNTCP) and the Registrar General of India” and was chairperson of the Project Review Committee of Indian Council of Medical Research for extramural adhoc research in Urology; reviewer for American Journal of Tropical medicine and Hygiene, Transactions of the Royal Society of Tropical Medicine and Health, Tropical Medicine and International Health, Indian Journal of Public Health, and The Journal of Obstetrics and Gynaecology of India.

**Dr Mohan LalBairwa** was Member, Board of Studies, Institute of Health Management Research (IIHMR University), Jaipur, India. Editorial Board member (Global Health), BMC Public Health and Section Editor (Research Methods), Lung India. Reviewer of International Journal for Equity in Health; International Journal of Injury Control and Safety Promotion; BMJ Open; Indian Journal of Community Medicine; Human Vaccines and Immunotherapeutic; PLoS ONE; Global Health Action; BMC Public Health; Indian Journal of Community and Family Medicine: Bulletin of WHO; BioMed Research International; WHO-SEARO consultancy on documenting a publication “Shifting paradigm of care for NCDs: Stories of frontline NCD services in the South-East Asia Region”.

## 9.9. Dermatology and Venereology

### Professor and Head

Neena Khanna

### Professors

Kaushal K Verma

Sujay Khandpur

M Ramam

G Sethuraman

Binod K Khaitan

Somesh Gupta

### Associate Professor

Kanika Sahni

### Assistant Professors

Neetu Bhari

Vishal Gupta

### EDUCATION

The department is training 25 junior residents, 10 senior residents and guiding 3 PhD candidates. A Competency based training of 2 weeks for MD (Medicine) and MD (pediatrics) residents has been started.

### CMEs/Workshops/Symposia/National and International Conferences

The department organized the 10th Annual conference of Contact and Occupational Dermatoses Forum of India (CODFICON 2020) on 8 November 2020.

### Lectures delivered

**Neena Khanna: 6**

**Kaushal K Verma: 8**

**M Ramam: 8**

**Binod K Khaitan: 4**

**Sujay Khandpur : 16**

**Kanika Sahni: 2**

**Neetu Bhari: 15**

**Vishal Gupta: 8**

### Neena Khanna

1. What it takes to be a popular teacher, IADVL Delhi State Branch, 5 September 2020, E conference, Delhi
2. Difficult to treat acne, Jaipur Dermatology Association, 25 September 2020, E conference, Jaipur
3. Expert speaker: Pigmentary disorder- Facial melanoses- best practices in approach to management. IADVL, E cuticon, 20 December 2020, E conference, Rajasthan
4. Beauty sometime comes with the beast... Saga of salon procedures. IADVL Delhi State Branch Oration, 20 December 2020, E conference, New Delhi
5. Panel discussion: Management of severe acne variants. IADVL, E dermacon 2021, 7 February 2021, E conference, New Delhi
6. Speaker cum Panelist: Facial hyperpigmentation-clinical clues to diagnosis, WB State Branch (Cuticon WB 2020), 14 February 2021, E conference, West Bengal

### Kaushal K Verma

1. Airborne Contact dermatitis, Jaipur Dermatology Society, 4 August 2020, Virtual
2. Immunosuppressives- Which, when and Where? 7th Dermatology and Allied Specialities Summit, July 12, 2020, Sunday, Virtual
3. Therapeutic challenges in discharges, National Conference of Indian Association for study of sexually transmitted diseases & AIDS e-ASTICON 2020, 13 September 2020, Virtual
4. Overview of Hand eczema, IADVL, SIG Webinar, 18 October 2020, Virtual
5. Patch test- When, Why & How? Annual CODFI Conference, 8 November 2020, Virtual
6. Use of Steroids, Biologics and Immunosuppressants in COVID-19 patients, IADVL CUTICON Maharashtra 2020, 28 November 2020, Virtual
7. Approach to eczema and role of patch test, 41th Cuticon Organized by IADVL, Rajasthan, 20 December 2020, Virtual
8. Clinical clues to contact sensitivity, IADVL Annual National Conference, 7 February 2021, Virtual

### **M Ramam**

1. “Measuring and managing the psycho-social impact of Vitiligo, Virtual CME Vitiligo Update, Jointly Organised by Departments of Dermatology, AIIMS Jodhpur and Dr SNMC Jodhpur, 25 June 2020, Online
2. Measurement and Management of psychological impact of Vitiligo, 14th BAD. webinar 5 September 2020, Online
3. Leprosy today, 47th Annual Conference Online Event (KAPCON 2020 Virtual Conference), 2-4 October 2020, Online
4. Writing a good abstract etc; Medical Writing Workshop, 9 October 2020, Online
5. Granulomas, Webinar on Dermatopathology, 11 December 2020, Online
6. Pebbles and Pearls, Online Annual Conference of Dermatopathology Society of India, 15-16 January 2021, Online
7. Family impact of Vitiligo, 49th Annual Conference of the Indian Association of Dermatologists, Venereologists and Leprologists (IADVL), 7 February 2021, Online
8. Discussion of Challenging Cases (Series with 20 of dermpath set), Dermatopathology Online Seminar – 2021, 27-31 March 2021, Online

### **Binod K Khaitan**

1. Segmental vitiligo, DERMAGYAN series of IADVL, 30 May 2020, Online
2. Immunobullous disorders, Jaipur Dermatology Association, 26 June 2020, Online
3. Vitiligo- Classification, and assessment of disease severity and activity, NBE Webinar in specialty of Dermatology, 17 September 2020, Online
4. Myriad presentation of vasculitis, E-Dermacon 2021 (49th National Conference of Indian Association of Dermatologists, Venereologists and Leprologists), 5 February 2021, Online

### **Sujay Khandpur**

1. Role of histopathology in pigmentary dermatoses, Mentor to Student connect session of Dermatopathology Society of India, 27 May 2020, online
2. Panel discussion on Medical Management of Vitiligo, Vitiligo day webinar, 25 June 2020, Online by IADVL Delhi branch, New Delhi
3. Panelist in panel discussion on Management of Connective tissue diseases, DAAS summit, 5 July 2020, online, New Delhi
4. Approach to Deep Fungal Infections with cutaneous manifestations”, lecture for National Board of Examinations, 27 August 2020, New Delhi
5. Deep fungal infections, IADVL Telangana Branch, 30 August 2020, Hyderabad
6. Cutaneous vasculitis, IADVL Kerala and SIG Dermatopathology, 12 September 2020, Kerala, online
7. Histopathology of skin diseases con IADVL Academy, 20 September 2020, online
8. Interesting cases in Neglected Tropical diseases, SIG Neglected Tropical diseases meeting of IADVL Academy and IADVL Delhi Branch, 27 September 2020, New Delhi
9. Clinico-histopathological tightspots, Dermatologists Consortium of India, 30 October 2020, Jaipur
10. Cutaneous Vascular lasers, Karnataka Cuticon, 28 November 2020, online
11. “Recent advances in cutaneous vasculitis” Annual Meeting of Dermatopathology Society of India, 16 January 2020, Online with Vellore
12. Photochemotherapy, National Conference of IADVL Dermacon 2020, 31 January 2021, online
13. Sclerotherapy in vascular malformations, National Conference of IADVL Dermacon 2020, 31 January 2021, online
14. Moderated panel discussion on Cutaneous lymphomas, National Conference of IADVL Dermacon 2020, 5 February 2021, online
15. Granulomatous diseases of skin PGcon 2021, 21 March 2021, Delhi
16. PUVA and PUVA sol therapy” for MSc dermatology students, 26 March 2021, Online to Cardiff Wales, Cardiff

### **Kanika Sahni**

1. NCES vs in vivo suspension techniques in vitiligo, Webinar on Pearls in Dermatology, 8 November 2020, Online
2. Intralesional radiofrequency ablation, Workshop on Electrosurgery beyond textbooks, e-Dermacon 2021, 31 January 2021, Online

## **Neetu Bhari**

1. Panel discussion, Simple to diagnose but difficult to treat Dermatoses, Mid year Cuticon, organised by IADVL DSB, 17 May 2020, Online
2. Dermopath basics and overview of Reaction patterns, Dermatopathology CME, organised by SIG dermatopathology jointly with Kerala branch of IADVL, 12 September 2020, Online
3. Panel discussion, Genital ulcer diseases, E-ASTICON 2020, 13 September 2020, Online
4. Hand hygiene and hand eczema amidst COVID pandemic, panel discussion, IADVL webinar, 13 September 2020, Online
5. Primary immunodeficiency diseases, panel discussion, ISPD DIGICON Series, 20 September 2020, Online
6. Sexually transmitted diseases, moderator PGCON, organized by IADVL Academy with the IADVL EC, 19 September 2020, Online
7. Patch testing in atopic patients, UP UK Cuticon 2020, 17 October 2020, Online
8. Panel discussion, Current issues in contact dermatitis, UP UK Cuticon 2020, 17 October 2020, Online
9. Normal skin structure, Basic Dermatopathology training module, Indian Association of Dermatology and Venereology Academy, 2 November, 2020, Online
10. Systemic contact dermatitis, Ecodifcon 2020, Contact and Occupational Dermatoses Forum of India, 8 November 2020, Online
11. Quiz master, Ecodifcon 2020, Contact and Occupational Dermatoses Forum of India, 8 November 2020, Online
12. Langerhans cell histiocytosis and cutaneous mastocytosis, Institute of Child health, webinar, 8 December 2020, Online
13. Workshop coordinator, Patch test and Photopatch test, 49th Annual Conference of the Indian Association of Dermatologists, Venereologists and Leprologists (IADVL), 30 January 2021, Online
14. Introduction to patch and photopatch test, 49th Annual Conference of the Indian Association of Dermatologists, Venereologists and Leprologists (IADVL), 30 January 2021, Online
15. Updates in the management of syphilis, 49th Annual Conference of the Indian Association of Dermatologists, Venereologists and Leprologists, 5 February 2021, Online

## **Vishal Gupta**

1. “Rituximab – Beyond pemphigus”, Mid-Year CUTICON 2020 organized by IADVL-Delhi State Branch, 17 May 2020, Virtual meet
2. Panelist in the session “Hair disorders in children”, National Pediatric Dermatology e-Symposium (e-PEDDERMACON) organized by the IADVL and SIG Pediatric dermatology, 26 July 2020, Virtual meet
3. ‘Biologics – What should you know?’, PGCON 2020 organized by IADVL EC and IADVL Academy, 19-20 September 2020, Virtual meet
4. Panelist in the session “Meet the Editors”, Research Methodology / How to publish Workshop organized by the IADVL EC and IADVL Academy, 1 November 2020, Virtual meet
5. Tender nodules on palms, e-CUTICON 2020 organized by IADVL-Delhi State Branch, 20 December 2020, Virtual meet
6. Panelist in the session “Myriad presentations of vasculitis”, 49th Annual Conference of the Indian Association of Dermatologists, Venereologists and Leprologists (IADVL), e-DERMACON organized by the IADVL EC and IADVL Academy, 5-7 February 2021
7. Virtual meet
8. Panelist in the session “IJDVL-Reality and Expectations”, 49th Annual conference of the Indian Association of Dermatologists, Venereologists and Leprologists (IADVL), e-DERMACON organized by the IADVL EC and IADVL Academy, 5-7 February 2021 Virtual meet
9. A case of peripheral nerve swelling”, Tropical Neurology– a virtual update under the aegis of Tropical neurology subsection of the Indian Academy of Neurology, 27-29 March 2021, Virtual meet

## **RESEARCH**

### **Funded projects**

#### **Ongoing**

1. A double-blind randomized trial of transplantation of cultured melanocytes from outer root sheath of plucked hair follicles vs. cultured melanocytes from epidermis, Somesh Gupta, DBT, 4 years 2018-2022, Rs 60 lakhs



2. A multi-center, randomized, double-blind, active and placebo-controlled study to investigate the efficacy and safety of ligelizumab (QGE031) in the treatment of Chronic Spontaneous Urticaria (CSU) in adolescents and adults inadequately controlled with H1-antihistamines. (Funded project), NeenaKhanna, Novartis, 3 years, 2019-2021, Rs 11.24 lakhs
3. Clinical and immunological factors predicting relapse in patients with pemphigus treated with rituximab: A prospective cohort study, Vishal Gupta, AIIMS-Intramural Grant, 2 years, 2021-2022, Rs 9.8 lakhs
4. Comparison of apremilast versus betamethasone oral-mini pulse therapy in the treatment of progressive non-segmental vitiligo: An open label non-inferiority randomized trial, Vishal Gupta, IADVL, 2 years, 2020-2021, Rs 3.65 lakhs
5. Evaluation of effect of cyclosporine on inflammatory cytokine levels and dermatitis in patients of air-borne contact dermatitis due to plant parthenium. Kaushal K Verma, DST, 3 years, 2019-2022, Rs 36 lakhs
6. Role of BAFF and APRIL ligands and their receptors, CD4 and regulatory B- and T cells in predicting disease relapse in pemphigus vulgaris patients receiving conventional Dexamethasone pulse and newer biological rituximab therapy, Sujay Khandpur, ICMR, 3 years, 2020 onwards, Rs 25 lakhs
7. Th2/Th17 inflammatory cytokines modulating filaggrin expression and disease severity in children with atopic dermatitis, Neetu Bhari, IADVL, 2 years, 2019-2021, Rs 7.45 lakhs

### **Completed**

1. Efficacy and safety of non-cultured extracted follicular outer root sheath cell suspension and conventional epidermal cell suspension transplantation in stable vitiligo and correlation with constituent stem cell populations. Somesh Gupta, Indian Council of Medical Research, 3 years, 2017-2020, Rs 30 lakhs

### **Departmental projects**

#### **Ongoing**

1. A cross sectional descriptive study of dermoscopic features of facial hyperpigmented skin lesions
2. A cross sectional descriptive study of dermoscopic findings in congenital and acquired vascular lesions in children
3. A cross sectional study to assess the severity of chronic pruritus and its effect on quality of life using the 12 Item pruritus severity scale and the 5 D Itch scale  
Clinico-histopathological correlation of sarcoidal tissue reaction  
Study of vaginal microbiome and metabolome in women with bacterial vaginosis (BV) and healthy controls.
4. A cross-sectional study to assess autonomic nervous system imbalance and its correlation with cutaneous manifestations in patients with systemic sclerosis. (MD thesis)
5. A histopathological finding review of slides diagnosed histologically as erythema nodosum/leprosum reaction
6. A hospital based case control study on predictors of extensive non-segmental vitiligo
7. A prospective observational study of the dermoscopic findings of non-segmental vitiligo in different stages of evolution.
8. Comparison of different concentrations (i.e. 1:50, 1:100 and 1:200) of Parthenium acetone extract to elicit patch test positivity in patients of Parthenium dermatitis
9. Comparison of hand-held UVB comb versus excimer light therapy in localised vitiligo
10. Comparison of patch test positivity after 24 and 48 hours of occlusion time in patients of allergic contact dermatitis
11. Double blind randomised control trial to study the re-pigmentation in vitiligo using 0.1% tacrolimus /0.2% tacrolimus/placebo, in combination with excimer lamp
12. Evaluation of Impact of Chronic Skin Diseases on mental health of the patients  
Dexamethasone – Cyclophosphamide pulse therapy in pemphigus.
13. Evaluation of a paraffin based moisturizer as compared to a ceramide based moisturizer in children with atopic dermatitis: A double blinded, two group equivalence randomized controlled trial
14. Evaluation of patch test in diagnosis of adverse cutaneous drug reactions and its correlation with oral drug provocation
15. Study of epidemiological factors contributing to treatment failure in patients with dermatophytic infection attending tertiary care hospital in Northern, India
16. The effect of yoga therapy in the management of systemic sclerosis versus patients not undergoing yoga therapy: A pilot randomized control trial

### **Completed**

1. A cross sectional descriptive study of dermoscopic features of facial hyperpigmented skin lesions
2. A descriptive study of clinical and histopathological features of acquired blaschko-linear and segmental dermatological disease other than segmental vitiligo
3. A retrospective analysis of the severe cutaneous drugs reactions (SCARs)
4. An ambispective cohort study to assess the efficacy of immunosuppressive therapy in systemic sclerosis associated interstitial lung during disease
5. An open label non- randomized preliminary study comparing handheld Narrow Band UVB device with standard whole body Narrow
6. Band-UVB therapy in treatment of localized vitiligo
7. Evaluation of topical application of glutathione and iron sulfate in inhibiting elicitation of allergic contact dermatitis from hexavalent chromium
8. To evaluate the effectiveness and safety of topical triple therapy formulation with fractional CO2 laser and triple therapy alone in the treatment of melasma in split face randomized control study
9. To study the psychometric properties of family vitiligo impact scale, a quality-of-life scale for family members of patients with vitiligo
10. Utility of excimer light therapy

### **Collaborative projects**

#### **Ongoing**

1. A phase IV clinical trial to evaluate safety and efficacy of Glenmark Aprezo and Apremilast tablets in subjects with active psoriatic arthritis, Rheumatology
2. Analysis of the diagnostic and/or predictive potential of metabolomics in bacterial vaginosis, its treatment failure, relapse and susceptibilities to other sexually transmitted infections, NMR & MRI Facility
3. Autologous fat transfer for management of cicatricial ectropion, Ophthalmology
4. Development of a population based leprosy Registry (PBLR) and new case detection strategies (NCDS) to eradicate leprosy in urban areas, TLM Shahdara
5. Evaluation of effectiveness of radioactive Skin Patches for Treatment of Hidradenitis suppurativa, Nuclear Medicine
6. Evaluation of prevalence, regional phenotypic variation, co morbidities, risk factors and the variations in response to different therapeutic modalities among Indian women with polycystic ovary syndrome (PCOS): A multicenter study across India (ICMR-PCOS task force) Multicentric study
7. Evaluation of therapeutic efficacy of radioactive Skin Patches for Treatment of Basal Cell Carcinoma, Nuclear Medicine
8. Evaluation of therapeutic efficacy of radioactive Skin Patches for Treatment of Keloids, Nuclear Medicine
9. Exploring the role of innate immunity in immunopathogenesis of pemphigus vulgaris, Biochemistry
10. Improvement on levothyroxine replacement of clinical, biochemical, hormonal and insulin sensitivity parameters in women with polycystic ovary syndrome (PCOS) presenting with subclinical hypothyroidism, Endocrinology
11. Patch testing with a textile dye mix without Disperse Orange 3 in the baseline series, International Contact Dermatitis Research Group (ICDRG) and Department of Occupational and Environmental Dermatology, Skåne University Hospital, Malmö, Sweden
12. To evaluate the role of CD4 TCR  $\delta$  in leprosy patients, Biochemistry

#### **Completed**

1. Exploring the role of gamma-delta T-cells in immunopathogenesis of pemphigus vulgaris, Biochemistry

### **PUBLICATIONS**

**Journals: 68**

**Chapter in book: 2**

### **PATIENT CARE**

The department has 29 bedded ward including two isolation rooms. The total number of long admissions from April 2020 to March 2021 was 771 and total short admission was 2132. The OPD caters to both general dermatology patients (in first half) and special clinics (STD, leprosy, dermatosurgery, Pigmentation, Allergy) and lasers (Diode, Carbon dioxide, NdYAG laser, Pulse Dye laser) in afternoon. Side lab procedures and dermatosurgery procedures are conducted in both morning and afternoon. According to census, 30263 new cases were attended in Out Patient department and total number of old patients

was 55857. One Senior Resident is visiting Ballabgarh for skin OPD twice a week and the department has started community dermatology OPD services in Jhajjar twice a week.

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Neena Khanna** was awarded Best teacher for IADVL 2021 (North Zone); IADVL Delhi State Branch Orator 2020; Member Liason Committee IADVL.

**Professor Kaushal K Verma** was Chairman Scientific Committee-Contact and Occupational Dermatoses Forum of India (CODFI) Annual Conference, 8 November 2020; Organised, coordinated and conducted International Union against Sexually Transmitted Infections-Asia Pacific (IUSTI-AP) Executive Annual meeting as its Chairman, 27 November 2020; Expert for Faculty Selection, to AIIMS Jodhpur, 29 October 2020, Jodhpur, Rajasthan; Expert Faculty Selection, Public Service Communication J&K, 21 January 2021, Jammu (J&K); Participated in IUSTI- World EXCO virtual meeting as IUSTI- AP Chairman on 12 October 2020; Participated in ICDRG Board Virtual meeting as ICDRG member 2 August 2020; Member Abstract Review Committee of International Union against Sexually Transmitted Infections (IUSTI) World Conference to be held 14-17 July 2021; Chairman – Grievance cell, AIIMS, New Delhi; Participated in ICDRG Board Virtual meeting as ICDRG member 13 March 2020; Professor supervising Departmental stores; Participated as an Expert in live phone-in TV programs on 9 sessions on DD News on Public awareness, Community education and Health measures on COVID-19 infection prevention, care and vaccination issues etc, and precautions/measures for safe Holi during COVID-19 pandemic; Chaired a session on “Simple to diagnose difficult to treat dermatoses” at Indian Association of Dermatologists, Venereologists & Leprologists (DSB) midyear conference, 17 May 2020; Chaired a session on “Cytokine storm in autoinflammatory syndromes-clinical approach and management” Indian Association of Dermatologists, Venereologists & Leprologists (DSB), Annual Conference, 20 December 2020; Reviewer to 6 journals- J. Cosmetic Dermatology, IJDVL, JEADV, IJSTD, Dermatologic Therapy; On Editorial Board of 2 Journals- JCAS, NJDVL.

**Professor Binod K Khaitan** was Chairperson dermatology experts’ group for Standard Treatment workflows (STWs) for dermatology at ICMR; Chairperson: Panel on difficult cases, CUTICON 2020, May 2020, Online.

**Professor Sujay Khandpur** was President of IADVL Delhi Branch 2020; Associate Editor of IADVL Textbook of Dermatopathology; Secretary, Dermatopathology Society of India, 2020; Member Education committee of Asian Society of Dermatopathology; Member, Special Interest Group of Dermatopathology, IADVL; My thesis student received Mohal lal Wig award for best thesis AIIMS, New Delhi for 2019-20; Received 2 best paper awards in “Letter to Editor” section of IJDVL.

**Dr Neetu Bhari** was Organizing secretary, 10th Annual Conference contact and occupation dermatosesforum of India, 8 November 2020 Coordinator, Annual IADVL SIG-Dermatopathology Newsletter, December, 2020; Assistant Editor of IADVL Textbook of Dermatopathology; Assistant Editor, Indian Journal of Dermatology, Venereology and Leprology; Assistant Editor, Indian Journal of Pediatric Dermatology.

## 9.10. Emergency Medicine

### Professor and Head

Praveen Aggarwal

### Professors

LR Murmu

Sanjeev Kumar Bhoi

### Associate Professors

Nayer Jamshed

Tej Prakash Sinha

### Assistant Professors

Meera Ekka

Akshay Kumar

Prakash Ranjan Mishra

### HIGHLIGHTS

The department has been providing round-the-clock, world-class emergency care to patients with all types of medical, paediatric and non-traumatic surgical, as well as some of the traumatic emergencies. In the year 2020-21, Department of Emergency Medicine has been at the forefront in providing initial care to patients with SARS-CoV2 infection. The department has been providing both non-invasive as well as invasive ventilation to the SARS-CoV2 infected patients. Nearly 95,000 patients visited the department in the year 2020-21. The residents have been well trained in managing such patients in addition to non-COVID-19 patients. The departmental faculty is also involved in teaching and training of postgraduates from other departments (including Medicine, Surgery, Geriatric Medicine, Anaesthesia and Critical Care Medicine, Dermatology, Psychiatry and several others), undergraduate students, nursing students and paramedics in the field of Emergency medicine.

Under the aegis of the Ministry of Health and Family Welfare, the department has formulated guidelines for comprehensive primary health care for burns and trauma as well as for Emergency Department at District Hospitals under the Ministry. In collaboration with South East Asia Region, WHO, the department has formulated guidelines on road safety, injury prevention, as well as integration of emergency and trauma care in India. Under the AIIMS Quality Improvement Programme, Emergency Medicine Department has started projects to further improve patient care and outcome. This has also resulted in shorter stay of patients.

### EDUCATION

The faculty organized life support courses for the undergraduates, postgraduates and nurses posted in the department. It has conducted several workshops for the residents in performing various emergency skills including sonography, cardiac life support, trauma life support, lumbar puncture, intubation and several others. The department runs a schedule of academic activities for the residents of emergency medicine (seminars, journal clubs, case discussions, panel discussions) twice a week for around 8 hours a week. Simulation-based teaching (both table-top and on high-fidelity simulator) is imparted to the residents. In addition, the department faculty was involved in didactic teaching of undergraduates, postgraduates and nursing students through lectures and seminars.

### CONTINUING MEDICAL EDUCATION

#### Conferences/seminars/workshops organized

1. Expert group meetings to finalize regional strategy document “Strategic directions to integrate emergency care services into primary health care in the South-East Asia Region” in the light of the COVID-19 pandemic, held on 7 and 27 May 2020
2. Tactical combat course for CRPF from 28 January to 8 February 2021 held at JPNATC, AIIMS, New Delhi
3. Pre-hospital emergency life support course module creation meeting for para – medics and emergency medical technicians on 9 February 2021 by EMR division of MOHFW, Government of India (Virtual/online).
4. Expert group consultation for training guidelines for emergency care on 8 March 2021, organized by NHSRC, MOHFW, Government of India.
5. Tactical combat course for CRPF on 10 and 20 March 2021 held at JPNATC, AIIMS, New Delhi.

## Lectures delivered

**Praveen Aggarwal: 3**

**Sanjeev Bhoi: 1**

**Tej Prakash Sinha: 1**

**Prakash Ranjan Mishra: 1**

### **Praveen Aggarwal**

1. Successes and challenges with emergency department COVID-19 patient care and operations, Project ECHO (Extension for Community Care Outcomes) by US Department of Health and Human Services, Assistant Secretary for Preparedness and Response (ASPR), 12 November 2020 (Online)
2. Emergency neurological scenarios, National Training of Trainer Course for Emergency Care Training for Medical Officers, organized by National Health Systems Resource Centre (NHSRC), MOHFW, Government of India, 22 March 2021, Delhi, India (Online)
3. Cardiac arrest & Arrhythmias & ACS, National Training of Trainer Course for Emergency Care Training for Medical Officers, organized by National Health Systems Resource Centre (NHSRC), MOHFW, Government of India, 24 March 2021, Delhi, India (Online)

### **SanjeevBhoi**

1. Isolation and Quarantine Wards: Mitigation of Biological Emergencies, Course on CBRN Emergency management for IB officers by DRDO, 24 March 2021, Delhi/online

### **Tej Prakash Sinha**

1. Isolation and Quarantine Wards: Mitigation of Biological Emergencies, Course on CBRN Emergency Management for IB officers by DRDO, 24 March 2021, Delhi, India (Online)

### **Prakash Ranjan Mishra**

1. Approach and Emergency Care of Poisoning, Seizure and Basics of ECG, Wakro and Mechuka CHC Training Program: WHO-SEAR project, 22 December 2020, Delhi, (Online)

## **RESEARCH**

### **Funded Projects**

#### **Ongoing**

1. Delhi Emergency Life Heart Attach Initiative: Mission Delhi, Praveen Aggarwal, Indian Council of Medical Research (ICMR), 3 years, 2017-21, (extended), Rs 4.9 crores
2. Development of low-cost USG-guided needle tracking phantom model for medical education, PrakashRanjan Mishra, AIIMS intramural project, 2 years, 2020 -22, Rs 0.62 lakhs
3. Evaluation of a health system-based intervention on change in thrombolysis rate in ST-segment elevated myocardial infarction (STEMI) across selected districts of the country – A health implementation research project, Praveen Aggarwal, Indian Council of Medical Research (ICMR), 3 years, 2020-22, Rs 87.93 lakhs
4. Immuno-clinical correlation in sepsis patients presenting to the emergency department, Akshay Kumar, AIIMS intramural project, 2 years, 2020 -22, Rs 9.5 lakhs
5. Impact of alcohol on dysregulation of inflammation and recovery of trauma haemorrhagic shock patients, Tej Prakash Sinha, AIIMS, New Delhi, 2 years, 2019 - 21, Rs 9.5 lakhs
6. Multi-parametric approach to identify the predictive biomarkers of sepsis in septic shock patients, Tej Prakash Sinha, Indian Council of Medical Research, 3 years, 2020 -23, Rs 92.3 lakhs
7. To study the gene expression, activation of cellular signaling pathway and its correlation with clinical outcome among trauma hemorrhagic shock , Sanjeev Bhoi, Indian Council of Medical Research (ICMR), 3 years, 2018-21, Rs 58 lakhs
8. To study the pattern of hematopoietic progenitor cells and Granulocyte colony stimulating factor among trauma hemorrhagic shock patients, Sanjeev Bhoi, ICMR, 2 years, 2020 - 22, Rs 16 lakhs
9. To study the pattern of mesenchymal stromal, hematopoieic stem and progenitor cells in peripheral blood of trauma hemorrhagic shock patients, Sanjeev Bhoi, ICMR 3 years, 2019-22, Rs 41 lakhs
10. To study the role of cell free-DNA among trauma hemorrhagic shock patients and its correlation with clinical outcome and severity of, Sanjeev Bhoi, ICMR, 2 years, 2020-22, Rs41 lakhs
11. To study the role of iPSC (induced pluripotent stemcells) derived hematopoietic progenitor cells (HPC) forhmatopoietic failure among trauma hemorrhagic shock using animal model, Sanjeev Bhoi, ICMR 3 years, 2020-23, Rs 40 lakhs



12. Utility of telemedicine to combat COVID 19 pandemic at the emergency response centre in a tertiary care hospital, Tej Prakash Sinha, AIIMS, New Delhi, 1 year, 2020 - 21, Rs 2.8 lakh

## **Departmental Projects**

### **Ongoing**

1. A randomized trial of modified Valsalva versus standard Valsalva manoeuvre for cardioversion in patients with supra-ventricular tachycardia in emergency department
2. Accuracy of AIIMS sepsis triage protocol in early identification of sepsis in ED
3. Assessment of internal jugular vein and femoral vein collapsibility in the determination of intravascular volume status as compared to inferior vena cava collapsibility
4. Association between long boarding time in the Emergency Department and in-hospital mortality
5. Changes in optic nerve sheath diameter following rigid cervical collar application in patients with traumatic brain injury: A prospective observational study in a tertiary care hospital
6. Characteristics, treatment and outcome of patients of heart failure presenting to the emergency department, AIIMS, New Delhi
7. Chest pain and heart failure in the emergency department registry study
8. Clinical epidemiological profile of patients presenting with acute chest pain in emergency
9. Clinical epidemiological profile of patients with AKI in CLD
10. Clinical epidemiology study of acute abdominal pain in ED
11. Clinico-epidemiological profile of cardiac arrhythmias in the emergency department
12. Clinico-epidemiological profile of patients presenting to emergency department with AKI
13. Clinico-epidemiological profile of patients with corrosive poisoning presenting to emergency department
14. Diagnostic accuracy of FAST with elevated liver enzymes in pediatric blunt abdominal trauma patients
15. Diagnostic accuracy of transcranial ultrasound to detect clinically significant conditions in post-craniectomy patients
16. Diagnostic yield of CT Brain in patients of Chronic liver disease with altered mental status
17. Does POCUS guided AIIMS-Pediatric POCUS Algorithm improve early diagnosis and critical care management decision in acutely ill pediatric patients
18. Does POCUS-guided acute abdomen algorithm improve early diagnosis and critical management decision in adult patients with undifferentiated acute abdominal pain presenting to emergency department
19. Efficacy and safety of intramuscular haloperidol and olanzapine in management of acutely agitated patients in emergency department – a randomized controlled trial
20. Efficacy of intra lipid emulsion therapy in Organophosphorus poisoning- an exploratory study
21. Impact of flipped classroom in learning of emergency medicine residents
22. Incidence of hypoglycemia in hyperkalemic patient following treatment with insulin and dextrose
23. Integration of point-of-care ultrasound during rapid sequence intubation in trauma resuscitation: A multicentric randomized study
24. Lung USG in pediatric patients coming with shortness of breath and fever
25. Nebulised vs intravenous tranexamic acid in patients with hemoptysis presenting to emergency department: A randomized controlled study
26. Outcomes of patients with upper gastro-intestinal bleed presenting to ED
27. Platelet-lymphocyte ratio as a predictor of infarct-related artery patency in patients with ST-elevation myocardial infarction
28. Point-of-care ultrasound in identifying the prandial status of patients undergoing endotracheal intubation in emergency department
29. Quality improvement in first pass success rate of endotracheal intubation in emergency department
30. Role of hydrocortisone in outcome of patients with cardiac arrest- a randomized placebo controlled trial
31. Role of Methylprednisolone in corrosive oesophageal injury: A randomised open label trial
32. TEG vs Conventional coagulation parameters in the management of active bleed in CLD patients presenting to ED
33. The performance of sono-triage in reducing under-triage rate as compared to conventional AIIMS triage protocol among patient presenting to emergency department
34. To study clinico-epidemiological profile of patients with Sympathetic Crashing Acute Pulmonary Edema (SCAPE)

35. To study the first pass success rate of ultrasound guided peripheral intravenous access in Difficult Intravenous Access (DIVA) patients when compared to traditional methods with training in emergency care providers
36. To study the role of point of care ultrasound for carotid pulse check in cardiac arrestpatients
37. Usefulness of EtCO<sub>2</sub> monitoring in patients with shock presenting to the Emergency Department of AIIMS, New Delhi

### **Completed**

1. Assessing serum chymase level as an early predictor of Dengue severity
2. Biochemical markers for prediction of outcome in patients with cardiac arrest
3. Clinical profile of patients requiring emergency airway management in the Department of Emergency Medicine
4. Comparison of the Full Outline of Unresponsiveness (FOUR) Score and the Glasgow Coma Scale in predicting clinical outcome of patients with altered sensorium in the emergency department
5. Evaluation of diagnostic characteristic of Neutrophil-Lymphocyte ratio in comparison to commonly used score (APACHE II, CTSI and BISAP) in acute Pancreatitis
6. Evaluation of diagnostic characteristics of point-of-care ultrasound in identification of maxillofacial fractures as compared to CT scan
7. Feasibility of USG-guided objective initial assessment of pupillary size and pupillary reflexes vs clinical examination in patients with altered mental status
8. Outcome of patients receiving cardiopulmonary resuscitation in the Department of Emergency Medicine, AIIMS, New Delhi
9. q-SOFA score as a predictor of 7 and 28 days outcome in patients with suspected infection presenting to the emergency department
10. Quality improvement study to advance airway management in the emergency department by reducing induction to successful intubation time
11. Quality improvement study to reduce door to antibiotic time and increasing blood culture rates among patients with sepsis in the emergency department
12. Quality improvement study to reduce door to perfusion time in patients with ST elevation myocardial infarction presenting to the emergency department
13. Role of high dose NTG bolus for patients presenting with sympathetic crashing acute Pulmonary Edema to the emergency department – A prospective observational study
14. To study the diagnostic characteristics of point of care ultrasound in patients of blunt trauma of chest
15. Validating the AIIMS triage protocol in terms of mortality and intensive care unit admission

### **COLLABORATIVE PROJECTS**

#### **Ongoing**

1. A study to assess the effectiveness of virtual simulation with regard to knowledge retention and skill development among nursing students on ATLS Guidelines, College of Nursing
2. Clinical frailty index as a predictor of mortality in older patients with severe acute respiratory illness: A Prospective Observational Study, Department of Geriatric Medicine
3. Comparative efficacy of low versus high dose Terlipressin in the management of upper gastrointestinal bleeding: An Open label Randomized Control Trial, Department of Gastroenterology
4. Development of structured module of echocardiography training for non -cardiology physicians, Department of Cardiology
5. Epidemiology of Emergency Department Visits – An International MulticentricStudy, University of Michigan, Ann Arbor, USA
6. Global One Day in Emergency Study – Global Multicentric Period Prevalence Study, University of Michigan, Ann Arbor, USA
7. Optimal usage of laboratory information system and its impact in the emergency care setting: A prospective observational study, Department of Laboratory Medicine
8. Prospective observational study of transfusion practices in severely injured trauma patients in emergency department at a level 1 Trauma Centre, Department of Laboratory Medicine
9. Role of antibiotic prophylaxis in Child-A Cirrhosis with acute variceal haemorrhage: A multi-centric open label Randomized Controlled Trial, Department of Gastroenterology
10. Standard medical therapy plus intravenous albumin versus standard medical therapy inpatients with acute variceal bleeding: A Pilot Randomized Controlled Trial, Department of Gastroenterology

## PUBLICATIONS

**Journals: 40**

## PATIENT CARE

### 1. (a.) Number of patients attended Emergency services

Total new patients	Total revisit patients	Total patients
65,743	29,441	95,184

### (b.) Medico-legal cases

Wing of Emergency	Total MLCs
New Emergency	309
Surgical Emergency	9464
Pediatric Emergency	395
Screening Emergency	791
<b>Total</b>	<b>10,959</b>

### 2. Point of Care Testing Laboratory (POCT) data

Test type	Total test done	Grand total
Complete blood count	63,000	<b>1,61,600</b>
Quantitative Troponin I	11,200	
Blood gas analysis	82,000	
NT pro-BNP	1100	
D Dimer	900	
Urine Tox screen	550	
PT/INR	2500	
Urine osmolality	350	

### 3. Procedures done in Emergency OT

Name of procedure	Total number
Tracheostomy	101

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Praveen Aggarwal** continues to be the Chief Editor of the Journal of Emergencies, Trauma and Shock, an international journal indexed in PubMed. He also continues to be a member of Signal Review Panel of the Central Drugs Standard Control Organization and the Indian Pharmacopoeia Commission for the Pharmaco-vigilance Programme of India, Member of Scientific Body, Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare, Government of India. He is the Vice-President of the Academic College of Emergency Experts in India and Joint Secretary of Organized Medicine Academic Guild of India which is a Guild of major medical associations and societies in India with the aim to formulate national policies in term of patient care, education and research. He is the Chief Editor for revising 'Washington Manual of Emergency Medicine' South-East Asia Edition. He is a member of Institute Ethics Sub-Committee for assessing Serious Adverse Effects of drugs being studied in various projects. He is a Member of the Core Committee of Experts for revising the National Formulary of India. He is involved in preparing core-curriculum and guidelines for faculty Development Programme in Emergency Medicine for National Board of Examinations-recognized programmes in Emergency Medicine.

**Professor Sanjeev Bhoi's** major area of work is development of Emergency care system in India and South-east Asian region, as the head of WHO collaborating centre for Emergency and trauma in the SEARO. He also gave his expertise to Ministry of health and various other organizations, including the Supreme court committee on road safety. He mentored the states of Kerala and Arunachal Pradesh for development of Emergency care system. Important courses conducted under his guidance during the period include, 'triage protocol workshop', 'tactical combat casualty workshop for paramilitary personnel' and 'capacity building programs for strengthening emergency care in primary health care settings'. As a teacher, he is very passionate to teach students in Emergency medicine nationally and globally. Point of care ultrasound training for postgraduates

among clinical disciplines and dissemination among undergraduate students and nurses was his key area of work. He was the session Moderator in COVIPOCUS2021- 'Focus In The Pandemic' Global e-Congress on 2, 16, 23 and 30 January 2021, and in COVISIM2021, 'SARS-simulation and survival', Global e-Congress on 6, 13, 20 and 27 February 2021. Quality emergency care for addressing patient safety concerns has been his domain of work since a decade and he continues to focus on this issue. Key area of his research is trauma hemorrhagic shock especially translational, since last 8 years and he has published many research papers on the same.

**Dr Nayer Jamshed** is the in-charge of MD teaching program which includes weekly Seminars, Journal Club, Tintinalli's textbook based topical discussion, evidence-based medicine and clinical case discussions. The teaching schedule also includes high fidelity simulation, table top simulation, OSCE and OSPE, image forum and point of care ultrasound. He is in-charge of simulation based training program of the department. He has also started the Departmental panel discussion on various topic pertaining to Emergency department. He is the reviewer of four journals in one year. He is also a member of Institute COVID task force and was instrumental in writing for AIIMS guidelines on COVID-19. He is one of the nodal officer for infection control program of AIIMS and COVID. He is one of the nodal officers for curriculum revision program of AIIMS. He is a teaching faculty for SET facility and has developed modules for them. He is also the teaching faculty for AIIMS ECG and Emergency Life Support Courses run by the department. Dr Jamshed is a part of departmental quality improvement program to improve quality of patient care and in-charge of mortality and morbidity meeting of the department. He is one of the teaching faculty members for the proposed Toxicology Fellowship Program. Dr Jamshed was also the Head of the Central Committee formed by MOHGW, Government of India to investigate the mysterious disease in Eluru, Andhra Pradesh. He is also the member of Institute Selection Committee for senior residents/demonstrators and is a member of Student Wellness Committee. He is an adjunct faculty from the department for the proposed DM Course in Psychosomatic Medicine. He also became the external examiner for emergency medicine for various post graduate examinations during this period.

**Dr Tej Prakash Sinha** has focussed his area of work in 'Emergency and trauma care system building'. His aim has been training of health care workforce on various domains of emergency medicine to create a robust and integrated emergency care system. He has been working in collaboration with department of surgery to improve surgical acute care and with the aim to create an academic program in 'Acute Care Surgery'. He has been involved in training and research in point-of-care ultrasound for postgraduate students. As a chief guide and co-guide, he is mentoring postgraduate students for point-of-care ultrasound related thesis. Presently, he is serving as Educational Sub-committee Co-chair of global emergency medicine research network "Emergency Medicine Education and Research by Global Experts (EMERGE)" with a vision to transform lives globally through emergency care research. He is also serving as an officer of WHO-collaborating centre for emergency and trauma in the region and has been working collaboratively with various states of India and member countries of SEARO for Emergency medicine, in building systems of integrated Emergency and trauma care in India and SEAR region.

**Dr Meera Ekka** continues to be the reviewer of various international journals and is on editorial board of 'Annals of Clinical Case Studies'. She is the member of Asia Pacific Association of Medical Toxicology, Association of Physician of India and Emergency Medicine Association of India. She is the faculty in-charge for store and nodal officer for equipment audit for the Department of Emergency Medicine. She was involved in initiation of Triage and Screening OPD in the department. She is the part of quality improvement projects for pain-free Emergency Department. She is one of the teaching faculty for SET Facility and has developed a teaching module on "needle decompression in tension pneumothorax" for MBBS students. She is also the teaching faculty for AIIMS Emergency ECG and comprehensive Emergency and trauma care training of medical/paramedical CAPFS course run by the department. She is one of the teaching faculty for the proposed 'Toxicology Fellowship Program'.

**Dr Akshay** led several 'Quality Improvement' Projects to improve processes of patient care including door-to-antibiotic time and improving blood culture rates in the emergency department which will have direct impact on patient safety. He was a core faculty leading COVID-19 related virtual training using SARAL platform for all staff at the Institute during the first and second wave of the pandemic. He was involved in developing content and training residents and undergraduate students at the SET facility. He was the part of the expert committee in emergency medicine involved in OSCE development for National Board of Medical Education. He was also nominated by Ministry of Health and Family Welfare to be part of the advisory committee for 'Training of Trainers Program' in rolling out operational guidelines for common emergencies including medical, trauma and burns.

**Dr Prakash Ranjan Mishra** has participated in several panel discussions as a panelist. He continues to hold AIIMS Emergency ECG Course for students which trains them in ECG skills in acute care settings and is a teaching faculty for emergency life support courses run by the department. He is a teaching faculty for SET facility and has developed e-modules for training and teaching. He is a part of departmental quality improvement program to improve quality of patient care. He was also involved in training doctors and paramedics during online workshops for strengthening emergency care services in SEAR region, in collaboration with WHO. He became the Associate Editor of the book named 'Washington Manual of Emergency Medicine', South-East Asia Edition.

## 9.11. Endocrinology and Metabolism

### Professor and Head

Nikhil Tandon

### Professors

Ravinder Goswami

Rajesh Khadgawat

Viveka P Jyotsna

### Associate Professor

Yashdeep Gupta

### Assistant Professor

Alpesh Goyal

### HIGHLIGHTS

The department is engaged in many academic activities such as Endocrine-Pathology Conference every alternate week, Endocrinology-Surgery-Nuclear Medicine (Wednesday) and Endocrinology-Radio diagnosis (Friday) meet every week. There are Seminars (Wednesday), Journal Clubs (Friday) and Clinical classes (Thursday) every week. During these academic events the topics of clinical importance and recent high impact articles are discussed. The department runs daily outpatient facilities, has state of the art laboratory services for hormone assays, metabolic studies and bone density measurement. Due to COVID-19, majority of the academic activities of the department were conducted in virtual mode during the year.

### EDUCATION

#### Undergraduate, Postgraduate, Paramedical Training

The department was actively involved in teaching undergraduate medical students and nursing students. Postgraduate students (MD) from Internal Medicine and Geriatric Medicine come for one and two month postings to the department. In addition, postgraduate fellows enrolled in MCh Breast and Endocrine Surgery, DM Nuclear Medicine and MSc Reproductive Biology also rotated for a period of 2-4 weeks in the department

#### Long and Short Term Training

- Three candidates joined the DM course (Two General, One Sponsored).
- Due to Covid-19 no candidate was permitted for short term training.

#### Lectures delivered

**Nikhil Tandon: 30**

**Rajesh Khadgawat: 8**

**Yashdeep Gupta: 4**

**Alpesh Goyal: 6**

#### Nikhil Tandon

1. COVID and its implications for Diabetes Management in India, India-US Diabetes and COVID-19 Webinar, Emory University, Atlanta, Georgia, USA, 27 April 2020, Webinar
2. COVID-19 and Non-communicable Disease (with special reference to diabetes), HRIDAY webinar on COVID, 29 April 2020, Webinar
3. Annual Project Report for the NHLBI funded T4 Translation Project (I-TREC), Hy-TREC/TREIN Virtual Annual Meeting, 21 May 2020, Virtual
4. Type 2 diabetes in the young: an evolving narrative, Diabetes Virtual Conference (Dia-V-Con) 2020, 21 June 2020, Webinar
5. Addressing the Unmet Needs, Talk delivered in the Faculty Workshop of the Project ASPIRE: A State-of-the-art Program to Initiate Robust capacity-Enhancement, 28 June 2020, Webinar
6. COVID 19 and Diabetes Care, Endocrine Society of India, 9 July 2020, Webinar
7. NAFLD: Prevalence and associated Cardio metabolic risk in India, Diabetes Care Foundation of India (Nagpur), 19 July 2020, Web-based
8. "What have we learnt from LIVING? Madras Diabetes Research Foundation Diabetes Update, Chennai, 25 July 2020, Virtual
9. Diabetes in Young, Diabetic Association of India, West Bengal, 2 August 2020, Virtual



10. Dr. Sunil Kumar Basu Memorial Oration during “Insulin@100 - The Champion Centenarian’s Celebration”, Diabetic Association of India, West Bengal, 2 August 2020, Virtual
11. Neuroendocrine Tumors, Endocrine Society of India, 29 August 2020, Virtual
12. National Grand Round on “COVID and Diabetes”, AIIMS, New Delhi, 16 September 2020, Virtual
13. Introduction to DM and HTN, Meeting of the ASPIRE Programme for Physicians, 13 September 2020, Virtual
14. Diabetes in the Young, Endocrinology Update (Pediatric Endocrinology Session), Endocrine Society of India, 19 September 2020, Virtual
15. Gestational Diabetes: The need for a continuum of care, Virtual SPEED Conference, 26 September 2020, Virtual
16. Context of why findings from the INDEPENDENT study are important in India, ADA Primer Series, 2 October 2020, Virtual
17. Introduction to Research Methods, Fundamentals of Research series, Endocrine Society of India, 3 October 2020, Webinar
18. Fruits of the iDCI®: Awareness activities before and during COVID 19, Project IMPACT India: Bolstering diabetes care in difficult times, 6 October 2020, Virtual
19. KDIGO Guidelines on the Management of Diabetes in CKD, 37th National Nephrology Congress, Turkish Society of Nephrology, 17 October 2020, Webinar
20. “Monitoring, follow-up and adverse effects of osteoporosis therapy”, Annual (Virtual) Conference of the Indian Society for Bone and Mineral Research, 30 October 2020, Video Conference
21. “Therapeutic Options: A case-based discussion”, Annual (Virtual) Conference of the Indian Society for Bone and Mineral Research, 31 October 2020, Video Conference
22. Chronic Disease and COVID-19: Mitigating Collateral Damage from the Pandemic, Stanford Asia Health Policy Program, Shoreline Asia-Pacific Research Center at Stanford University, 17 November 2020, Webinar
23. Quality Improvement Strategies for NCDs, Discussion Meeting of the NIH funded project “C-QIP”, 19 November 2020, Virtual
24. Prevalence and Incidence of Diabetes in India: A critical appraisal, 14th National Insulin Summit 2020, 12 December 2020, Virtual/ AIIMS, New Delhi
25. Expert Discussant: Training of Endocrine Fellows, Endocrine Enrichment Programme, Endocrine Society of India, 12 December 2020, Virtual
26. Challenges in T1DM care during transition phase – childhood to adult, Indian Dietetic Association and Chairperson, IDACON 2020, 5 January 2021, Virtual
27. Hypothyroidism in clinical practice: Case based discussion, Annual Malabar Endocrine Society Update, 23 January 2021, Video Conference
28. Hypothyroidism in women: Key note Address, FOGSI-ICOG National Conference on NCD in Obstetrics and Gynaecology, 7 February 2021, Virtual
29. Diabetes – Prevention, Management and Control, Bureau of Police Research and Development (BPRD), 19 February 2021, Webinar
30. Youth Onset Diabetes, 5th International Diabetes Summit (Virtual) organised by the Chellaram Diabetes Institute, 14 March 2021, Virtual

### **Rajesh Khadgawat**

1. Diagnosis of growth hormone deficiency, International Growth Update Symposium organized by Society for Promotion of Education in Endocrinology and Diabetes (SPEED), 9 August 2020, Online
2. A child with recurrent fractures, Digital IAP (dIAP), by Indian Academy of Pediatrics (IAP), 26 August 2020, Online
3. Growth Hormone Deficiency, 4th (1st Virtual) National Symposium on Growth, Paediatric & Adolescent Endocrinology, organized by Growth hormone Research Society (GHRS), 13 September 2020, Online
4. Blood glucose measurement in a patient: Precautions and Problems, 4th Annual Diabetes, Thyroid, and Endocrine Conference, Organized by The Diabetes Welfare Society, 18-20 September 2020, Online
5. Celiac Disease: An endocrine perspective , 3D Virtual International Diabetes and Endocrine Update, the SPEED ENDOCRINE e-Dialogues (SEED)”, organized by SPEED SOCIETY, 25-27 September 2020, Online
6. Short stature and Growth Hormone Deficiency, The Endocrine Masterclass, organized by CMC Vellore, 22 January 2021, Online
7. India is the World Capital for Diabetes! What makes us so Vulnerable? D-Health Symposium 2021, organized by IISc Bangalore, 15-19 March 2021, Online

8. Growth hormone reserve: What you need to know! ESI-EnSPIRE Program, organized by Endocrine Society of India, 28 March 2021, Online

### **Yashdeep Gupta**

1. Role of C-peptide in diabetes practice, Society for Promotion of Education in Endocrinology & Diabetes (SPEED) e-Dialogues (SEED) – a 3-D Virtual International Diabetes and Endocrinology Conference, 26 September 2020, Virtual/Delhi
2. Post-operative Management of hyper-pseudo-hypothyroidism SURGICON 2020, 7 November 2020, Virtual/Delhi
3. Gestational Diabetes Mellitus: 10 year journey of research from AIIMS, Endocrine Week by Endocrine Society of India, 16 November 2020, Virtual/Delhi
4. Pregnancy Insulin/Metformin: Point and Counterpoint, SAFES, 2021, 17 January 2021, Virtual/Delhi

### **Alpesh Goyal**

1. Approach to a patient with Tall Stature, Guest Lecture organized by Department of Endocrinology, NRS Medical College, Kolkata, 7 May 2020, Online
2. Myxedema coma: Management of a Case, Thyroid Update, Society for Promotion of Education in Endocrinology and Diabetes, 21 June 2020, Online
3. Use of Growth Charts: Indian Context, International Growth Update Symposium, Society for Promotion of Education in Endocrinology and Diabetes, 9 August 2020, Online
4. Difficult to manage Hypothyroidism, Endocrine e-Dialogues organized by Society for Promotion of Education in Endocrinology and Diabetes, 27 September 2020, Online
5. Basics of Hormone Assays, Endocrine Society of India Research Methodology Workshop, 23 October 2020, Online
6. A tale of 2 testos: A 26 year old male with serum testosterone of 1.8 ng/ml, KENDOCON 2020 organized by Professional Association of Clinical Endocrinologists, Kerala, 5 December 2020, Online

### **Nikhil Tandon: “Sessions Conducted for Media and General Public”**

1. COVID and Diabetes, Total TV, 5 April 2020, Video Conference
2. COVID and Diabetes, All India Radio, 6 April 2020, Telephonic interview
3. COVID and Diabetes, NDTV, 8 April 2020, Video Conference
4. COVID and Diabetes, INDIA TV, 16 April 2020, Video Conference
5. COVID and Diabetes, All India Radio, 18 April 2020, Telephonic interview
6. Medical Education and the NMC, Lok Sabha TV, 16 October 2020, Panel Discussion
7. Special Programme on Medical Education Reforms, Lok Sabha TV, 13 November 2020, Virtual
8. Medical Education, Lok Sabha TV, 20 November 2020, Panel Discussion
9. Diabetes, DD Kisan, 21 November 2020, Skype Interview
10. Diabetes, Euronews (European Television Channel), 26 November 2020, Skype Interview
11. “Tandons in Tandem”, Interactive session: AIIMS Student Welfare Group, 28 February 2021, Video Conference

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. A dose-finding trial evaluating the effect and safety of once-weekly treatment of somapacitan compared to daily Norditropin® in children with short stature born small for gestational age with no catch-up growth by 2 years of age or older, Rajesh Khadgawat, Novo Nordisk, 5 years, 2020-2025, Rs 25 lakhs
2. A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus” funded by ICMR, New Delhi, Nikhil Tandon, ICMR, 5 years, 2015-2021, 72.77 lakhs
3. A multicentre open label parallel arm RCT evaluating whether yoga can prevent worsening of glycaemic control in patients with type 2 diabetes mellitus on oral anti-hyperglycaemic drugs, Yashdeep Gupta, ICMR, 3 years, 2017-2020, Rs 75 lakhs
4. A phase 3, open-label, randomized, multicenter, 12 months, efficacy and safety study of weekly MOD-4023 compared to daily Genotropin- therapy in pre-pubertal children with growth hormone deficiency, Rajesh Khadgawat, Opko Biologicals, 3 years, 2017-2021, Rs 30 lakhs

5. A Phase IIb, Open-label, Randomized, Comparative Study to Evaluate the Safety and Efficacy of USVCAP Formulation in Type 2 Diabetes Mellitus Subjects Uncontrolled with Metformin Hydrochloride Treatment, Dr Rajesh Khadgawat, USV Ltd, 3 years, 2019-2021, Rs 25 lakhs
6. A randomised, multinational, active-controlled, (open-labelled), dose finding, (double-blinded), parallel group trial investigating efficacy and safety of once-weekly NNC0195-0092 treatment compared to daily growth hormone treatment in growth hormone treatment naïve pre-pubertal children with growth hormone deficiency, Rajesh Khadgawat, Novo Nordisk, 3 years, 2017-2021, Rs 30 lakhs
7. A Randomized Placebo Controlled Phase 2 Clinical Study of an Ayurvedic Coded Drug 'AYUSH D' in the Management of Type 2 Diabetes Mellitus as add on Therapy to Metformin, Rajesh Khadgawat, Central Council for Research in Ayurvedic Sciences, Ministry of AYUSH, Govt of India, 3 years, 2017-2021, Rs 35 lakhs
8. A Randomized Placebo Controlled Prospective Phase II Clinical Study of an Ayurvedic Coded Drug 'AYUSH-D' on Glycemic control in Pre-Diabetic Subjects, Rajesh Khadgawat, Central Council for Research in Ayurvedic Sciences, Ministry of AYUSH, Govt of India, 3 years, 2017-2021, Rs 35 lakhs
9. A Randomized, Double-blind, Placebo-controlled, Parallel-group, Multicenter Study to Evaluate the Effect of Efglenatide on Cardiovascular Outcomes in Type 2 Diabetes Patients at High Cardiovascular Risk, Rajesh Khadgawat, Sanofi Aventis, 5 years, 2018-2023, Rs 20 lakhs
10. A trial comparing the effect and safety of once weekly dosing of somapacitan with daily Norditropin® in children with growth hormone deficiency, Rajesh Khadgawat, Novo Nordisk, 5 years, 2018-2023, Rs 10 lakhs
11. An open label multicentre roll over study to assess long term safety in patients with endogenous Cushings syndrome who have completed prior Novartis sponsored osilodrostat (LCI699) study and are judged by the investigator to benefit from continued treatment with osilodrostat, Viveka P Jyotsna, Novartis/IQVA, 6 years, 2019-2024, Rs 30 lakhs
12. Assessment of Cognitive, Neuroanatomical and Neurofunctional abnormalities in adults with Type 1 Diabetes, Yashdeep Gupta, DST, 3 years, 2017-2020, Rs 34.81 lakhs
13. Bone mineral density and chronic alcoholism and changes following disulfiram deaddiction therapy, Ravinder Goswami, DBT, 1 year, 2017-2021, Rs 45 lakhs
14. Centre for Advanced Research and Excellence (CARE) in Young Diabetes, Nikhil Tandon, ICMR, 5 years, 2019-2024, Rs 1,04.95 lakhs
15. Changing diabetes in children, Nikhil Tandon, Novo Nordisk India Pvt Ltd, 11 years, 2012-2023, Rs 25 lakhs
16. Comparison of Seroprevalence of SARS-CoV2 among people with and without diabetes and/or hypertension among existing cardio-vascular community cohort in National Capital Region (NCR) of Delhi, Nikhil Tandon, ICMR, 1 year, 2021-2022, Rs. 58.51 lakhs
17. Development of A Standardized Formulation of Trigonellafoenum-graecum Seeds For Preventing or Delaying the Development of Type-2 Diabetes in Subjects with Pre-Diabetes, Rajesh Khadgawat, ICMR, 5 years, 2017- 2021, Rs 35 lakhs
18. Development of Phase II Clinical Trial for an Investigational New Drug, Nikhil Tandon, Torrent Pharma, 7 years, 2014-2022, Rs 84.53 lakhs
19. Effect of intervention for lifestyle modification on improvement in sleep quality, depression score and optimal breastfeeding duration in women with history of GDM: Sub study of LIVING, Nikhil Tandon, USV Ltd, 3 years, 2018-2021, Rs 53.42 lakhs
20. Effect of Yoga on psychological, cognitive and glycemic control in patients with T2DM and Depression: Two arm parallel Randomized controlled trial, Yashdeep Gupta, DST, 3 years, 2017-2020, Rs 36.54 lakhs
21. Efficacy and safety of oral semaglutide versus oral placebo both in combination with metformin and/or basal insulin in children and adolescents with type 2 diabetes, Rajesh Khadgawat, Novo Nordisk, 3 years, 2020-2023, Rs 25 lakhs
22. ICMR – Young Diabetes Registry (YDR) & YDR cohort – Phase III”, Nikhil Tandon, ICMR, 3 years, 2020-2023, Rs 27.02 lakhs
23. Integrated Tracking Referral, and Algorithmic Management (I-TREC) System for Hypertension and Diabetes Institution, Nikhil Tandon, NIH, USA, 5 years, 2017-2022, \$ 649,748
24. Long - term effects of semaglutide on diabetic retinopathy in subjects with type 2 diabetes (FOCUS), Nikhil Tandon, Novo Nordisk India Pvt Ltd, 5 years, 2019-2024, Rs 27,50,000
25. Performance analysis of point of care device for HbA1c developed indigenously against gold standard of HbA1c HPLC-123G8 machine (by High Performance Liquid Chromatography), Viveka P Jyotsna, ICMR, 2 years, 2019-2021, Rs 19 lakhs

26. SARS-CoV-2 infection (COVID-19) related clinical outcomes among people with and without diabetes and/or hypertension in India- A hospital based observational study, Nikhil Tandon, ICMR, 1 year, 2021-2022, Rs 45.21 lakhs
27. SOUL - Semaglutide cardiovascular outcomes trial in patients with type 2 diabetes, Nikhil Tandon, Novo Nordisk India Pvt Ltd, 5 years, 2019-2024, 30.00 lakhs
28. To develop a strategy for postpartum follow up of woman with history of gestational diabetes mellitus by using the right test and frequency of testing and developing patient centric approach after incorporating their views, Nikhil Tandon, Lupin Ltd, 3 years, 2018-2021, Rs 40.41 lakhs
29. To evaluate the effectiveness of lifestyle intervention program in overweight/obese women [within 2 years of last child birth] when delivered to them along with their spouse as compared to them alone: Two arm parallel Randomized Control Trial, Yashdeep Gupta, ICMR, 3 years, 2019-2022, Rs 47 lakhs
30. To study the effect of changes in growth hormone status on metabolomic profile of human subjects, Rajesh Khadgawat, ICMR, 3 years, 2021- 2023, Rs 28 lakhs
31. Vitamin D deficiency and bone microarchitecture in asymptomatic healthy Indians: Exploring the functional significance of low serum 25(OH)D and high PTH, Ravinder Goswami, DBT, 4 years, 2019-2023, Rs 76 lakhs

### **Completed**

1. ‘A Phase II trial to assess efficacy and safety of Pasireotide.C alone or in combination with Cabergoline.’ Funding: Novartis (Protocol Number CSOM230B2411). (2015-2021), Viveka P Jyotsna, Novartis, 6 years, 2015–2021, Rs 26.40 lakhs
2. A Phase III, multi-center, double-blind, randomized withdrawal study of LCI699 following a 24 week, single-arm, open-label dose titration and treatment period to evaluate the safety and efficacy of LCI699 for the treatment of patients with Cushing’s disease, Viveka P Jyotsna, Novartis, 5 years, 2016–2021, Rs 29.53 lakhs
3. A randomized, 24-week, controlled, open label, parallel arm, multicenter study comparing the efficacy and safety of the insulin glargine/lixisenatide fixed ratio combination to insulin glargine in type 2 diabetes patients, inadequately controlled on Basal Insulin with or without Metformin, Rajesh Khadgawat, Sanofi Aventis, 3 years, 2017-2020, 5 lakhs
4. Effect and safety of Semaglutide and 2.4 mg once-weekly in subject with overweight or obesity and type 2 diabetes, Rajesh Khadgawat, Novo Nordisk, 5 years, 2017–2021, 30 lakhs
5. Harmonization of existing registries of diabetes in youth: a US-India Collaborative Research Partnership, Nikhil Tandon, ICMR, 4 years, 2016-2020, Rs 84.13 lakhs
6. NN1218 - 4131, Efficacy and Safety of Faster - acting Insulin Aspart compared to Novo Rapid both in combination with Insulin Degludec in Adults with Type 1 Diabetes”, Nikhil Tandon, Nova Nordisk India Pvt. Ltd., 4 years, 2016-2020, Rs 9.02 lakhs
7. NN924-4221 Pioneer 6-Cardiovascular outcomes “A trial investigating the cardiovascular safety of oral Semaglutide in subjects with type 2 diabetes”, Nikhil Tandon, Nova Nordisk India Pvt Ltd, 3 years, 2017-2020, Rs 21.57 lakhs
8. Prevalence of Non-Alcoholic Fatty Liver Disease (NAFLD) and its association with cardio-metabolic disease risk factors in North India, Nikhil Tandon, ICMR, 3 years, 2017-2020, Rs 172.53 lakhs
9. Registry of people with diabetes in India with young age at the onset phase II, Nikhil Tandon, ICMR, 8 years, 2012-2020, Rs 246.99 lakhs

### **Departmental Projects**

#### **Ongoing**

1. An ambispective study on prevalence and characteristics of multiple endocrine neoplasia related primary hyperparathyroidism in comparison with sporadic primary hyperparathyroidism
2. Assessing Indian vegetarian diets with respect to their “potential protective impact” on cardio-metabolic health of urban adults in Delhi
3. Bone health in patients with Turners syndrome
4. Characterization of Neuroendocrine Tumors with Ga68-DOTANOC PET/CT and F18- FDG PET/CT and compare results with histopathology
5. Etiological and clinical profile of patients with ectopic ACTH syndrome: Ambispective
6. Molecular aspects in the pathogenesis of Basal ganglia calcification in hyperparathyroidism
7. Pattern of islet antibodies and their persistence in Type 1 Diabetes patients from North India
8. study

9. To compare the glycemc profiles of pregnant women with hyperglycaemia with Freestyle Libre Pro and Medtronic CGMS
10. To study the effect of personality on diet quality and academic performance among adolescents: A comparison between boys and girls
11. To study the management outcomes in patients with primary aldosteronism
12. To study the prevalence of primary aldosteronism in high risk subjects with hypertension
13. To study the response to vitamin D treatment in obese, overweight and normal BMI, vitamin D deficient Indian children aged 5 to 12 years-an open labelled randomized intervention study
14. Vitamin D status and its functional significance

### ***Completed***

1. A Randomized Double Blind Controlled Trial to Investigate the Effects of Vitamin D supplementation on Insulin Resistance and Beta cell function in obese Asian-Indian Subjects, aged 11-17 years
2. Assessment of arterial stiffness in obese children and adolescents in the age group of 6-18 years
3. Assessment of Cognitive, Neuroanatomical and Neurofunctional abnormalities in adults with Type 1 Diabetes: A cross sectional study
4. Correlation between first trimester glucose screening and serum insulin levels with development of gestational diabetes mellitus in pregnancy
5. Evaluation of eating disorders and dietary patterns and their association with metabolic parameters and glycemc control in adult patients with diabetes mellitus type 2
6. Phenotype and radiological correlation in children with growth hormone deficiency
7. Pre and Post-operative Dysglycemia in cases of Pheochromocytoma/ Paraganglioma - a tertiary care centre study in Northern India
8. Prevalence of thyroid peroxidase antibody positivity in pregnant Asian-Indian subjects
9. Reversibility of Bony microarchitecture abnormalities in Hyperparathyroidism
10. Study of mitochondrial defects and VDR polymorphisms in Type 2 Diabetes
11. To assess the prevalence of vitamin D deficiency in patients with non-traumatic fracture of hip
12. To study and compare the prevalence of Non-Alcoholic Fatty Liver Disease in women with and without previous history of Gestational Diabetes
13. To study carotid intima media thickness (CIMT) as a marker of atherosclerosis and its correlation to insulin resistance in children with obesity in the age group of 4-18 years
14. To study determinants of insulin resistance in children and adolescents with obesity
15. To study determinants of insulin resistance in children and adolescents with obesity
16. To study the clinical, biochemical and radiological features of primary hyperparathyroidism: impact of vitamin D nutrition and histopathology
17. To study the correlation of serum vitamin D level with insulin resistance and beta cell function in subjects with obesity in the age group of 6-18 years
18. To study the impact of adiposity on serum androgen parameters in apparently healthy male subjects
19. To study the impact of adiposity on serum androgen parameters in apparently healthy male subjects
20. To study the prevalence of vitamin D deficiency in pregnant women at first and third trimester during the routine care
21. To study the variability in content strength of commercially available cholecalciferol preparations in India

### **Collaborative projects**

#### ***Ongoing***

1. A Prospective study to determine early predictive factors of hypocalcaemia in patients undergoing total or completion thyroidectomy. Department of ENT, AIIMS (2021-2023)
2. A randomised control trial to compare the safety and outcome of trans-oral vestibular and axillo-breast approach for endoscopic hemithyroidectomy in patients with benign thyroid swellings, Department of Minimal Access Surgery & General Surgery, MCh (2019-2021)
3. A study on prevalence of insulin resistance among patients with breast cancer, (2021-2023). Department of Preventive Oncology, Dr BR Ambedkar Institute Rotary Cancer Hospital, Intramural project, Funding AIIMS



4. Correlation of Levator-Muller's Complex Thickness on UBM with Clinical Response to Botulinum Toxin A injection in Patients with Thyroid-related severe Retraction of Upper Eyelid, Department of Ophthalmology, AIIMS (2020-2022)
5. Evaluation of chromatin remodelling, mTOR pathway and SSTR expression in pancreatic neuroendocrine tumors, Department of Pathology, AIIMS (2020-2022)
6. Evaluation of role of platelet rich plasma in healing of chronic diabetic and peripheral arterial disease ulcers as compared to standard medical care: A randomised control study. , Department of Surgical Disciplines, (2021-2023)
7. Identification of genetic mutation in neuroendocrine tumors: Implication in diagnosis and management, Funding: ICMR Department of Anatomy, All India Institute of Medical Sciences (2020-2023), New Delhi
8. In vivo assessment of somatostatin receptor expression with <sup>68</sup>Ga DOTANOC PET/CT in patients with autoimmune and immune related orbitopathy, Department of Nuclear Medicine, AIIMS (2019-2021)
9. Pathogenesis of primary parathyroid adenoma, Departments of Pathology, Forensic Medicine and Anatomy
10. Study quantify the burden of Insulin resistance in breast cancer women and its relation with other known prognostic and predictive factors of breast cancer, Department of Surgical Disciplines, AIIMS (2021-2023)

### Completed

1. Assessment of nutritional status/parameters in acute leukemia patients undergoing induction chemotherapy, Collaborating with Department of Hematology, AIIMS
2. Outcome implications of ADA/ACC guidelines based insulin protocol in the management of hyperglycemia in hospitalized patients at AIIMS, Department of Medicine, AIIMS
3. To study relation between components of Renin angiotensin aldosterone system & vascular functions following Angiotensin converting enzyme inhibition in type 2 diabetes patients with newly diagnosed hypertension, Funding: Intramural; Collaborating with Department of Physiology, AIIMS

## PUBLICATIONS

**Journals: 82**

## PATIENT CARE

### OPD/Clinic attendance

Endo New Patient	Endo Old Patient	Endo Follow-up Tele-consultation	PAE Clinic	DOY Clinic	GDM Clinic	Total
4431	9877	3359	262	800	31	18760

### Month wise break-up of OPD attendance

Month	New Patient	Old Patient	Follow-up Tele-consultation	PAE Clinic	DOY Clinic	GDM Clinic	Total
April, 2020	0	0	42	0	0	0	42
May, 2020	0	0	894	0	0	0	894
June, 2020	70	667	54	2	0	0	793
July, 2020	79	69	277	1	37	0	463
August, 2020	233	254	188	4	55	0	734
September, 2020	393	527	428	16	92	4	1460
October, 2020	467	857	393	9	114	3	1843
November, 2020	427	836	259	6	62	1	1591
December, 2020	485	1044	286	12	90	4	1921
January, 2021	533	1318	242	49	119	4	2265
February, 2021	760	1900	156	62	115	2	2995
March, 2021	984	2405	140	101	116	13	3759
<b>Total</b>	4431	9877	3359	262	800	31	18760

Inpatient and other patient related details may please be seen in Hospital (Medical Record Division)

### Laboratory Services

#### Hormones investigations

No	Hormone	Tube assays done	No	Hormone	Tube assays done
1	T4	3596	15	C PEPTIDE	1570
2	TSH	6062	16	GH	237
3	TPO	901	17	GAD	202
4	LH	614	18	F T4	1539
5	FSH	572	19	T3	764
6	PRL	719	20	F T3	384
7	CORTISOL	2173	21	IGF 1	386
8	TESTOTERONE	575	22	E2	182
9	DHEA	129	23	ALDOSTERONE	220
10	17 OHP	43	24	RENIN	205
11	ACTH	435	25	FGF 23	194
12	PTH	1754	26	OSTEOCALCIN	239
13	VITAMIN D	3390	27	125 VIT.D	132
14	INSULIN	2116	28	SARS COV-2	943
				<b>GRAND TOTAL</b>	<b>30276</b>

Currently, we are in the process of doing trial measurements of steroid hormones in patient's samples using both methods, namely HPLC-MS/MS using our validated reagent method protocols and conventional RIA for comparison of results.

#### Biochemical investigations

No	INVESTIGATION	NUMBER OF SAMPLES
1	Bloodglucose	6581
2	Glycatedhemoglobin (HbA1c)	5008
3	Urine pH	64
4	Osmolality (urine and serum)	325
5	Lipid Profile	3893
6	tTG Elisa test	575
	<b>Total tests</b>	<b>16446</b>

#### Specialty Clinics:

- Diabetes of Young (DOY) Clinic on Saturdays
- Paediatric and Adolescent Endocrine Clinic (PAEC) on Monday afternoons.
- Gestational Diabetes Mellitus (GDM) Clinic on Friday mornings
- Community services/camps.

The department regularly hold camps especially awareness and screening programson obesity, PCOS, diabetes, and thyroid disorders.

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Nikhil Tandon** was Nominated by Director-General, World Health Organisation (WHO) to serve on the 13th General programme of Work (GPW 13) Measurement and Impact Framework Committee, Geneva, Switzerland, Member, Medical Council of India's Board of Governors, New Delhi, Member, Expert Panel of the Joint Global Health Trials scheme (Medical Research Council UK/DFID/Welcome Trust), Associate Editor, for the scientific journal Global Health, Epidemiology and Genomics, Member of the KDIGO Management of Diabetes & CKD Guideline: Work Group, Nominated as Global Panel Member of the FOCUS study, Member of the Governing Body of the Institute of Medical Sciences, Banaras Hindu University, Varanasi, Nominated by the Ministry of Earth Sciences, Government of India as a Member of the National

Coordination Committee for Polar Science Programme (NCP), Antarctica, Member of the Governing Body of the National Institute of Health and Family Welfare (NIHFW), Ministry of Health and Family Welfare, Munirka, New Delhi, Nominated as a Chairman of the Selection Committee for the selection of Medical Officers for the 38-Indian Scientific Expedition to Antarctica (ISEA), Goa, Vice President, National Board of Examination (NBE), New Delhi, Member, Institute Body (IB), Governing Body (GB), Standing Finance Committee (SFC) and Standing Selection Committee (SSC) of AIIMS, Jodhpur, Rajasthan, Chairman of the Human Resource Committee at AIIMS for deployment of faculty / residents for COVID-19, Associate Editor, National Medical Journal of India (NMJI), New Delhi, Member, Editorial Board on Thyroid Research , UK, Member, International Expert Advisory Group, Global Alliance for Chronic Disease, Member, Governing Board, Centre for Chronic Disease Control, Member, Expert Panel meeting of the Joint Global Health Trials scheme (Medical Research Council UK/DFID/Welcome Trust), Member, NCD Policy Group of the Comprehensive National Nutrition Survey, Member, Council of the Indian Academy of Science, Member, Governing Council of the Sun Pharma Foundation, Member, Research Council of the CSIR-Institute of Genomics and Integrative Biology, External Expert to assist Standing Selection Committee of AIIMS, Bilaspur, for selection to the post of Assistant Professor in the Department of Endocrinology and Metabolism, AIIMS, Bilaspur (Conducted by PGIMER, Chandigarh), Member, Selection Committee constituted by the National Academy of Sciences, India for Award of Fellowships and Memorial Lectures (Senior Scientist Platinum Jubilee Fellowship, Young Scientists Award, and NASI Memorial Lecture Award), External Member of the Selection Board at Dr Ram Manohar Lohia Hospital, for selection of Assistant Professor (Endocrinology) on contract basis, Expert in the Committee to develop guidelines for national prioritization for COVID vaccination for people with co-morbidities, Program chair of the Scientific Advisory Board for the “Endocrinology Masterclass” being organized by Centre for Control of Chronic Conditions and Public Health Foundation of India, Co-Chair of the Selection Committee for Faculty Positions at Institute of Medical Sciences, BHU (meetings conducted between 13-14 August 2020), Chairman, Selection Committee meeting to select medical doctors for the Indian expedition to Antarctica (Meeting held on 5 October 2020 via video conference), Member, Selection Committee Meeting for the position of the Director, Institute of Medical Sciences, BHU (meeting held on 11 August 2020; and 12 October 2020); conducted 11 sessions for media and general public.

**Professor Ravinder Goswami** was Member for the 3rd International Task Force on Hypoparathyroidism Initiated by Endocrine Society of USA, Member Project Review Committee for Medical Projects, CSIR since 2015 till date, Member Core Committee of the Central Core Research Facility (CCRF), Member Fellowship Selection Committee Indian Academy of Science, Bangalore, Selection meet to consider candidature of Professor in the Department of Endocrinology and Metabolism, Faculty of Medicine, Institute of Medical Sciences, BHU for promotion as Senior Professor in Academic level 15 under career Advancement scheme, Expert for DBT Projects Review Meeting under the call ‘Problems associated with women’s health’ held on 2-3 September 2020, Chair Person for the Clinical Projects (B) AIIMS Intramural Projects meeting at AIIMS, New Delhi for year 2020-2021, Member Expert group meet on fellowship under division of RBMCH at ICMR head Quarters held on 5 September 2020, Member Selection Committee for the prestigious Shanti Swarup Bhatnagar Prize meeting held on 14 September 2020, Expert for Selection Committee Meeting of faculties in the Department of Endocrinology, Indira Gandhi Institute of Medical Sciences, Patna held on 22 September 2020, Examiner PhD (Priyanka Singh, SK Bhadada Chief Guide, PGIMER, Chandigarh), To study the epigenetic modifications in transcriptional regulators of calcium sensing receptor in primary Hyperparathyroidism

**Professor Rajesh Khadgawat** received Fellowship of Royal College of Physician (FRCP), Edinburgh, UK, is Member, Scientific Council of Zandu Foundation of Health Research, Kolkata Expert, National Anti-Doping Agency (NADA), Ministry of Youth Affairs and Sports, Govt of India, Endocrinology External expert, Japan Anti-Doping Agency (JADA), Japan, Board of Members (BOM), Rajasthan University of Health Sciences (RUHS), Jaipur, Member, Selection Board, Rajasthan University of Health Sciences (RUHS), Jaipur, Member, SAE-Death committee, DCGI, Govt of India, Subject Expert Committee (Endocrinology), DCGI Govt of India, Subject Expert, National List of Essential Medicines (NLEM), Department of Health Research, Govt of India, Subject Expert, Standing National Committee on Medicines (SNCM), Department of Health Research, Govt of India, Member, Subject Review Committee, National Formulary of India (NFI), 6th edition, Member (Clinician), The Institutional Ethics Committee, University of Delhi South Campus, Member (Clinician), The Central Ethics Committee, Central Council for Research in Ayurvedic Sciences (CCRAS), Ministry of Ayush, Govt of India, Chief coordinator and External Examiner, DNB Practical Endocrinology Exam 19-20 August 2020, Chief coordinator and External Examiner, DNB Practical Endocrinology Exam 10-11 March 2021, External Examiner for virtual DM exams organized by West Bengal Health University, 13-14 August 2020, External Examiner for virtual DM exams organized by Banaras Hindu University (BHU), 22 September, External Examiner for virtual DM exams organized by SMS Medical College, Jaipur, 3 October, Parliament health camp on 18 March organized by Ministry of Health & Family Welfare, Govt of India, Subject expert (Endocrinology) for faculty selection/promotion for Union Public Service Commission (UPSC), AIIMS-Bhopal, AIIMS-Bhubaneswar, AIIMS-Jodhpur, AIIMS-Raipur, Rajasthan Public Service Commission (RPSC), PGI Rohtak and other state public service commissions, Member of the Screening Committee for SERB-SUPRA (Scientific and Useful Profound Research Advancement) scheme, 19-20 January organized by Science & Engineering Research Board (SERB), Department of Science & Technology (DST), Govt of India.

**Dr Yashdeep Gupta** was RSSDI Novartis Young Investigator Award given by Research Society for the Study of Diabetes in India, Anil R Sheth Young Investigator Award in the field of Clinical Endocrinology given by Endocrine Society of India, and AIIMS Excellence Research Award 2019 (awarded in 2020) (Certificate) for Clinical Category.

**Dr Alpesh Goyal** was took a session on Functional Neuroendocrine Tumors Moderator, Endocrine Society of India International Webinar Series, 29 August 2020 and was a panelist in Hyperglycemias in Pregnancy (Panel Discussion), SPEEDCON 2021 organized by Society for Promotion of Education in Endocrinology and Diabetes on 21 February 2021.

## 9.12. Forensic Medicine

### Professor and Head

Sudhir Gupta

### Professors

DN Bhardwaj

OP Murty

Millo Tabin

Sanjeev Lalwani (JPNATC)  
Adarsh Kumar (JPNATC)

### Additional Professor

Chittaranjan Behera

### Associate Professors

Kulbhushan Prasad

Abhishek Yadav

### Assistant Professor

Varun Chandran A (Adhoc)

### Scientist-1

Nidhi Sharma

### Chemist

AK Jaiswal

### HIGHLIGHTS

The department of Forensic Medicine and Toxicology is the apex referral center for complicated medico-legal problems in India. The department is providing expert opinion in referred cases from CBI, NIA, NHRC, Courts and Crime branch of different states. It is involved in medico-legal autopsy, embalming of MLC deaths, clinical forensic medicine services, teaching, training, research, expert opinion in referred medico-legal cases & court related works. The department is running three laboratory services-Toxicology, DNA Fingerprinting and Histopathology and three support services in form of Forensic Radiology, Forensic Anthropology and Forensic Biochemistry. A total of 1905 medico legal autopsies were conducted. During Covid-19 pandemic, the mortuary of JPNATC was designated for management of dead bodies. A total 1543 bodies were transported to different crematoriums of Delhi during this period from the Trauma Centre mortuary. The department was involved in preparing standard guidelines for medico-legal autopsy in COVID-19 deaths in India. A state of art odorless mortuary, a first-of-its-kind in the country is already established. The facility of virtual autopsy (Centre of Advanced research and excellence in Virtual Autopsy) was inaugurated on 20th March 2021. This ICMR funded project is functional now which is a step towards dignified management of dead bodies. Work for an ICMR funded Task Force project entitled "Development of DNA database and Identification portal for unidentified dead bodies autopsied at AIIMS, New Delhi, by using bioinformatics tools and techniques is on-going. A total of 10 departmental research projects are continuing and three have been completed. Two collaborative projects were completed and seven are continuing.

### EDUCATION

There are 12 postgraduate (MD) students and one PhD student enrolled in the department.

**CMEs/Workshop/Symposium /Conferences**-Department organized 2nd AIIMS Forensic Guild Conclave-2021 held at AIIMS, New Delhi on 19 and 20 March 2021.

### Lectures delivered

**Adarsh Kumar: 8**

**Chittaranjan Behera: 3**

**Abhishek Yadav: 5**

**AK Jaiswal: 1**

### Adarsh Kumar

1. Changing paradigm of Forensic Medicine practice during COVID-19 times- An update, 42nd Annual National Conference of Indian Academy of Forensic Medicine-"FORENSIC MEDICON-2021", 22-24 January 2021, Cuttack
2. Current Status of Body Donation in India, CME on Medico legal issues in Dead Body Donation, 13 February 2021, Bhatinda



3. Custodial death investigations in India an update, 2nd Police Science Congress, 22-23 October 2020, Kerala/Online
4. Future Frontiers in Forensics Practice, International Conference of Forensics- Middle East and Africa , 12-14 October 2020, Egypt/Online
5. Role of Forensic Medicine in Social Justice, 18th Annual Conference of Punjab Academy of Forensic Medicine and Toxicology- “PAFMATCON-2020”, 10 October 2020, Amritsar/Online
6. Disaster Victim Identification -Need for collaboration between Forensic Medicine & Forensic Science, 3rd INFOMECON-2020-International Conference on Forensic science, Forensic Medicine &Criminology, 15-16 Sep. 2020, Kuala Lumpur/Malaysia/Online
7. Drunk/Drunken Driving *vis a vis* Disability and Death (From Forensic perspective), Mahatma Gandhi’s Principles: In the Perspective of Alcoholism and The Road Crashes, 29 Aug 2020, Australia/Online
8. Changing paradigm of Forensic Medicine practice in aftermath of COVID-19 Global Pandemic-An experience from India, 1st International Virtual Congress of Forensic Medicine with joint collaboration of International committee of Red Cross, 19-20 June 2020, Morocco/Online

#### **Chittaranjan Behera**

1. Guest lecture - Development of the First Identification Portal and DNA Database for Unidentified bodies in India – UMID, AIIMS, 42nd Annual National Conference of Indian Academy of Forensic Medicine- “FORENSIC MEDICON-2021”, 22-24 January 2021, Cuttack
2. Two Guest lectures: MOHFW guidelines on medico-legal response especially sexually assaulted victims and Role of medical personnel and also on Child abuse and POCSO ACT, Training programme on Gender-based violence and Human Rights for promoting women health under NHM, 16 February 2021, New Delhi/Online
3. Guest lecture-(UMID) उम्मीद - Unidentified bodies and Missing person’s Identification portal and DNA database at AIIMS, New Delhi, 2nd AIIMS Forensic Guild Conclave-2021, 19-20 March 2021, New Delhi

#### **Abhishek Yadav**

1. Centre for Advanced Research and Excellence in Virtual Autopsy Care, 2nd AIIMS Forensic Guild Conclave-2021, 19-20 March 2021, New Delhi
2. Modular Autopsy Suite, 2nd AIIMS Forensic Guild Conclave-2021, 19-20 March 2021, New Delhi
3. Handling of a Medico legal Case, Training of in-service Medical officers and specialists at Acharya Shri Bhikshu Government Hospital, Govt of NCT Delhi, 24 September 2020, New Delhi
4. Autopsies and Mortuary Functioning - Maintaining Safety with Efficiency in COVID times, 35th National Eye Donation Fortnight Celebrations, 25August 2020, New Delhi/ Online
5. Autopsy Practices: Precautions and safety in Mortuary, Forensic Practice during COVID-19 Pandemic (DELHI), 31 July 2020, New Delhi/ online

#### **AK Jaiswal**

1. Poisons – types, target organs, symptoms of poisoning, collection and preservation of viscera and blood samples liquor, petroleum and trap,, Induction Course in Forensic Science organized by LNIN NICFS, 16 February 2021, New Delhi

#### **List of oral papers/posters presented: 1**

1. Yadav Abhishek, Poster-Virtual Autopsy– Challenges in implementation in Indian Medicolegal System, 9th Congress of the International Society of Forensic Radiology and Imaging (ISFRI 2020), 7–11 September 2020, Online

#### **RESEARCH**

##### **Funded projects**

##### **Ongoing**

1. Centre of Advanced research and excellence in Virtual Autopsy, Sudhir K Gupta, ICMR, 5 years 2019-2024, Rs 5 Crores
2. TASK FORCE Project- Development of DNA database and Identification portal for unidentified dead bodies autopsied at AIIMS, New Delhi, by using bioinformatics tools and techniques, Chittaranjan Behera, ICMR, 3 years, 2018-2021, Rs 1.36 Crores
3. To study the significance of Mitochondrial DNA testing for maternal lineage, Nidhi Sharma, AIIMS Intramural, 2 years, 2019-2021, Rs 5 lakhs

## Departmental projects

### *Ongoing*

1. A Comparative Study of CT Scan and Digital X-ray based on Virtual Autopsy and Traditional Autopsy Including Histopathological Examination in Various Causes of Death
2. Age estimation by radiological study of bones and joints
3. Computed Tomographic and Morphometric Analysis of Dimensions and weights of Internal organs in Indian Population.
4. Content and linguistic analysis of suicide notes collected during medico legal autopsy at AIIMS, New Delhi
5. Genetic association of cytokine gene polymorphisms with suicidal behavior in Indian population
6. Radiological study of internal neck injuries in cases of death due to fatal pressure on the neck
7. To establish sexual dimorphism and estimate age from Hyoid Bone using Anthropological and Radiological Techniques
8. Virtual autopsy findings vis a vis traditional autopsy finding in road traffic accidents cases
9. Virtual Autopsy Findings Vis A Vis Traditional Autopsy Findings in Sudden Deaths with Cardiac Origin

### *Completed*

1. Gross, Histological and Electron-microscopic Study of Antemortem and Postmortem Electrocution burn mark
2. Quantification and quality assessment of human DNA by RT-PCR
3. CT Scan and Digital X-ray Based Virtual Autopsy Vis A Vis Traditional Autopsy including Histopathological Examination Findings in Cases of Death due to Fatal Pressure on Neck

## Collaborative projects

### *Ongoing*

1. An exploratory study on the interface of social media and completed suicides, Department of Psychiatry
2. Editing of Atoh1 in cadaver derived supporting cells for the regeneration of auditory cells, Department of Biochemistry and ENT
3. Genetic landscape of cardiomyopathies, Department of Pathology
4. Morphometric and Morphoscopic Study of Ear and Nose in Brahmin and Rajput population of Mandi, Himachal Pradesh- A Forensic Anthropological Investigation, Department of Anthropology, Punjab University, Chandigarh
5. Study of biomechanical stability of spine fixation surgical procedures in cadaveric vertebrae, Department of Biomedical Engineering, AIIMS, New Delhi
6. Sudden cardiac death in young: An autopsy and molecular study to identify the cause, Department of Pathology
7. To study the extent of variation in ridge characteristics and determining gender among twins using their fingerprint characteristics, Department of Forensic Medicine and Toxicology, KMC, Manipal

### *Completed*

1. Development of rotary ultrasonic bone drilling machine prototype, Department of pathology, AIIMS, New Delhi/ IIT Delhi
2. The role of neuro inflammation and glial activation in the suicidal deaths: A study in human postmortem brain, Department of Anatomy, AIIMS, New Delhi

## PUBLICATIONS

**Journals: 30**

## PATIENT CARE

### **A. Casualty services:**

The department of Forensic Medicine and Toxicology is providing round-the-clock medico-legal services like in cases of injury, sexual offences, poisoning etc. to the South and South-east district of Delhi.

### **B. Mortuary Services**

A total of **1905** medico legal autopsies were conducted at mortuary. Total 1543 bodies were transported to different crematoriums of Delhi during COVID-19 times from trauma centremortuary (the designated COVID Centre of AIIMS).

### **C. Clinical Forensic Medicine**

Total **467** cases of potency and other medico-legal examination brought by investigating officer and referred from court were dealt by the department. A total of **25** cases from CBI were dealt by medical board of the department. A subsequent opinion in complicated cases including reference from casualty etc. was offered in total **348** cases.

#### **D. Summons**

Doctors of the department attended court of law in **54** cases from Delhi and other states

#### **E. Medical Toxicology**

Total **226** tests for **81** samples were performed for various poisons referred from the clinical departments of AIIMS, medico-legal cases and in academic cases.

#### **F. Forensic Histopathology**

The department is providing histopathology services for the samples of medico-legal autopsy cases from South and South-east district and for research purposes. Total **35** cases and **204** samples were processed during this period.

#### **G. Embalming facility**

The department is providing embalming facility for MLC cases (Postmortem cases). Total **59** cases of embalming were done during this period.

#### **H. Organ Retrieval for Therapeutic Transplantation**

Total **113** corneas were retrieved at mortuary for transplantation by National Eye bank.

#### **I. Forensic Radiology Services**

Forensic Radiology services were provided to **262** cases, 1148-Xrays were done for various medico legal and academic purposes. (Both autopsy and live cases)

#### **J. Forensic Anthropology Services**

Age estimation for **69** cases referred from courts, sports authorities and in academic cases.

#### **K. DNA Fingerprinting Laboratory**

The laboratory provides service for disputed Parentage test by using Genetic Analyser for STR profiling of DNA (02 cases and 6 runs). DNA –Profiling of unidentified bodies sample(s) processed: DNA Isolation, Quantitation of DNA and sample RUNS(137 cases and 156 runs).Research Samples processed for DNA Isolation and Quantitation of DNA (68-samples,Real time PCR: 245reaction, PCR: 6753 reaction)

#### **L. Forensic Biochemistry**

Total **30** tests were done in **15** samples.

#### **M. Community services**

The department continues to participate in training program for CBI officials, police officers and public prosecutors from all over the country.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Adarsh Kumar** was elected as Governing Council Member of Indo-pacific Association of Law Medicine & Science (INPALMS) for 2019-2021 at Dhaka, Bangladesh; was nominated Assistant Ambassador of International Academy of Legal medicine for 2018-2021; was member of Asia Pacific Medicolegal Association (APMLA) for another term of two years 2018-2020 at Japan; was a Medicolegal Expert to National Human Rights Commission; Central Bureau of Investigation and was nominated assessor by National Medical Council (NMC); was nominated assessor by National Assessment and Accreditation Council (NAAC). He was the Editor of Indian Journal of Forensic Medicine & Toxicology, International Editorial Board Member- HSOA Journal of Forensic, Legal & Investigative Sciences (USA), Egyptian Journal of Forensic Sciences- Egypt, Adli Tip Bulletin- Turkey, The Egyptian Journal of Forensic Sciences & Applied Toxicology, Biomedical and Biosocial Anthropology (Ukraine); Associate Editor-Medicolegal Update; Web Editor- International Journal of Health Research & Medicolegal Practice; Member Editorial Board- Journal of Indian Society of Toxicology; Journal of Karnataka Medicolegal Society; Indian Journal of Community & Family Medicine; Journal of Forensic Chemistry & Toxicology and Journal of Indian Academy of Forensic Medicine.

**Dr Chittaranjan Behera** was a reviewer for reputed international journals (Pub-Med Indexed) like Journal of Forensic and Legal Medicine, Medicine Science and Law, Journal of Aggression and violent Behavior, Journal of International Medical Research, Journal of Neurosciences in Rural Practices, Indian Journal of Medical Research etc. He was the Assistant Editor of International Journal of Medical Toxicology & Legal Medicine and Associate Editor of IP International Journal of Forensic Medicine and Toxicological Sciences; the Editorial Board Member of ARC Journal of Forensic Sciences, Annals of Forensic Research and Analysis, Scientific Federation Journal of Forensic, Journal of Forensic Medicine, IP International Journal of Forensic Medicine and Toxicological Sciences.

**Dr Abhishek Yadav** was invited and engaged as a resource Faculty for “Course on Medical Ethics and Medicolegal issues” by the Public Health Foundation of India. He was a member of Expert Committee constituted by ICMR for formulation of “Standard guidelines for medico-legal autopsy in Covid-19 deaths in India” and member of Medical Board constituted for CBI Death Investigation of Actor Sushant Singh Rajput case which created a huge unrest in the country and has seen the biggest media trial ever in a criminal investigation.

## 9.13. Gastroenterology and Human Nutrition

### Professor and Head

Anoop Saraya

### Professors

Pramod Garg (on deputation 31 May 2023)

Vineet Ahuja

Govind K Makharia

### Additional Professors

Shalimar

Baibaswata Nayak

### Assistant Professors

Saurabh Kedia

Deepak Gunjan

### Assistant Professor (Contractual)

Soumya Jagannath Mahapatra

### HIGHLIGHTS

The faculty, residents and PhD students of the department received many awards including BEST paper awards, travel grants in national and international conferences. The faculty of the department initiated and coordinated making of national guidelines on various GI diseases.

### EDUCATION

The department continued the training program for courses on DM in Gastroenterology, and PhD in Gastroenterology and Human Nutrition. The department also participated in the training of undergraduate and postgraduate students. The department initiated the Advanced Fellowship Training program.

#### Long term training:

Twenty four DM students; Six PhD students; Six Advance Fellowships in Advanced Endoscopy, Hepatology, Pancreatology and IBD

#### Lectures delivered:

**Anoop Saraya: 15**

**Pramod Garg: 5**

**Vineet Ahuja: 26**

**Shalimar: 4**

**B Nayak: 4**

**Saurabh Kedia: 4**

**Deepak Gunjan: 3**

#### Anoop Saraya

1. Pathogenesis in Alcoholic Liver Disease, Mid-term INASL 2020, 4 April 2020, Virtual
2. Nutritional management in decompensated cirrhosis, Current Perspectives in Liver Disease (CPLD 2020), 11 November 2020, Virtual
3. Nutrition in Critically Ill, PGI GI Emergency Postgraduate Program (GASTRO WEBINAR) 1 January 2020, PGI, Virtual
4. Nutrition in GI Diseases: Assessment and Intervention, GASTRO WEBINAR, 2 January 2020, PGI, Virtual
5. Nutritional Therapy in Acute Pancreatitis, Indian Pancreas Club, 7 November 2020, Delhi, Virtual
6. Nutrition in Cirrhosis in liver, 8th IAPEN Clinical Nutrition Congress, International Virtual Congress ICNC 2021, 13 February 2021, Delhi, Virtual
7. Non Cirrhotic Portal Hypertension in India? APICON (e-APICON ), 7 March 2021, Delhi, Virtual
8. Pathogenesis in Alcoholic Liver Disease, Project LEAD (Alcohol & Liver ) Doctors Training Program [ILBS], 19 March 2021, Delhi, Virtual
9. Gut Microbiota, [Expert panel], SGRH-GE Clinics in Hepato-Biliary Diseases 2020, 13 September 2020, Virtual
10. Ascites in ACLF-Is it different; from pathophysiology and management perspective. [Panelist], 8th APASL ACLF, Annual Meeting, 24 October 2010, Virtual
11. YOUNG INVESTIGATOR SESSION [Chairperson] 61st Annual Conference of ISGCON, 19 December 2020, Virtual

12. INASL 2020 [Chairperson], 27th Annual INASL 2020, 5 December 2020, Virtual
13. Ascites in ACLF-Is it different; from pathophysiology and management perspective [Chairperson], ACLF Research Consortium (AARC), 5 February 2021, ZOOM meeting
14. Selection committee for recruitment in the post of Assistant Professor at AIIMS, Raipur [Expert Selection committee] Selection committee for recruitment in the post of Assistant Professor at AIIMS, Raipur, 28 January 2021, Virtual
15. Standardized Endoscopy Reporting [Moderator], Virtual PGI-AIIMS-SGPGI Endoscopy e- paathshaala, 30 January 2021, Virtual

### **Pramod Garg**

1. Participated as a moderator Symposium on Pancreatitis', 3 July 2020 On-line session
2. Participated as a moderator in an online discussion 'Endotherapy for chronic pancreatitis' mid-term meeting of 'Society of Gastrointestinal Endoscopy of India'. 15 August 2020
3. Participated as a panelist in an online panel discussion on 'Recurrent Acute Pancreatitis' Institute of Liver Gastroenterology and Pancreaticobiliary Sciences (ILGPS) under the aegis of "Delhi Liver Foundation". 12 September 2020
4. Chronic Pancreatitis, Association of Physicians of Ahmedabad, 7 October 2020, Ahmedabad
5. Acute Pancreatitis, 4th PGI GI Emergency Postgraduate Program, 31 October 2020, PGIMER, Chandigarh

### **Vineet Ahuja**

1. Management of Crohn's Disease, ISG Master Class, 10 May 2020, Online
2. Ten major errors in managing IBD, ISG, Kochi, 22 November 2020, Online
3. Treat to Target strategy, South Africa IBD meeting, Cape Town, 15 December 2020, Online
4. How to write a discussion, IAMJE meeting, Mumbai, 25 September 2020, Online
5. Changing targets of treatment, First BRICS IBD consortium meeting, Shanghai, 20 September 2020, Online
6. What is new in gut microbiome? AGA -India meeting, Hyderabad, 25 September 2020,
7. Microbiome: The overhyped aspects, VGM Foundation webinar, Coimbatore, 26 September 2020, Online
8. Modifying disease course in Crohn's Disease, VGM Foundation webinar, Coimbatore, 27 February 2021, Online
9. Strategies to prevent TB infection in IBD, Second BRICS IBD Seminar, Shanghai, 22 February 2021, Online
10. COVID-19: What Should Gastroenterologists Know? ISG, Kochi 14 April 2020, Online
11. COVID and GI diseases, IMA, Delhi, 15 May 2020, Online
12. Changes in IBD landscape in last 10 years, GI and Liver society, Chandigarh, 15 September 2020, online
13. Recent progress in the endoscopic scoring system, Asian Organization of Crohn's and Colitis, South Korea, 14 December 2020, Online
14. Endoscopy scoring and IBD, SGEI annual meeting, 15 January 2021, Online
15. Challenges in India: ASUC 4th PGI GI Emergency Update 2020, Chandigarh, 1 November 2020, Online
16. IBD Landmark Studies Liver Foundation, SGRH, Delhi, 9 January 2021, Online
17. India at DDW AIG Foundation, Hyderabad, 15 July 2020, Online
18. Approach to LGI bleed, ISG Kolkata Master Class, 11 September, 2020 Online
19. Management of Ulcerative colitis ISG Kolkata Master Class, 5 August 2020, Online
20. Role of scoring systems and abdominal fat, Hinduja Foundation, Mumbai, 24 October
21. Step wise management of Ulcerative colitis ISG, Ahmedabad, 6 January 2021, Online
22. Differentiating ITB from CD APICON, 7 March 2021, Online
23. Vedolizumab and Tofacitinib: When and Where? Delhi Liver Foundation, SGRH, 5 February 2020, Online
24. Gut Microbiome : cause or effect, Delhi Liver Foundation, SGRH, 6 December 2020, Online
25. Improving outcomes in Acute Severe UC: Lessons from India, PGI Update on IBD, March 2021, Online
26. Expanding the goals of treatment of IBD, ISG, Pune, 19 December 2020, Online

### **Shalimar**

1. Liver injury and biomarkers for liver regeneration Gut talks -straight from the gut 22 November 2020, Virtual
2. Auto immune liver disease, Online Teaching Course for Post Graduates in Pathology, 18 February 2021, Virtual



3. HBV Symposium, INASL 2020 Virtual Conference, 2,3,4 December 2020, Virtual
4. Optimizing care of patients with liver diseases and COVID-19 infection, ISGCON 2020, 19 December 2020, Virtual

### **B Nayak**

1. Project Risk Management Plan : Laboratory Safety PhD class, 9 March 2021, Delhi
2. Hepatitis virus: host and viral factors determining disease outcome, treatment response and Molecular diagnostics, National Conference on recent trends on biosciences, Centurion University, Bhubaneswar, 6 March 2021, Bhubaneswar
3. MicroRNAs modulating mTOR pathways in hepatocellular carcinoma and in vitro miRNA targeting 27th Annual Scientific meeting of Indian Association for study of Liver (INASL), 2-4 December 2020, Delhi
4. Role of Liquid Biopsy in GI Cancer and Hepatocellular carcinoma DM class 10 October 2020, Delhi

### **Saurabh Kedia**

1. COVID National Grand Round- Gastroenterology COVID National Grand Round, 2 December 2020, N.Delhi, India
2. Diagnosis and common mimickers of IBD DIET-CCF module, 4 December 2020, New Delhi, India
3. Colonoscopy in an IBD patient, Virtual PGI-AIIMS-SGPGI Endoscopy E-Paathshaala, 27 February 2021, New Delhi, India
4. CMV in active colitis- treat or not, PGI Update on Inflammatory Bowel Diseases, 21 March 2021, New Delhi, India

### **Deepak Gunjan**

1. Variceal bleed management, APICON (e-APICON ), 7 March 2021, Delhi/Virtual
2. Chronic pancreatitis: Risk factors and diagnostic work up, Indian Pancreas Club, 2 January 2021, Delhi/Virtual
3. Clinical presentation & evaluation of GERD, SURGICON 2020, 6 November 2020, Delhi/Virtual

### **List of Oral Papers/Posters presented: 18**

1. Agarwal A, Mahapatra SJ, Gunjan D, Mohindra S, Sharma V, Jaleel R, Chowdhury SD, Sachdeva S, Kochhar R, Saraswat V, Garg P, Optimal Utilization and Efficacy of Endoscopic Therapy for Acute Gastrointestinal Bleeding with Low Risk of Cross Infection of SARS-CoV2: A Multi-Centre Study of 638 Patients During COVID-19 Pandemic. ISGCON 2020, (selected for presidential poster) 20 December 2020, Delhi, Virtual Platform
2. Agarwal A, Sethia R, Mahapatra SJ, Gunjan D, Garg P. Universal Prophylactic Per rectal Nonsteroidal Anti-Inflammatory Drug with a Discretionary Policy of Selective Pancreatic Duct Stenting Significantly Reduces Post-ERCP Pancreatitis in Unselected Consecutive Patients: A Real World Comparative Study, ISGCON 2020, (selected for plenary session) 20 December 2020, Delhi, Virtual
3. Agarwal S, Sharma S, Kumar M, Venishetty S, Bhardwaj A, Kaushal K, Abhinav A, Gopi S, Mohta S, Gunjan D, Saraya A, Sarin SK, Development of a machine learning model to predict bleed in esophageal varices in compensated advanced chronic liver disease. ISGCON 2020, (selected for plenary session and won third prize) 20 December 2020, Delhi, Virtual
4. Anand A, Nambirajan A, Kumar V, Agarwal S, Sharma S, Mohta S, Gopi S, Gunjan D, Singh N, Kumble MS, Chauhan S, Sharma MC, Bansal VK, Saraya A, Alterations in autophagy and mTOR pathways mediate sarcopenia in patients with cirrhosis, ISGCON 2020, 20 December 2020, Delhi, Virtual
5. Garg B, Singh N, Rashid S, Gupta S, Gunjan D, Dash N R, Saraya A, MiR-30b modulates inflammatory response by targeting RIP-140 in ISGCON 2020 pancreatic tumor, ISGCON 2020, 19 December 2020, Delhi, Virtual
6. Gopi S, Gunjan D, Madan D, Singh N, Madhusudhan KS, Saraya A, Alcohol etiology and not poor dietary intake determines sarcopenia in chronic pancreatitis, ISGCON 2020, 19 December 2020, Delhi, Virtual
7. Grover I, Singh N, Gunjan D, Saraya A, Prevalence of sarcopenia in patients with cirrhosis: A large observational study ISGCON 2020, 19 December 2020, Delhi, Virtual
8. Kumar S, Nadda N, Paul S, Saraya A, Gammanagatti SN, Shalimar, Nayak B, Cell free DNA integrity index differentiating hepatocellular carcinoma from chronic liver disease patients ISGCON 2020 virtual, 61st Annual conference of Indian Society of Gastroenterology 19-20 December, 2020, Delhi
9. Mohta S, Goswami P, Das P, Dash NR, Singh N, Gunjan D, Saraya A, Differential location of growth factors and pancreatic stellate cell activation in chronic pancreatitis. ISGCON 2020, (won 3rd prize in pancreas category) 19 December 2020, Delhi, Virtual
10. Mohta S, Singh N, Gunjan D, Kumar A, Saraya A, Is there any role of antioxidant therapy for pain in chronic pancreatitis: Systematic review and meta-analysis, ISGCON 2020, December 2020, Delhi, Virtual Platform

11. Nadda N, Paul S, Kumar S, Gammanagatti SN, Saraya A, Shalimar, Nayak B, MicroRNAs modulating mTOR pathways in hepatocellular carcinoma and in vitro miRNA targeting INASL virtual 2020, 27th Annual Scientific Meeting of Indian National Association for Study of the Liver, 2-4 December 2020, Delhi
  12. Nadda N, Paul S, Yadav DP, Kumar S, Sreenivas VB, Saraya A, Gammanagatti SN, Acharya SK, Shalimar, Nayak B, Post locoregional therapy changes in onco miR for tumor response and targeting of microRNA modulating mTOR pathways in hepatocellular ISGCON 2020 virtual, 61st Annual Conference of Indian Society of Gastroenterology 19-20 December 2020, Delhi
  13. Poudel P, Gunjan D, Goswami P, Agarwal S, Singh N, Yadav R, Das P, Saraya A. Effects of enteral nutrition on intestinal permeability and expression of tight junction proteins in patients with acute pancreatitis, ISGCON 2020, (selected for presidential poster) 20 December 2020, Delhi, Virtual
  14. Roy N, Kumar H, Pandey HK, Balhara YPS, Saraya A, Shalimar, Nayak B, Variations in CD14 gene and severity of Alcoholic Liver Disease, ISGCON 2020 virtual, 61st Annual Conference of Indian Society of Gastroenterology, 19-20 December 2020, Delhi
  15. Sahu P, Kedia S, Vuyyuru SK, Bajaj A, Markandey M, Singh N, Singh M, et al Randomised clinical trial: exclusive enteral nutrition versus standard of care for acute severe ulcerative colitis ISGCON 2020, Pune, 19 December 2020, Online
  16. Saraya A, Khan I, Rashid S, Singh N, Rashid S, Singh V, Gunjan D, Das P, Dash N, Pandey R, Chauhan S, Gupta S, Panel of serum miRNAs as potential non-invasive biomarkers for pancreatic ductal adenocarcinoma, ISGCON 2020, (Young Investigator Session) 19 December 2020, Delhi, Virtual
  17. Saraya A, Qamar S, Singh N, Gopi S, Gunjan D, Majority of patients with chronic pancreatitis are deficient in calorie intake and is associated with inflammation and pain. ISGCON 2020, 19 December 2020, Delhi, Virtual
  18. Sharma S, Agarwal S, Mohta S, Bhardwaj A, Gunjan D, Sarin S, Saraya A, Performance of non-invasive tools to stratify patients with chronic liver disease for risk of future variceal bleeding, ISGCON 2020, 20 December 2020, Delhi, Virtual Platform
1. Best E-poster Presentation award in 61st Annual Conference of Indian Society of Gastroenterology (ISGCON), 19-20 December 2020 (Sonu Kumar/Nayak, Supervisor).
  2. Podium Presentation award (oral) in 27th Annual Scientific Meeting of Indian Association for study of Liver (INASL), 2-4 December 2020, (B Nayak)

## RESEARCH

### Funded Projects

#### Ongoing

1. An open label, single arm, investigator initiated Phase I/II study to assess the safety and efficacy of local administration of stempeucel (Adult Human Bone ) Derived, Cultured Pooled, Allogenic Stromal Cells Marrow, Vineet Ahuja, Stempeutics Research Pvt. Ltd., 3 years, 2018-2021, Rs 5.77 lakhs
2. A Long-Term Extension Study to Evaluate the Safety of Filgotinib in Subjects with Crohn's Disease, Vineet Ahuja, Gilead Sciences, 6 years, 2017-2023, Rs 6.71 lakhs
3. A Long-Term Extension Study to Evaluate the Safety of Filgotinib in Subjects with Ulcerative Colitis, Vineet Ahuja, Gilead Sciences, 6 years, 2017-2023, Rs 70.2 lakhs
4. A multicentre clinical study evaluating the novel biomarkers: dimethylarginines and ischemia-modified albumin in patients with acute-on-chronic liver failure, Shalimar, SPARC, 2 years, 2019-2021, Rs 24 lakhs
5. A Phase 3, Multicenter, Randomized, Double-Blind, Placebo- and Active- Controlled, Treat-Through Study to Evaluate the Efficacy and Safety of Mirikizumab in Patients with Moderately to Severely Active Crohn's Disease, Vineet Ahuja, Eli Lilly Pharmaceutical company, 2 years, 2021-2023, Rs 28.04 lakhs
6. Adeno associated virus-2 vectored expression of SARS-CoV-2 proteins to study virus induced immunomodulation and host immune response, B Nayak, AIIMS, intramural, 2 years, 2020-2022, Rs 10.00 lakhs
7. An open label pilot randomized controlled study to assess the efficacy of fecal microbiota transplantation (FMT) in chronic Hepatitis B patients, Shalimar, PFI, 2 years, 2019-2021, Rs 1.25 Lakhs
8. CD14 gene variations in Alcohol-Induced Liver Disease (ALD) and Alcoholic Pancreatitis (ALP) in Co-morbid Condition and Relationship between Associated Polymorphisms and MD2 molecule binding to the CD14-LPBS-TLR4 Complex, B Nayak, DST, 3 years, 2017-2020, Rs 27 lakhs
9. Centre for Advanced Research and Excellence in Pancreatic Diseases, Pramod Garg, ICMR, 5 years, 2019-2024, Rs 50.5 lakhs
10. Centre of Excellence for Intestinal Diseases, Vineet Ahuja, Indian Council of Medical Research, 5 years, 2019-2024, Rs 500 lakhs

11. Combined Phase 2b/3, Double-Blind, Randomized, Placebo-Controlled Studies Evaluating the Efficacy and Safety of Filgotinib in the Induction and Maintenance of Remission in Subjects with Moderately to Severely Active Ulcerative Colitis, Vineet Ahuja, Gilead Sciences, 5 years, 2017-2022, Rs 6.73 lakhs
12. Combined Phase 3, Double Blind , Randomized, Placebo-Controlled Studies Evaluating the Efficacy and Safety of Filgotinib in the induction and maintenance of Remission in Subjects with Moderately to Severely Active Crohn's Disease, Vineet Ahuja, Gilead Sciences, 7 years, 2017-2024, Rs 38.72 lakhs
13. Comparison of the risk of infection due to SARS-CoV-2 between immunocompromised patients with inflammatory bowel disease and their healthy contacts, Saurabh Kedia, AIIMS intramural COVID project, 1 year, 2020-2021, Rs 4.5 lakhs
14. Crohn's Disease (CD) in South Asians: Defining disease biology for prevention and better treatment, Vineet Ahuja, The Leona M. and Harry B Helmsley Charitable Trust, 3 years, 2021-2024, Rs 102 lakhs
15. Crohn's Disease in India: A multi-centric study from a country where intestinal tuberculosis as well as Johne's disease is endemic, Vineet Ahuja, Department of Health Research, 4 years, 2017-2021, Rs 42.5 lakhs
16. Department of Biotechnology- Consortium on celiac disease, Govind K Makharia, DBT, 3+2 years, 2017-2022, Rs 228 lakhs (Total 516 lakhs)
17. Development of reverse genetic based recombinant Newcastle disease virus model for understanding immune response in patients infected with Hepatitis C virus, B Nayak, DBT-NER, 3 years, 2017-2020, Rs 105 lakh
18. Effect of urbanization on gut microbiome mycobiome and virome in patients with IBD from Northern India, Vineet Ahuja, Indian Council of Medical Research, 3 years, 2019-2022, Rs 12.3 lakhs
19. Entyvio (Vidolizumab IV) Extended Access Program in Ulcerative colitis and Crohn's Disease, Vineet Ahuja, Pharmaceutical Product Development (PPD), 6 years, 2016-2022, Rs 4.29 lakhs
20. Epigenetic reprogramming of intestinal epithelial stem cells via gut microbiota derived metabolites in Ulcerative Colitis, Vineet Ahuja, Science and Engineering Research Board (SERB), 3 years, 2020-2023, Rs 56.4 lakhs
21. Exploration for development of wheat with low immunogenic gluten, Govind K Makharia, IARI, 3+5 years, 2015-2023, Rs 92 lakhs
22. Genetic basis of Budd Chiari Syndrome/hepatic venous outflow tract obstruction in Indian patients, Shalimar, ICMR, 3 years, 2019-2022, Rs 74 lakhs
23. Gut Microbiome - Regulators of the Intestinal Stem cell niche in Health and inflammatory Bowel Disease, Vineet Ahuja, MHRD-Scheme for Promotion of Academic and Research Collaboration (SPARC), 2 years, 2019-2021, Rs 45.9 lakhs
24. Home based blenderized formulations in acute pancreatitis: A Pilot randomised control trial, Anoop Saraya, ICMR, 3 years, 2018-2021, Rs 39.87 lakhs
25. Human Microbiome Initiative of select endogamous populations of India Govind K Makharia, DBT, 2 years, 2020-2022, Rs 106 lakhs (Total 29 crores)
26. International study of COVID-19 Antibody Response Under Sustained immune suppression in IBD, Vineet Ahuja, The Leona M. and Harry B. Helmsley Charitable Trust, 2 years, 2021-2023, Rs 9.24 lakhs
27. Joint Centre on 'Reducing Cancer Mortality', Pramod Garg, IUSSTF, 2 years, 2018-2020, Rs 38 lakhs.
28. Liquid Biopsy for Early Prediction of Hepatocarcinogenesis in Chronic Liver Disease Patients, B Nayak, ICMR, 3 years, 2019-2022, Rs 49.48 lakh
29. L-Ornithine L-Aspartate in Treatment of Overt Hepatic Encephalopathy in Patients with Cirrhosis: A Double-Blind Randomized Controlled Trial, Shalimar, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
30. Prevalence of antibiotic resistant genes in the healthy gut flora of individuals residing in rural community setting, Saurabh Kedia, AIIMS intramural collaborative project, 2 years, 2020-2022, Rs 10 lakhs
31. Role of gene-regulating and immunological markers in pathogenesis of pancreatic adenocarcinoma, Anoop Saraya, ICMR, 3 years, 2018-2021, Rs 98 lakhs
32. Role of miRNA in identifying benign vs malignant variety of cystic neoplasm of pancreas, Deepak Gunjan, Intramural, 2 years, 2019- 2021, Rs 10 lakhs
33. Role of miRNA mediated modulation of signal transduction in pancreatic cancer Anoop Saraya, DST, 3 years, 2018-2021, Rs 58.93 lakhs
34. Role of pancreatic enzyme replacement therapy on gut micro biome and metabolome and body response to in patients with chronic pancreatitis, Deepak Gunjan, ICMR, 2 years, 2021-2023, Rs 50.24 lakhs
35. Sarcopenia in chronic pancreatitis: epidemiology, diagnosis and evaluation of etiological factors and molecular mechanisms responsible for sarcopenia, Anoop Saraya, ICMR, 3 years, 2019-2022, Rs 78.84 lakhs
36. Targeting of HBx in Hepatitis B virus induced hepatocarcinogenesis and development of replicon based assay to study effect of mutation on replication, B Nayak, SERB-DST, 2 years, 2020-2022, Rs 22.36 lakhs

37. The Gastrointestinal manifestation of coronavirus Disease 2019 (COVID- 19), Shalimar, AIIMS, 1 year, 2020-2021, Rs 5 lakhs
38. To evaluate the role of phage transfer through fecal microbiota transplantation in causing anti-microbial gene depletion and intestinal decolonization from multidrug resistant organisms, Vineet Ahuja, Indian Council of Medical Research, 3 years, 2021-2024, Rs 57.3 lakhs
39. To study the Resistance Associated Variants (RAVs) in Chronic Hepatitis C patients treated with Sofosbuvir-based therapy, Shalimar, Ministry of Health and family welfare(DHR), 3 years, 2017-2021, Rs 44 lakhs
40. Towards understanding the role of gut microbiota and their metabolites in the causation and treatment of colorectal cancer, Govind K Makharia, DST, 3 years, 2020-2023, Rs 53 lakhs
41. Whole gut and intestinal metagenome in patients with irritable bowel syndrome and non-celiac gluten sensitivity and effect of gluten free diet, Govind K Makharia, DST, 3 years, 2018-2021, Rs 61.7 lakhs

### Completed

1. Clinical relevance of Human leukocyte antigen (HLA-G) molecules and its polymorphism in Hepatocellular carcinoma, B Nayak, AIIMS intramural, 2 years, 2016-2018, Rs 4 lakhs
2. Comparative gut eukaryotic microbiome in inflammatory bowel disease: Search for common link in genetically similar population residing in areas with differing disease prevalence. Vineet Ahuja, DST-UKIERI, 2 years, 2015-2017, Rs 21 lakhs
3. Estimation of gluten content in unlabelled and labelled gluten free food products and commonly used food items used by celiac disease patients, Dr. Govind K Makharia, ICMR, 3 years, 2018- 2020, Rs 24 lakhs
4. Glue Grant Scheme “Human Gastrointestinal Immunology Translational Program” Vineet Ahuja, DBT-Glue Grant, 3 years, 2014-2017, Rs 144 lakhs
5. Lipolytic Helicobacter pylori enzymes and their potential role(s) in pathogenesis, Vineet Ahuja, Indian Council of Medical Research, 3 years, 2017-2020, 56.7 lakhs
6. To study the gut mucosal injury in severe acute pancreatitis and their correlation with organ failure and mortality, Anoop Saraya, DBT, 3.5 years, 2015-2019, Rs 56 lakhs
7. To study the innate inflammatory ability of macrophages in Crohn’s disease and intestinal tuberculosis, Vineet Ahuja, DST, 3 years, 2017-2020, Rs 27.4 lakhs

### Departmental projects

#### Ongoing

1. A randomized controlled trial of adjunctive incremental pregabalin therapy vs placebo for pain management in chronic pancreatitis
2. A Randomized Controlled Trial of Intravenous Albumin Infusion with Corticosteroids and exclusive enteral nutrition (EEN) versus Corticosteroids and EEN alone in patients with Acute Severe Ulcerative
3. Adeno associated virus-2 vectored expression of SARS-CoV-2 proteins to study virus induced immunomodulation and host immune response
4. Assessment of gut barrier dysfunction, endotoxemia and inflammatory mediators in patients with cirrhosis across different clinical stages during an episode of acute variceal bleeding: A prospective observational study
5. Assessment of villous enteropathy in first-degree relatives of patients with celiac disease
6. Carvedilol to prevent decompensation in patients with compensated advanced chronic liver disease without high risk varices with liver stiffness more than 20kPa (CaLD-20 trial): An open label randomised controlled trial.
7. Characterization of Cytokine Storm Syndrome and Hemin Early Severe Acute Pancreatitis: A prospective cohort study
8. Characterization of the Pattern of Disease Evolution and Pain Type in Patients with Chronic Pancreatitis and its Correlation with Response to Multimodality Treatment
9. Comparative analysis of cost and nutritional composition of gluten-free food with their gluten containing counterparts.
10. Comparison of 1-day vs. 3-day intravenous terlipressin in patients with acute variceal bleeding: An open-label pilot randomized control trial.
11. Development and validation of a tool for assessment of gluten free diet in Indian celiac disease patients
12. Diagnostic Efficacy of anti-endomysial antibody in patients with celiac disease
13. Early use of non invasive positive pressure ventilation in acute hypoxemic respiratory failure in acute pancreatitis: a randomised controlled trial



14. Early versus delayed percutaneous drainage for infected acute fluid collections in acute pancreatitis: a randomised controlled trial.
15. Efficacy of azathioprine in IBD
16. Estimation of gluten content in unlabelled and labelled gluten-free food products and commonly used food items consumed by celiac disease patients
17. Etiology, nature and severity of dyspepsia in India: a National Task Force study”
18. Evaluation of bone turnover markers and performance of CT based prediction of osteoporosis in patients with chronic pancreatitis
19. Evaluation of fertility issues in celiac disease patients
20. Exploration of intestinal stem cell (ISC) niche in persistent villous atrophy in patients with gluten free diet in unresponsive celiac disease at 12-months post-GFD
21. Intravascular fluid guided therapy versus standard fluid therapy in predicted severe acute pancreatitis: A randomized controlled study
22. Markers of anti TNF therapy failure in IBD
23. N butyl cyanoacrylate glue versus n butyl cyanoacrylate glue plus radiologic intervention for secondary prophylaxis of gastric varices: A randomized controlled trial
24. Post COVID GI sequelae and small intestinal bacterial overgrowth
25. Prevalence of celiac disease in adults with cryptogenic liver disease
26. Prevalence of Celiac Disease in patients of Inflammatory Bowel Disease
27. Prevalence of clarithromycin in helicobacter pylori using a molecular diagnostic method in a tertiary care center in north India
28. Prevalence of elevated alanine aminotransferase levels in adult participants from a community-based study from northern part of India
29. Rifaximin’s placebo in functional dyspepsia – a randomized double-blind controlled trial
30. Role of antibiotic prophylaxis in preventing infections in patients with Child-A cirrhosis during the episode of acute variceal bleeding: A randomized controlled trial.
31. Role of immune pathways in the pathogenesis of chronic pancreatitis
32. Role of Liquid Biopsy Biomarkers in Hepatocellular carcinoma and Hepatitis B virus induced carcinogenesis
33. Role of non-biopsy pathway in diagnosis of celiac disease in adults
34. Spectrum of height in patients with celiac disease
35. Status and effect of pancreatic enzyme replacement on gut microbiota and resting energy expenditure in patients with chronic pancreatitis
36. To assess the prevalence and etiology of non-responsive celiac diseases in patients on gluten free diet for one year or more
37. To evaluate the biochemical and clinical response to second-line drugs in patients with Auto-immune Hepatitis

### **Completed**

1. A multiparameter model to differentiate intestinal tuberculosis from Crohn’s Disease in ulcero-constrictive disease of the intestine
2. A randomized control trial of exclusive enteral nutrition with corticosteroids vs corticosteroids alone in patients with acute severe ulcerative colitis
3. Defining intestinal failure in patients with Celiac disease
4. Effect of supplementation of branched chain amino acids on parameters of sarcopenia in patients with liver cirrhosis: A double blinded randomized controlled trial
5. Efficacy and Tolerability of Hyperbaric Oxygen Therapy in Small Bowel stricturing and Fistulizing Crohn’ Disease: A stratified RCT
6. Extra small intestinal GI manifestations of celiac disease
7. Impact of covid 19 pandemic on adherence to gluten-free diet in Indian patients with celiac disease
8. Modulation of Human Immune and Inflammatory Responses by Vitamin A in Inflammatory Bowel Disease (Ulcerative Colitis, Crohn’s Disease)
9. Pooled prevalence of celiac disease in patients with chronic liver disease: Systematic reviews and meta-analysis
10. Pooled prevalence of celiac disease in patients with short stature: Systematic review and Meta-analysis



11. Role of microRNA as biomarker and its modulation in HCC targeting mTOR pathway
12. Sarcopenia in Chronic Pancreatitis: prevalence, diagnosis and prognostic value
13. Spectrum of dental manifestation of celiac disease in treatment naïve and those on gluten-free diet patients with celiac disease
14. To study the prevalence of cerebral edema and neuropathological changes in acute on chronic liver failure patients.
15. Treat to target strategy in active Ulcerative Colitis patients: A Randomized Control Trial

### **Collaborative projects**

#### **Ongoing**

1. A prospective observational study on the impact of sarcopenia on perioperative outcomes following pancreaticoduodenectomy for periampullary carcinoma, Department of GI Surgery
2. A randomized trial of endoscopic versus laparoscopic drainage of Walled Off necrosis, Department of Surgical disciplines.
3. Assessment of Post cholecystectomy symptoms and quality of life evaluation: A prospective cohort study, Department of Surgical Disciplines
4. Biopsy in Adult celiac disease (Bio.A.CeD)- the ESsCD Consensus: Multinational study Partimento di Medicina Chirurgia, Scuola Medica Salernitana, Università di Salerno, Italy
5. Comparison of various diagnostic modalities for identification of refractory celiac disease in a cohort of patients with celiac disease unresponsive to gluten free diet, Department of Pathology, AIIMS, New Delhi
6. Development of a low-cost diagnostic platform for the identification of viral DNA using CRISPR/Cas13a system, South Asian University, New Delhi
7. Effect of anti-inflammatory drugs on duct ligation and Na-Taurocholate model of experimental acute pancreatitis in rats. Collaborative departments: Departments of GI Surgery and Anatomy
8. Fecal microbiome in patients with gallbladder cancer, Department of Surgical disciplines
9. Genetic association of cytokine with suicidality in Indian population, Department of Forensic Medicine, AIIMS
10. miRNA as disease modifier in HLA-DQ2/ DQ8 matched first degree relatives of patients with celiac disease, Department of Pathology, AIIMS, New Delhi
11. Molecular expression and interaction between growth differentiation factor – 15 (GDF-15), iron trafficking proteins, micronutrient antioxidants in diabetes and Metabolic syndrome, Department of Lab Medicine
12. Prevalence of acute gastrointestinal injury in critically ill children, Department of Paediatrics, AIIMS, New Delhi
13. Towards understanding the role of gut microbiota and their metabolites in the causation and treatment of colorectal cancer, National Institute of Immunology (NII), New Delhi

#### **Completed**

1. Estimation of pooled prevalence of celiac disease in patients with liver disease: systematic review and meta-analysis, Beth Israel Deaconess Medical Center, USA
2. Estimation of pooled prevalence of celiac disease in patients with short stature Beth Israel Deaconess Medical Center, USA
3. Hepatic regenerative potential of exosomes derived from human Mesenchymal Stem Cells in liver fibrosis model, Stem Cell facility, AIIMS
4. Intestinal stem cells in celiac disease, Department of Pathology, AIIMS, New Delhi
5. Nanotechnology based vaccine against Hepatitis E Virus, Dept. of Biotechnology, Jaypee Institute of Information Technology, NOIDA, UP
6. Point of care testing for celiac disease, Beth Israel Deaconess Medical Center, USA
7. Pooled prevalence of CeD in Asia: systematic review and meta-analysis Harvard Medical School, USA

### **PUBLICATIONS**

**Journals: 91**

**Abstract: 29**

**Chapters in Books: 2**

### **PATIENT CARE**

The following number of patients were seen in outpatient: Routine OPD and special clinics

#### **A. Routine Gastroenterology Clinic (Monday to Friday)**

New cases : 7920  
Old cases : 11956

**B. Special clinics:**

Name of the clinic	New cases	Old cases
Liver Clinic	502	2323
Pancreas clinic	265	985
IBD &ITB Clinic	248	5187
Interventional Clinic	37	19
Celiac Clinic	42	100

**C. Endoscopy services:****List of procedures**

Diagnostic and therapeutic endoscopies	: 5027
Diagnostic and therapeutic colonoscopies	: 1445
Diagnostic sigmoidoscopies	: 711
Sideviewing endoscopies	: 417
Endoscopic retrograde cholangiopancreatography (ERCP)	: 712
Endoscopic ultrasound (Diagnostic and therapeutic)	: 434
HVPG	: 106
POEM	: 16
PEG	: 46
Lavage	: 43
SEMS	: 49
Antroscopy	: 28
Fibroscan	: 4079

**G.I.Motility:**

• High resolution esophageal manometry	- 113
• High resolution anorectal manometry	- 169
• Biofeedback	- 105
• 24 hrs. ambulatorypH monitoring	- 6

**Tests done in the department**

SN	Name of the Test	Numbers
1	No. of Patients for Lab Investigations	1675
2	Viral Nucleic Acid isolation for testing	1220
3	Genomic DNA isolation from blood	841
4	HBV quantitation by Real time PCR	770
5	HCV quantitation by Real time PCR	544
6	HCV genotyping by Real time PCR	40
7	HCV genotyping by Line probe Assay (LIPA)	80
8	HEV detection quantitative	155
9	HBsAg by ELISA	319
10	HBeAg by ELISA	371
11	Anti HBeby ELISA	100
12	Anti HBc Total by ELISA	75
13	HBc IgM by Vidas	9
14	HAV IgM by ELISA	130
15	HEV IgM by ELISA	184

SN	Name of the Test	Numbers
16	Anti HCV by ELISA	157
17	EBV IgM by ELISA	96
18	CMV IgM by ELISA	60
19	Arterial Ammonia	441
20	IgG4 by Nephelometry	16
21	D-Xylose by colorimetry	32
22	Fecal Fat by ether extraction	7
23	Fecal elastase by ELISA	110
24	Hydrogen breath test	23
25	Urea breath test	26
26	Ttg IgA by ELISA	963
27	Ceruloplasmin by turbidometry	538
28	Serum Copper by colorimetry	310
29	24 hr Urinary copper	245
30	Lipid peroxidation (MDA) by spectrophotometry	83
31	Free radical Antioxidant potential (FRAP)	83
32	Fecal Calprotectin	96
33	Total Oxidant Stress (TOS)	12
34	Total Antioxidant Stress (TAS)	12

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Pramod Garg** was awarded JC Bose Fellowship (2020-2025), Science and Engineering Research Board, Govt. of India, Fellow of Indian Academy of Science (FASc) Bangaluru.

**Professor Govind Makharia** is the Co-chair of Clinical Research Committee, World Gastroenterology Organization (2019-2021); Member of the Climate Committee and Planetary Health, World Gastroenterology Organization; Council Member, Asian Pacific Association of Gastroenterology (2019-2022); Secretary General of Indian Society of Gastroenterology (2016-2022); Editorial Advisory Board Member, Clinical and Translational Gastroenterology (American College of Gastroenterology); Member, Scientific Advisory Board, National Agro-Food Biotechnology Institute, Mohali; Member of Biosafety Committee, School of Life Sciences, JNU; Institutional Ethics Review Board (IERB), JNU, (2020 onwards); Member of the Special Committee of the Special Centre for Systems Medicine, Member, Academic Committee, National Institute of Immunology, New Delhi; Vice Chair, ICMR Committee on the International travel grant; ICMR Project Review Committee, Member, Project review and monitoring Committee, BIRAC, DBT; Member, Academic Committee, Coordinator of the Department of Biotechnology Consortium on Celiac Disease; Group leader, Asian Pacific Working Group on Celiac disease; Governing Council Member, Indian Motility and Functional Diseases Association; Coordinator of Indian Society of Gastroenterology Task Force on Inflammatory Bowel Disease; Coordinator of Young Clinician Program, Indian Society of Gastroenterology; Developed Indian Society of Gastroenterology Guidelines on diagnosis and management of Helicobacter pylori in India.

**Dr Baibaswata Nayak** was awarded the Best E-poster Presentation award in 61st Annual Conference of Indian Society of Gastroenterology (ISGCON), 19-20 December 2020 (Sonu Kumar/ Dr. Nayak, Supervisor), Podium Presentation award (oral) in 27th Annual Scientific meeting of Indian Association for study of Liver (INASL), 2-4 December 2020 (Dr B Nayak), National Postdoctoral Fellowship, SERB (Dr. Geetanjali/ Dr Nayak Mentor), nominated as reviewer for 24 national and international journals including Frontiers in Cellular and Infection Microbiology, Frontiers Immunology, Turkish J of Gastroenterology, PLoSPathogen, Virusdiseases, Nature Scientific Reports, Biochemistry and Biotechnology Research, Drug Research, Tropical Gastroenterology, PLoSOne, Indian Journal of Medical Research, Indian Journal of Virology, Virus Research, Virology Journal, Viral Immunology, Journal of Veterinary Science, Acta Tropica, Bio Med Research International, BMC Medical Genomics, Molecular and cell biology of Lipids, Research Report, Canadian Journal of Gastroenterology and Hepatology, Computer Methods and Programs in Biomedicine and Informatics in Medicine, served reviewer to various COVID-19 related grants by ICMR and DST, Review and expert committee member for Innovation and Translation Research (ITR), ICMR, Reviewer for ICMR RA and SRF, and ICMR Project review committee member for

(diarrheal diseases), nominated reviewer to extramural funding of DST SERB, AYUSH/CCRH, ICMR STS expert group, ICMR ITR (innovation translation research) group and DBT nominee for Institute Biosafety committee (IBSC).

**Dr Deepak Gunjan** was nominated for associated editor of “BMC Gastroenterology”, selected for plenary session and won 3rd prize in ISGCON 2020 for paper titled “Development of a machine learning model to predict bleed in esophageal varices in compensated advanced chronic liver disease”, selected for oral poster and won 3rd prize in ‘pancreas’ category in ISGCON 2020 for paper titled “Differential location of growth factors and pancreatic stellate cell activation in chronic pancreatitis”.

## 9.14. Gastrointestinal Surgery and Liver Transplantation

### Professor and Head

Peush Sahni

### Professors

Sujoy Pal

Nihar Ranjan Dash

### Assistant Professors

Rajesh Panwar

Anand Narayan Singh

Saurabh Galodha

### HIGHLIGHTS

Although the elective work had to be curtailed because of the ongoing COVID-19 pandemic, the department continued to provide emergency care to critically ill patients with gastrointestinal disorders. The department participated actively in the in-patient management of critically ill COVID-19 patients. The department also participated in the formation of a COVID group from surgical specialties to monitor the COVID-19 situation and develop ways to minimize the spread of COVID-19 during outpatient and inpatient care of patients who required surgical intervention and post-surgical care.

### EDUCATION

The department is actively involved in the teaching of undergraduate students. The following topics were taught to 6th and 8th Semester students through didactic lectures and integrated seminars:

Portal hypertension

Upper gastrointestinal bleeding

Acute intestinal obstruction

Amoebic lesions of the bowel and liver

Cancer of the stomach

Biliary strictures

Obstructive jaundice

Acute pancreatitis

Nutrition in surgical patients

Benign and malignant esophageal disorders

Lower gastrointestinal bleeding

Intestinal tuberculosis

Inflammatory lesions of small and large bowel

Gall stone disease and complications

Gall bladder cancer

Diseases of the pancreas

Chronic pancreatitis

The department offers 3-year training leading to award of MCh in Gastrointestinal Surgery. There are 14 MCh students in the department at present. The department also offers short-term observership for a period of 1–3 months. The weekly academic activities include a weekly audit, presentations of abstracts of recently published papers, a seminar, journal club, and discussion on research and dissertation projects. Besides these, a combined round with Gastroenterology and a GI Radiology conference are held once a week, and a GE-GI Surgery histopathology conference once in two weeks.

### CMEs/Workshops/Symposia/National and International Conferences

#### Lectures delivered

Peush Sahni: 17

Sujoy Pal: 5

Nihar Ranjan Dash: 4

Rajesh Panwar: 1

Saurabh Galodha: 1

#### Peush Sahni

1. How to write a paper and get it published, Research Methodology Lecture series, AOGIN India Academics, 1 August 2020, online
2. Writing a paper, INASL Research Methodology and Statistics Workshop, Research basics X: Publication, 5 September 2020, online
3. Trust in Peer review, J-AIM Peer Review Week 2020, 25 September 2020, online
4. Abdominal Tuberculosis for the Surgeon, Moderator, Webinar by Surgical Academia, 20 October 2020, online
5. Plagiarism, ESI Endocrine Research Methodology Workshop – Fun Research 2020 Module, 7 November 2020, online
6. Authorship in Scientific Journals, All India Institute of Medical Sciences, Jodhpur, 18 November 2020, online
7. Acute Pancreatitis: Management, Panel Discussion, Webinar, Indian Pancreas Club, 21 November 2020, online
8. Hepaticojejunostomy for biliary structure, How I do it series, 26 November 2020, online



9. Authorship issues in Medical Research, Panel Discussion, AIIMS, Bhubaneswar, 10 December 2020
10. Results, Scientific writing—The wider perspective, Urological Society of India and Indian Journal of Urology, 13 December 2020, online
11. Panel Discussion on Portal Hypertension, ASICON 2020, 18 December 2020, online
12. Intraoperative bile leak during cholecystectomy, Symposium, ASICON 2020, 19 December 2020, online
13. Portosystemic shunts in the current era: Indications, 30th Annual Conference of Indian Association of Surgical Gastroenterology, 20–21 February 2021, Online
14. Scientific communication: Need, type and importance, Scientific communication course, SGPGIMS, 22–27 February 2021, online
15. Editorial process and peer review, Scientific communication course, SGPGIMS, 22–27 February 2021, online
16. Choosing a journal and pseudojournal, Scientific communication course, SGPGIMS, 22–27 February 2021, online
17. IMARD–Discussion, Scientific communication course, SGPGIMS, 22–27 February 2021, online

### **Sujoy Pal**

1. Liver Transplant for colorectal metastasis: To do or not to do, 3rd Annual Conference of Liver Transplantation Society of India” (LTSICON 2020 VIRTUAL CONFERENCE), 7 November 2020.
2. Surgical management of localized Gastro-entero-pancreatic neuroendocrine tumors (GEPNETs), Decoding GI\_HPBOncology (Webisode 1), Max Hospital, Saket, New Delhi, 2 December 2020.
3. Total pancreatectomy for multifocal pancreatic PNETs using the ‘artery first’ approach (invited video), IASGCON 2020 (Virtual Meeting), 21 January 2021, New Delhi
4. Surgery for ulcerative colitis, 38th Annual MAMC Surgery Update, 2 February 2021, New Delhi
5. Surgery in IBD: therapeutic or palliative, 24th Annual meeting of WB chapter of ISG, Raichak, 27 February 2021, West Bengal

### **Nihar Ranjan Dash**

1. Nutrition from surgeon’s perspective, Virtual Conference: IAPEN Clinical Nutrition Congress, 12 February 2021
2. Surgical Management of pancreatic head cancer, CME (Physical) on Cancer head of the pancreas: Guwahati Medical College, Guwahati, 22 February 2021
3. Peri-operative nutrition, Indian Association of Parenteral or enteral nutrition (IAPEN) Puducherry chapter CME (Virtual): JIPMER. Puducherry, 22 February 2021
4. Diagnostic approach to incidental Gall bladder cancer, Virtual Post graduate CME on Gall bladder cancer, SGPGIMS, 27 February 2021, Lucknow

### **Rajesh Panwar**

Management of fecal incontinence, SURGICON 2020, All India Institute of Medical Sciences, 6-8 November 2020, New Delhi

### **Saurabh Galodha**

Laparoscopy in Colonic Cancers, 73rd Skill Course & FMAS by AMASI, 30 January 2021

### **Oral papers/posters presented: 7**

1. Galodha S, Agarwal J. Incidental Carcinoma Gall Bladder: Best Approach to improve survival!, 120th Annual Congress of the Japan Surgical Society, 16 April 2020, Yokohama, Japan
2. Galodha S, Kaul R, Devakaran B. Optimal timing of laparoscopic cholecystectomy after ERCP clearance and stenting in patients of cholelithiasis with choledocholithiasis: A prospective randomized study, KSELS 2020 and KAROS Virtual Congress, 28 August 2020, Seoul, South Korea
3. Balakrishna S, Pal S, Madhusudhan KS, Shalimar S, Saraya A, Dash NR, Sahni P. A prospective clinical study to evaluate sarcopenia in adult patients with chronic liver disease awaiting liver transplantation, 3rd Annual Conference of Liver Transplantation Society of India” (LTSICON 2020 VIRTUAL CONFERENCE), 8 November 2020, New Delhi
4. Pal S. Total pancreatectomy for multifocal pancreatic PNETs using the artery first’ approach (Video Presentation), 14th World Congress of IHPBA 2020 (Virtual congress), 27-29 November 2020, Melbourne, Australia
5. Uppal M, Pal S, Dangi S, Tandon N, Madhusudan KS, Kumar R, Garg P, Sahni P. Total pancreatectomy for NET pancreas: Early experience with the ‘artery-first’ approach at a tertiary care centre in India, 14th World Congress of IHPBA 2020 (Virtual congress), 27 -29 November 2020, Melbourne, Australia

6. Dash NR, Moond V, Pal S, Sahni P. Long- and Short-Term outcomes of Biliary Surgery for Portal Biliopathy at a Tertiary Care Centre in India, 14th World Congress of IHPBA 2020 (Virtual congress), 27 -29 November 2020, Melbourne. Australia
7. Galodha S, Panwar A, Mahajan P, Gupta M, Fotedar V, Verma DK. Neoadjuvant Chemotherapy in locally advanced unresectable Carcinoma Gall Bladder: A novel beginning in a tertiary centre in North India!, 14th World Congress of IHPBA 2020 (Virtual congress), 27-29 November 2020, Melbourne, Australia

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Correlation of the presence of circulating tumour cells (CTC) with recurrence-free and overall survival in patients with periampullary carcinoma: a prospective study, Anand Narayan Singh, AIIMS Intramural, 2 years, 2020-22, Rs 4.5 lakhs
2. Developing and implementing a Gall Bladder Cancer Registry to collect clinico-pathological data..., Sujoy Pal, AIIMS-THSTI, 3 years, 2019-22, Rs 10 lakhs
3. To evaluate the role of tumor markers CA-242, CEA and CA 19-9 in diagnosis and prognostication of carcinoma gall bladder, Saurabh Galodha, AIIMS Intramural, 2 years, 2020-22, Rs 4.96 lakhs

#### ***Completed.***

1. A preliminary study to document the genetic and molecular profile of resected colorectal cancers in India, Sujoy Pal, AIIMS, 3 years, 2016-19, Rs 5 lakhs
2. Posterior (SMA-first) approach vs. standard pancreatoduodenectomy in patients with pancreatic cancer with special focus on circumferential resection margins and medium term survival outcome: a prospective randomized controlled trial, Sujoy Pal, AIIMS, 5 years, 2013–18, Rs 5 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Comparing feeding jejunostomy with nasojejunal tube placement in patients undergoing esophagectomy – A pilot study
2. Impact of proton pump inhibitor on the development of anastomotic stricture and reflux symptoms after gastric pull up and cervical oesophago-gastric anastomosis – a randomized trial
3. Peri-operative low dose vs standard dose steroid regimen in patients of ulcerative colitis: A randomized controlled trial
4. Prevalence of Minimal Hepatic Encephalopathy in Extra Hepatic Portal Venous Obstruction patients following Proximal Lienorenal shunt surgery
5. Prospective validation of the Complication Severity Score (CSS) as a tool for measuring post-operative complications in patients undergoing major gastrointestinal and hepatopancreaticobiliary surgical procedures
6. Surgery for corrosive pharyngoesophageal stricture: Assessment of Quality of life

#### ***Completed***

1. A prospective study to evaluate sarcopenia in adult chronic liver disease (CLD) patients waiting for liver transplantation
2. A study of the effect of targeted therapy on organ dysfunction in an experimental model of severe acute pancreatitis
3. Experimental model of acute pancreatitis with organ dysfunction
4. External drainage of pancreatobiliary limb vs no drainage in patients undergoing pancreaticoduodenectomy – A pilot study
5. Safety, efficacy and short term outcomes of Hyperthermic intra-peritoneal chemotherapy (HIPEC) in the management of gall bladder carcinoma

### **Collaborative projects**

#### ***Ongoing***

1. A Study of Immune Responses in the Pathophysiology of Human Chronic Pancreatitis (Gastroenterology)
2. Characterization of differentially expressed protein based biomarkers and related gene expression in downstream signalling pathways involved in gall bladder carcinoma among Indian population (Oncopathology, IRCH)
3. Clinicopathological study of targetable biomarkers in ampullary carcinomas and their correlation with histological subtypes (Pathology)
4. Deciphering the role of Dipeptidyl peptidase III (DPPIII) in the pathogenesis and in mediating hemoresistance in gall bladder cancer (Biochemistry)

5. Effect of COVID situation on stoma patients (College of Nursing)
6. Evaluation of feasibility and perioperative outcome of HIPEC at the time of interval debulking surgery in Stage IIIC/IV epithelial ovarian, fallopian tube and primary peritoneal carcinoma: A Pilot Study (Gynaecology)
7. Role of miRNA mediated modulation of signal transduction in Pancreatic cancer (Gastroenterology)
8. Role of Nuclear Receptor network signaling in pathogenesis of Gallbladder cancer (Biochemistry)
9. Study of intratumoral heterogeneity in gall bladder carcinoma (Pathology)
10. To establish patient-derived organoids as a potential tool for drug testing and clinical decision making in advanced gallbladder cancer (Biochemistry)

## PUBLICATIONS

**Journals: 15                      Abstracts: 4                      Chapter in book: 1**

## PATIENT CARE

### OPD

Physical OPD: New patients:	1277	Revisits:	2241
Teleconsultations:	423		

### Specialty clinics

Department is running a daily clinic for stoma patients.

### Special laboratory facilities

Anal manometry, oesophageal manometry, 24-hour ambulatory oesophageal pH monitoring, endotraining laboratory.

### Inpatients

Total Surgical procedures:	317	Elective:	174	Emergencies:	143
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### Special interest areas

Biliary obstruction:	51	Portal hypertension:	11
Oesophageal cancer:	16	Carcinoma gall bladder:	24
Ulcerative colitis:	24	Upper GI haemorrhage:	10
Lower GI haemorrhage:	13	Acute pancreatitis:	25
Chronic pancreatitis:	3	Biliary strictures:	5
Pancreato-duodenectomy:	23	Liver resections:	17

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Peush Sahni** was Chair, Education Committee, Indian Association of Surgical Gastroenterology; President, Indian Association of Medical Journal Editors; Chair, Membership Committee, World Association of Medical Editors; Member, Editorial Board, Journal of Gastrointestinal Surgery (official Journal of Society for Surgery of the Alimentary Tract) and International Representative, Member Services Committee, Society for Surgery of the Alimentary Tract, USA; Member, International Committee of Medical Journal Editors; Member, Ethics Committee, Medical Council of India; Member, Board of Studies, AIIMS, Bhubaneswar; was appointed Chief of the Dr KL Wig Centre for Medical Education Technology and Innovation; Joint Secretary, The AIIMSONIANS (Alumni Association of AIIMS).

**Professor Sujoy Pal** was nominated Nodal Officer for the department as part of the Infection control committee of the Institute; Chairperson of a session on Colorectal cancers (Part 1) in the Indian Cancer Genetics and Genomics conference (Virtual 2020) organized by the department of Medical Oncology, AIIMS, New Delhi (21st Nov 2020).

**Professor Nihar Ranjan Dash** was judge for posters, and panelist on the discussion: Management of bile duct injuries at IASGCON 2020 (Virtual); selected as chief coordinator for training program on nutrition to be conducted in AIIMS by ESPEN-IAPEN; selected as an executive member for the research section of International Society for diseases of Esophagus; selected in Continuity for consecutive 10th time as the President of “The Ostomy society /Indian Ostomy society”; selected to organize the international conference ICNC in 2023.

**Dr Rajesh Panwar** was Chairperson for the session ‘Recent advances in GI & HPB Surgery, and judge for E-poster session-I at the IASGCON 2020 (virtual), Sir Ganga Ram Hospital, New Delhi, 20-21 February 2021.

**Dr Saurabh Galodha** received the Travel Award for 120th Annual Congress of the Japan Surgical Society held in April 2020 (Virtual Congress eventually) Yokohama, Japan.

## 9.15. Geriatric Medicine

### Professor and Head

Naveet Wig

### Associate Professors

Prasun Chatterjee

Avinash Chakrawarty

### Assistant Professor

Vijay Kumar

### Scientist III

Joyita Banerjee

### HIGHLIGHTS

As across the globe, the elderly population was worst affected during COVID-19 pandemic. The department extended full support to the elderly adults at all levels. We, in collaboration with the ministry of Social Justice shared preventive measures and home-care guidelines for older adults in initial phase of COVID-19 pandemic which was translated by Spoken Tutorials, IIT Bombay in 13 different local languages (<https://covid.aiims.edu/advisory-for-senior-citizens-during-COVID-19-pandemic>) Work of National Centre for Ageing at AIIMS is going on at good pace without getting affected too much by the nationwide lockdown. The Department of Geriatric Medicine organized a webinar for generating awareness to promote preventive measures and decrease the anxiety among elderly adults and their caregivers with multiple stakeholders at All India Institute of Medical Sciences on 1 October 2020.

### EDUCATION

The Department is the largest post-graduate department of Geriatric Medicine in India. In addition to active participation in institutional academic activities, like clinical combined rounds, the department placed major focus on postgraduate training with five sessions of teaching every week. Dr Omprakash, IAS, Deputy Commissioner (Health), Ahmedabad Municipal Corporation, visited geriatric medicine department of AIIMS Delhi on 9 February 2021, related to the creation of Geriatric Care facility in Ahmedabad Municipal Corporation owned SVP Hospital of NHL Medical College, Ahmedabad.

### CMEs/Workshops/Symposia/National and International Conferences

Public awareness webinar on 'How to take care of senior citizens in COVID-19 pandemic', 1 October 2020, AIIMS, Delhi

### Lectures delivered

**Prasun Chatterjee: 2      Avinash Chakrawarty: 1      Joyita Banerjee: 1**

### Prasun Chatterjee

1. COVID19 guidance for older people in Long Term Care Centers in the context of COVID-19, Expert panel discussion by WHO, 8 April 2020, Virtual
2. Healthy Ageing 2020, WHO Clinical Consortium Annual Meeting, 18-19 November 2020, Virtual,

### Avinash Chakrawarty

1. Recent advances in pulmonary practice, International Conference on update in pulmonary medicine, critical care and sleep medicine, 21 March 2021, Virtual

### Joyita Banerjee

1. The Age of Talking About Age Alone – Is It Over? Annual Conference of the Oncology Forum Theme- Geriatric Oncology, 4-6 December 2020, Virtual

### List of oral papers/posters presented: 2

1. Kumar P, Determinants of early diagnosis of cognitive impairment in older Indian adults Alzheimer's Association International conference, 26 July 2020 Virtual
2. Bajpai S. Efficacy of AIIMS-Cognitive Training Intervention for Alzheimer's Disease: Results from Randomized Clinical Trial (Emerging Psychologist Award)30th Convention of National Academy of Psychology, 25 March 2021, Virtual

## RESEARCH

### Funded projects

#### Ongoing

1. Characteristics of Indian Super Aged-A pilot prospective cohort study with a potential future predictive model, Prasun Chatterjee, ICMR, 3 years, 2019-2022, Rs 29 lakhs
2. Effect of Smart Nordic Walking Training on Mobility Independence in Community Elderly-A pilot Study. Prasun Chatterjee, ICMR, 2 years, 2019-2021, Rs 27 lakhs
3. Harmonized Diagnostic Assessment of Dementia (DAD) for Longitudinal Aging Study of India (LASI)- Genomic Study, Prasun Chatterjee, NIH, 5 years, 2019-2024, Rs 24, 27, 06, 639
4. Multimodal intervention (diet, exercise and computer based cognitive training) amongst elderly subject with Subjective cognitive impairment (SCI) attending Geriatric clinic of AIIMS, Prasun Chatterjee, DST, 3 Years, 2017-2020, Rs 38 lakhs
5. National Study of Knowledge, Attitude, Perception and Medical Awareness towards a Model of Intergenerational Engagement and Science, for Sanitation, Hygiene and Health. Prasun Chatterjee, DST, 1Year, 2019-2020, Rs 21 lakhs
6. www.oldagesolutions.org a web portal for older people and their care givers, Prasun Chatterjee, DST, 3 years, 2019-2022, Rs 47 lakhs

### Departmental projects

#### Ongoing

1. A cohort study to assess the feasibility of WHO ICOPE in tertiary health care
2. A comparative study of left ventricular muscle mass and function between sarcopenic and non-sarcopenic Indian geriatric population
3. A cross sectional study on diagnosis of Dementia in elderly based on informant interview using modified CDR
4. A cross sectional study on screening of cognitive impairment in older population in the community and their risk stratification using digital technology
5. A study to assess risk factors which acts a barrier for early hospital discharge
6. Assessment of autonomic function across frailty status in Indian Elderly
7. Assessment of mental health issues among geriatric population in India during COVID-19 pandemic
8. Biological ageing indicators and its correlates in older Indians
9. Biomarkers and diagnostic tools of Sarcopenia in Indian older population
10. Cardiopulmonary Testing in the older Indian adults attending the Geriatric Medicine OPD
11. Caregiver stress and burden among careers of cognitively impaired individuals
12. Cognitive impairment and its impact on treatment outcome of older adults attending AIIMS cancer clinic
13. COVID-19: Switching to telemedicine in geriatric medicine care: A retrospective cohort study
14. Development of a new clinical frailty scale in older adults
15. Establishment of a clinical construct of intrinsic capacity in older adults
16. Estimation of Novel Proteins among Older Subjects as Biomarkers for Cognitive Impairment
17. Evaluation of novel intracellular proteins in serum as marker of aging
18. Evaluation of the efficacy of self-assessment questionnaire (ICT Brief 10) to assess the intrinsic capacity of older adults in comparison with standard tools
19. Geriatric Assessment of patients with hematological malignancies (Multiple Myeloma) by a newly developed scale for older persons with malignancy for their initial assessment, prognostication and care
20. Impact of Nordic Walking training on functional status in the very old: A randomized control trial
21. Incidence and Prevalence of delirium and it's socio demographic, clinical and biochemical correlates in geriatric population
22. One carbon metabolism and cognitive impairment in older Indians
23. Prevalence of orthostatic hypotension in patients with subjective cognitive decline
24. Randomized Placebo Controlled Trial to assess clinical and immunological efficacy of Pneumococcal Vaccine in Indian Older Adults
25. Study of skeletal muscle regeneration in old age



26. To compare health status among sarcopenic, obese and sarcopenic obese in elderly population
27. Validation of a newly developed scale (SCOPE-C, Version 1) for Geriatric patients with Lung cancer for their initial assessment, prognostication and care and explore the potential of tumor Suppressors as Biomarkers in lung Cancer in the older population

### **Completed**

1. Clinical characteristics of Critically ill older adults with COVID-19: A retrospective study
2. Clinical Frailty Scale as a predictor of mortality in older adults with SARI- A Prospective observation study
3. Metabolic syndrome and its association in outcome of COVID-19 in older adults – prospective cross section study
4. Performance in 6-min walk test in prediction of COVID-19 complication – A prospective observation study.
5. Study of Knowledge, Attitude, Perception and Medical Awareness towards a Model of – Intergenerational Engagement and Science, for Sanitation, Hygiene and Health

## **PUBLICATIONS**

**Journals: 18**

### **PATIENT CARE**

The Department provided daily OPD service and once a week afternoon Memory Clinic and introduced our patients to teleconsultation services during COVID-19 pandemic. During the year 11357 (new and revisit) physical and 565 teleconsultations were provided to patients in OPD and 137 (83 physically and 54 through teleconsultation) patients were screened for cognitive impairment in the Memory Clinic. Rehabilitation services from the Day Care service of the department was provided to 4963 patients. In the Geriatric Medicine Ward 654 patients were admitted during the year.

### **COMMUNITY SERVICE**

The faculty and residents of the department participated in health camps involved in spreading awareness about preventive measures related to COVID-19, and distributed medicines and food items for senior citizens. These were organized by the non-governmental organization Healthy Aging India in old age homes and homeless people in Delhi NCR region.

### **AWARDS, HONORS AND SIGNIFICANT EVENTS**

**Dr Prasun Chatterjee** participated as a member of the expert panel of ‘COVID-19 guidance for older people in Long Term Care Centers in the context of COVID-19’. He participated in the development of a questionnaire for mapping the delivery of Essential Health Services to the older people during the COVID-19 outbreak in member states and in the preparation of the Decade of Healthy Ageing Baseline Report by the WHO. He participated in several programmes of Doordarshan, All India Radio and delivered talk on issues related to the elderly.

**Dr Vijay Kumar** participated in several programmes on Doordarshan, All India Radio and delivered talk on issues related to the elderly.

**Dr Joyita Banerjee** participated in various training sessions in Palliative care for older patients for Primary health care workers (Doctors, Nurses, Social workers) for the NGO “Can Support”.

### **VISITING SCIENTIST**

Multidisciplinary team of doctors comprising heads of medicine, psychiatry and physiotherapy departments of Ahmedabad Municipal Corporation, visited geriatric medicine department of AIIMS Delhi on 9 February 2021 in respect to creation of Geriatric Care facility in Ahmedabad Municipal Corporation owned SVP Hospital of NHL Medical College, Ahmedabad.

## 9.16. Haematology

### Professor and Head

Manoranjan Mahapatra

### Professors

Seema Tyagi                      Tulika Seth

### Assistant Professors

Rishi Dhawan                      Jasmita Dass                      Mukul Aggarwal  
Ganesh Kumar V                      Pradeep Kumar

### Scientist –II

Suman Lata

### Scientists – I

Ravi Ranjan    Ravi Kumar

### HIGHLIGHTS

The department of Hematology is a composite department provides both Clinical Hematology and Hemato-Pathology services to the Institute. Clinical Hematology service provides comprehensive management for patients with benign and malignant hematological illnesses. The department runs specialized outpatient clinics for patients with these illnesses. The department has been performing autologous and allogeneic Hematopoietic Stem Cell Transplantation (HCT), including haploidentical donor HCT, for various benign and hematological illnesses like aplastic anemia, thalassemia, myeloma, lymphomas, leukemias, and myelodysplastic syndromes.

Hemato-Pathology provides state-of-the-art evaluation of blood and bone marrow diseases. Expert hematopathology services offered by the department include: Bone marrow examination including immunohistochemistry and cytochemistry; Flowcytometry; molecular diagnostics; specialized hemolytic and coagulation tests. The ISHTM-AIIMS external quality assessment programme for hemogram, conducted by Department of Hematology was accredited for further 2 years as PT provider by NABL. Department of Hematology continued to be regional training centre by International Society of Hemostasis and Thrombosis in collaboration with the Institute of Experimental Hematology and Transfusion Medicine, University Clinic Bonn.

### EDUCATION

- The department conducts DM (Clinical Haematology), DM(Haematopathology) and Ph.D program in the field of Haematology. The academic program includes regular seminars, symposia, micro-teaching and case discussions.
- The faculty is involved in theory and practical classes for MBBS students in the subjects of Pathology, Hematology and Medicine. Students of MD (Pathology) are trained in the Haematology laboratory. Students from MD in the specialties of Pediatrics, Geriatric Medicine, Emergency Medicine, and Transfusion Medicine, come for training and case discussion in the department.
- The department provides short term training for visiting doctors, healthcare professionals and MSc students interested in the field of Haematology.
- In year 2020-21, most of the educational activities were conducted through virtual platform.

### CMEs/Workshops/Symposia/National and International Conferences

- The department had organized a workshop on “Role of RTPCR in Haematology” on 20 November 2020 as a part of 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT) - HEMATOCAN 2020 in the virtual mode

### Lectures delivered

**M Mahapatra: 2**

**Tulika Seth: 37**

**Rishi Dhawan: 5**

**Jasmita Dass: 11**

**Mukul Agrawal: 20**

**Ganesh Kumar V: 3**

## **M Mahapatra**

1. Management of ITP: Resource constraints setting, ISHBT-European Hematology Association (EHA) Joint symposium, 22 November 2020, Virtual
2. Treatment of ITP: Challenges in India, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT) - HEMATOCON 2020, 23 November 2020, Virtual

## **Tulika Seth**

1. Preparedness for COVID-19 in healthcare setting, COVID-19 and Hematology: Addressing key questions for patient care, 8 April 2020, Virtual
2. Sickle cell care in the time of COVID-19, COVID 19 and Hematology: Addressing key questions for patient care, 8 April 2020, Virtual
3. Thalassemia care in India: Problems and solutions, COVID-19 and Hemoglobin Disorders, 16 April 2020, Virtual
4. Considerations in factor replacement therapy: Safety, availability and future considerations in the treatment of Hemophilia B, Discussion on “Current challenges and way forward in the treatment of Hemophilia B in India, 16 May 2020, Virtual
5. What is new in ELN, Changing Paradigm in Management of CML in India: Webinar, 12 June 2020, Virtual
6. Innovative drugs for Thalassemia Management: Indian perspective, Advances in the Care and Cure of Thalassemia “New Hope – New Challenges”, 12 June 2020, Virtual
7. Pancytopenia case presentation, Indian Academy of Pediatrics-PHO Academic Training Webinar, 18 June 2020, Virtual
8. Many faces of Sickle cell disease, Sickle cell day-FICCI webinar, 19 June 2020, Virtual
9. Personalized prophylaxis for Hemophilia, Takeda Educational Series, 24 June 2020, Virtual
10. Mild to moderate anemia: Practice, differentials and followup, Indian Academy Pediatrics (Delhi) Webinar, 7 July 2020, Virtual
11. Hemophilia management and prophylaxis, Hemophilia-Web series (Episode 1), 7 July 2020, Virtual
12. Pediatric leukemia, Mumbai Hematology Group Virtual Meeting, 12 July 2020, Virtual
13. Inhibitors in inherited haemophilia and their management, Hemophilia- Web series (Episode 1), 14 July 2020, Virtual
14. Therapy related Leukemia, Meeting of Shenzhen Children’s Hospital China, 20 August 2020, Virtual
15. Emergency care for hemophilia, Hemophilia Federation of India Virtual Meeting, 10 August 2020, Virtual
16. Unsolved puzzles in the field of CML, Mumbai Hematology Group Virtual Meeting, 19 September 2020, Virtual
17. Thrombocytopenia in Children-The Good, The Bad and The Ugly. A Clinico-Pathological Discussion”, Indian Academy Pediatrics (Delhi) Webinar, 24 September 2020, Virtual
18. Inhibitor diagnosis and management of PWH with inhibitor: Practical issues, National Hemostasis Update 2020, 26 September 2020, Virtual
19. Role of vWF in treatment of Hemophilia A, Mumbai Hematology Group Virtual Meeting, 18 October 2020, Virtual
20. Investigation and management of hemophilia, Indian Academy of Pediatrics-PHO Chapter Meeting, 29 October 2020, Virtual
21. Antiphospholipid Antibodies (APLA), Mumbai Hematology Group Virtual Meeting, 1 November 2020, Virtual
22. Approach to a bleeding child, Academic Pearl Series Digital Indian Academy of Pediatrics (Central IAP), 1 November 2020, Virtual
23. Special circumstances in CML, 1st Dr Advani Legendary Oncology Series (DALOS), 7 November 2020, Virtual
24. Importance of Inhibitor Management in Hemophilia, 5th Annual Conference of Eastern Hematology Group, 19 December 2020, Virtual
25. Eltrombopag is the safest and best treatment for refractory ITP: Against the motion, Mumbai Hematology Group: Debate, 20 December 2020, Virtual
26. A child with Thrombocytopenia, National Pedi-week, 27 December 2020, Virtual
27. Cardiac and liver complications in Thalassemia, Mumbai Hematology Group and Defrijet Annual Conference, 10 January 2021, Virtual
28. A inhibitor management: A pragmatic outlook, Telangana State Training Program for Hemophila, 28 January 2021, Virtual
29. Management of inhibitors in Hemophilia, 1st Hemophilia and Thalassemia Update, 29 January 2021, Virtual
30. To treat or not to treat? Controversies in ITP, 30 January 2021, Virtual

31. Management of Hemophilia, PEDICON (C-IAP) National Conference, 5 February 2021, Virtual
32. Management of thalassemia major and Management of hemophilia, Maharashtra State Training Program, 2-16 February 2021, Virtual
33. Communication in pediatric palliative care, Pediatric Palliative Course Module (8), 6 February 2021, Virtual
34. Surgery in hemophilia patients with inhibitors, Telangana State Training, 8 February 2021, Virtual
35. Hemoglobinopathies in India estimates of blood requirements and treatment costs for the decade, 9th Anemia Research Consortium (ARC) Meetings, 2 March 2021, Virtual
36. Prenatal diagnosis for hemophilia, North Zone Conference for Hemophilia Awareness, 6 March 2021, Virtual
37. JAK2: what every physician should know? E-APICON Virtual Conference, 7 March 2021, Virtual
38. Is pediatric aplastic anemia different from adult aplastic anemia? Scientific Symposia of Gurgaon Pedicon Committee, 24 March 2021, Virtual

#### **Rishi Dhawan**

1. Impact of intestinal microbiome on transplantation outcomes, Advances in Hematology by Mumbai Hematology Group, 5 May 2020, Virtual
2. Eltrombopag based therapies of severe aplastic anemia, Mumbai Hematology Group Virtual Meeting, 26 September 2020, Virtual
3. SCT management issues, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT) - HEMATOCON 2020 Virtual, 22 November 2020, Virtual
4. When to suspect amyloidosis and How to Treat? Onco-Nephrology Update 2020, 20 December 2020, Virtual
5. The MDS sessions, The Video Journal of Hematological Oncology (VJHEMONC), 15 February 2021, Virtual

#### **Jasmita Dass**

1. Morphological diagnosis of MPNs: Case based discussion on primary myelofibrosis, MPN UNDER MICROSCOPE Diagnostic Dilemmas Hemato Pathology Workshop Series, 10 July 2020, Virtual
2. Significance of PS evaluation in hematological disorders, Diagnostic Week 2020, 21 September 2020, Virtual
3. Slide seminar, Online Teaching Program for Post Graduates in Pathology, 21 September 2020, Virtual
4. Case based approach to macrocytic anemias, Online Teaching Program for Post Graduates in Pathology, 29 September 2020, Virtual
5. Updates in the diagnosis of Antiphospholipid syndrome, Live webinar on coagulation, 1 November 2020, Virtual
6. RT-PCR principles and application, Workshop on RT-PCR as a part of HAEMATOCON Virtual 2020, 20 November 2020, Virtual
7. FCM: technical and quality issues, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT) - HEMATOCON 2020 Virtual, 21 November 2020, Virtual
8. When Red Cell Breaks, All Hell Breaks Loose, Webinar of Santosh Deemed University, 14 December 2020, Virtual
9. Bleeding disorders, Mumbai Hematology Group Virtual Meeting, 27 December 2020, Virtual
10. Feasibility of the one flow system, Leukemia, Lymphoma and MRD Awareness Program, 20 January 2021, Virtual
11. PNH -a great masquerader -when to suspect, e-APICON 2021, 7 March 2021, Virtual

#### **Mukul Aggarwal**

1. Treatment-free remission in CML: Who, How and Why? Hemato-Onco Update, 23 April 2020, Virtual
2. Goals of treatment in CML, Webinar on Triggering Transformation in Front line CML Management, 27 April 2020, Virtual
3. Managing emergencies in ITP, Mumbai Hematology Group Virtual Meeting, 31 May 2020, Virtual
4. Acute Lymphoblastic Leukemia, Hematology Express - Best Clinical Oncology Symposium 2020, 13 June 2020, Virtual
5. Management of high risk and R/R CLL, Webinar on optimal treatment strategies in the management of Chronic Lymphocytic Leukaemia, 27 June 2020, Virtual
6. Medico-legal pitfalls in Hematology practice, Mumbai Hematology Group Virtual Meeting, 13 October 2020, Virtual
7. MRD in Myeloma, Mumbai Hematology Group Virtual Meeting, 15 November 2020, Virtual
8. Outlook for Treatment of Haemophilia-B in India, Hemophilia-Expert Group Meeting, 17 November 2020, Virtual
9. Immune tolerance induction, Master Class in Hemophilia, 27 November 2020, Virtual

10. Transplant practices, Midterm Delhi Hematology Group meeting, 15 December 2021, Virtual
11. Thrombosis in myeloma, Webinar on update on lymphoma and myeloma, 24 December 2020, Virtual
12. Panel discussion, Leukaemia and Lymphoma Update (Essence from ASH 2020), 16 January 2021, Virtual
13. Multiple Myeloma panel, Best of ASH (American Society of Hematology) by Mumbai Hematology Group, 21 January 2021, Virtual
14. Clinical benefits of Plasma Based FIX and Recombinant FIX, Medical Science Liaison-Hematology, 1 March 2021, Virtual
15. Hemophilia nursing, Master Class in Hemophilia, 9 March 2021, Virtual
16. Clinical challenges in managing post HSCT viral infections, Conquer the menace of post-BMT viral infections, 18 March 2021, Virtual
17. Case base discussion on multiple myeloma management, ASH (American Society of Hematology) Update, 20 March 2021, Virtual
18. Real World Center Experience in managing SAA, IMPACT Severe Aplastic Anemia: Expert Meet, 20 March 2021, Virtual
19. Marginal Zone Lymphoma (MZL), Mumbai Hematology Group Virtual Meeting, 21 March 2021, Virtual
20. Aplastic anaemia: Case-based discussion, Academy of Clinical experts, 27-28 March 2021, Virtual

#### **Ganesh Kumar V**

1. Slide Session- PB-RBCs, Online Teaching Program for Postgraduates in Pathology, 18 September 2020, Virtual
2. Case based approach to microcytic and normocytic anemias, Online Teaching Program for Postgraduates in Pathology, 22 September 2020, Virtual
3. Analysis of RT-PCR and RQ-PCR, RT-PCR Workshop, Haematocon 2020, 20 November 2020, Virtual

#### **List of oral papers/posters presented: 22**

1. Aditi J, Mahapatra M, Seth T, Anil I, Sudha S, Induction and maintenance in chronic myeloid leukemia-chronic phase: A novel treatment strategy, 25th Annual Congress of European Hematology Association-EHA2020, 11-21 June 2020, Virtual
2. Aggarwal M, Amrita R, Mahapatra M, Current status on non-hematological cancer associated thrombosis at tertiary care Hospital in India, 28th Congress of International Society of Thrombosis and Haemostasis (ISTH)-ISTH, 2020, 12-14 July 2020, Virtual
3. Akash K, Rishi D, Mahapatra M, Seth T, Kumar P, Aggarwal M, Dass J, Kumar V G, Hypereosinophilia a Disease of Wavering Phenotype, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT) - HEMATOCON 2020 Virtual, 20-22 November 2020, Virtual
4. Amjad MS, Kaur G, Mahapatra M, Dhawan R, Naranje P, Goyal A, Seth T, Aggarwal M, Kumar P, Tyagi S, Dass J, Kumar V G. Diagnostic Performance of Whole Body Low Dose Computed Tomography Compared to Conventional Skeletal Survey in Diagnosis and Management of Patients with Multiple Myeloma, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT)-HEMATOCON 2020, 20-22 November 2020, Virtual
5. Asish R, Saleem M, Dhawan R, Aggarwal M, Kumar P, Seth T, Kumar V G, Dass J, Mahapatra M, Tyagi S, Role of Multiparametric Flow Cytometry in MGRS: Case Based Illustration, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT) - HEMATOCON 2020, 20-22 November 2020, Virtual
6. Asish R, Tribikram P, Dhawan R, Aggarwal M, Kumar P, Kumar V G, Dass J, Seth T, Mahapatra M, Tyagi S. Immunophenotypic Comparison of Abnormal and Normal Plasma Cells: A Tertiary Care Center Experience, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT)-HEMATOCON 2020 Virtual, 20-22 November 2020, Virtual
7. Gudala SP, Dhawan R, Aggarwal M, Kumar P, Seth T, Mahapatra M, Addition of Eltrombopag to Immunosuppressive Therapy (ATG, Cyclosporine) in Acquired Aplastic Anemia: A Tertiary Care Center Experience, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT) - HEMATOCON 2020 Virtual, 20-22 November 2020, Virtual
8. Gudala SP, Vijayaram M, Aggarwal M, Viswanathan GK, Naranje P, Seth T, Mahapatra M, Pseudotumor in Hypofibrinogenemia: A Rare Presentation, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT)-HEMATOCON 2020, 20-22 November 2020, Virtual
9. Gupta G, Mahapatra M, Datta SK, Seth T. Efficacy of single low-dose Rasburicase in management of tumor lysis syndrome in leukemia and lymphoma patients, 25th Annual Congress of European Hematology Association-EHA2020 Virtual, 11-21 June 2020, Virtual



10. Gurleen O, Dhawan R, Dass J, Lata Suman, Tyagi S, Mahapatra M. Diagnostic and Prognostic Utility of Flowcytometric Enumeration of H-Mi $\epsilon$ l Expressing Circulating Leukemic Stem Cells in BCR-ABL1-Negative Myeloproliferative Neoplasms, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT)-HEMATOCON 2020, 20-22 November 2020, Virtual
11. Jain S, Mallick S, Ramteke P, Gogia A, Aggarwal M, Dass J, Yadav R, Sharma M, Pandora Box of lymphomas in Spleen, 2nd Society of Hematologic Oncology (SOHO) Italian Conference, 22-24 September 2020, Virtual
12. Kishor K, Amit S, Kumar R, Maharana S, Ravi R, Mahapatra M, Tyagi S, Renu S, Impact of 399C/T polymorphism of tissue factor pathway inhibitor on risk of recurrent pregnancy loss in India, XXVIII Congress of International Society of Thrombosis and Haemostasis (ISTH)-ISTH, 2020, 12-14 July 2020, Virtual
13. Maharana S, Kamal K, Kataru CR, Amit S, Ravi R, Mahapatra M, Renu S, Kannan M. Alternate pathway of platelet destruction in sickle cell disease, 25th Annual Congress of European Hematology Association-EHA2020, 11-21 June 2020, Virtual
14. Mona V, Aggarwal M, Stitha PG, Sahitya SK, Dass J, Hem CP, Seth T, Mahapatra M. CMV Infection in An Infant Presenting as Steroid Refractory AIHA, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT) - HEMATOCON 2020, 20-22 November 2020, Virtual
15. Narasimhapriyan K, Sahitya D, Dass J, Kumar V G, Aggarwal M, Dhawan R, Kumar P, Seth T, Mahapatra M, Tyagi S. Clinico-Pathological Profile of Patients with Plasma Cell Neoplasms with Special Reference to Bone Marrow Fibrosis and Amyloid Deposition, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT)- HEMATOCON 2020, 20-22 November 2020, Virtual
16. Prerna A, Akriti K, Dass J, Kumar V G, Aggarwal M, Dhawan R, Seth T, Tyagi S, Mahapatra M, Vatsla D, Sunesh K. Spectrum of Bleeding Disorders in Pregnancy a Rare Occurrence with Varied Presentation and Outcome, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT)-HEMATOCON 2020, 20-22 November 2020, Virtual
17. Rama H, Kumar V G, Dass J, Aggarwal M, Jayastu S, Dhawan R, Mahapatra M, Autoimmune Hemolytic Anemia Secondary to NK Chronic Lympho-proliferative Disorder: A Case Report, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT)-HEMATOCON 2020, 20-22 November 2020, Virtual
18. Sahitya D, Narasimhapriyan K, Aggarwal M, Dass J, Dhawan R, Kumar V G, Kumar P, Seth T, Mahapatra M, Tyagi S, Clinico-Pathological Profile of Patients with myelodysplastic syndromes with bone marrow fibrosis., 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT)-HEMATOCON 2020,20-22 November 2020, Virtual
19. Sarjana T, Stitha PG, Lakshita S, Dass, Kumar V G, Aggarwal M, Dhawan R, Kumar P, Seth T, Tyagi S, Mahapatra M. Mixed Phenotypic Acute Leukemia (MPAL): Characteristics and Outcomes of Patients on a Uniform Chemotherapy Protocol, at a Tertiary Care Centre in India, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT) - HEMATOCON 2020, 20-22 November 2020, Virtual
20. Sharma A, Kishor K, Biswas A, Ranjan R, Kumar R, Tyagi S, Oldenburg J, Saxena R, Mahapatra M, Role of endothelial protein C receptor gene polymorphisms ( 4678G>C and 6936A>G) in young Indian DVT patients, XXVIII Congress of International Society of Thrombosis and Haemostasis (ISTH)-ISTH Virtual 2020, 12-14 July 2020, Virtual
21. Sharma A, Kishor K, Ranjan R, Kumar R, Tyagi S, Saxena R, Mahapatra M. Genotype and Phenotype Study of Inherited Factor VII Deficiency Patients from India, 61st Annual Conference of Indian Society of Haematology and Blood Transfusion (ISHBT)-HEMATOCON 2020, 20-22 November 2020, Virtual
22. Tribikram P, Dhawan R, Aggarwal M, Tyagi S, Seth T, Mahapatra M, Clinical Profile of paroxysmal nocturnal hemoglobinuria (PNH) from a tertiary care center in India, 25th Annual Congress of European Hematology Association-EHA2020, 11-21 June 2020, Virtual

## RESEARCH

### Funded projects

#### Ongoing

1. A prospective multi-centric observational study on the role of blood coagulation and fibrinolysis in emergence of ARDS in patients with new coronavirus pneumonia (COVID-19) as Co-PI, Jasmita Dass; Mukul Aggarwal, COVID Intramural, 1 year, 2020-2021, Rs 10 lakhs
2. A prospective, multi-national, non-interventional study in haemophilia A and B patients with or without inhibitors treated according to routine clinical treatment practice (explorer™ 6), Tulika Seth, Novo Nordisk, 2 years, 2020-2021, Rs 4.4 lakhs
3. Assessment of BCL-2 expression in B-Acute lymphoblastic leukemia at diagnosis and after therapy for minimal residual disease assessment, Pradeep Kumar, AIIMS early career intramural, 2 years, 2020-2022, Rs 10 lakhs

4. Comparative study of digital droplet polymerase chain reaction (dd-PCR) and quantitative real time polymerase chain reaction (qRT-PCR) for BCR-ABL1 transcript quantitation in chronic myeloid leukemia (CML) patients on tyrosine kinase inhibitor (TKI therapy) and eligible for treatment free remission (TFR), Ganesh Kumar V, AIIMS early career intramural, 2 years, 2020-2022, Rs 10 lakhs
5. Mitigation of clinical phenotype by activated platelets in severe hemophilia, M Mahapatra, DBT, 3 years, 2019-2022, Rs 8 lakhs
6. Strengthen and standardize the National Referral and Training Centers in India, Tulika Seth, Novo Nordisk Hemophilia Foundation (NNHF), 3 years, 2020-2022, Swiss CHF 570,000
7. Study of B-cell subsets and NK cell subsets in patients of acquired Aplastic anemia, Dr Jasmita Dass, AIIMS Early career intramural, 2 years, 2020-2022, Rs 10 lakhs
8. To study whether the levels of Tissue factor pathway inhibitor (TFPI) and its polymorphisms influence bleeding severity in moderate and severe Hemophilia A patients, Mukul Aggarwal, AIIMS Early career intramural, 2 years, 2020-2022, Rs 10 lakhs

### **Completed**

1. Concizumab label trial for Hemophilia B with Inhibitors, Tulika Seth, NOVONORDISK, 3 years, 2019-2021, Rs 3.5 lakhs
2. NN7415-4311/4307, Tulika Seth, NOVONORDISK, 3 years, 2019-2021, Rs 3.5 lakhs

### **Departmental projects**

#### **Ongoing**

1. Analysis of Monocyte subsets by Multiparameter flow cytometry in peripheral blood in cases of Monocytosis
2. Assessment of eligibility for treatment free remission in patients of chronic phase of CML attending OPD of a tertiary care center
3. Central nervous system hemorrhage and thrombosis in acute promyelocytic leukemia
4. Characterization of immunoparesis in newly diagnosed myeloma and its impact on progression-free and overall survival with regards to anti myeloma therapy
5. Compare Hb CZE and HPLC in diagnosis of hemoglobinopathies
6. Correlation of endogenous thrombopoietin levels with response to thrombopoietin receptor agonists and assessment of serum LDH profile in adults with primary ITP
7. Effect of tyrosine kinase inhibitor on sperm parameters and pituitary gonadal axis in male patients with Chronic myeloid Leukaemia
8. Evaluation of programmed death- ligand1 (PD- L1) / CD274 expression on myeloblasts in acute myeloid leukemia (AML) by flowcytometry
9. Evaluation of response to immunosuppressive therapy and eltrombopag in aplastic anemia
10. Evaluation of transient elastography, hepatic iron concentration by MRI t2\* liver, serum liver fibrosis indexes versus liver biopsy in thalassemia major patients who are candidates for hematopoietic stem cell transplant, a comparative pilot study
11. Flow cytometric ploidy analysis in B-cell acute lymphoblastic leukemia
12. Flow cytometry assessment of CD 26+ leukemia stem cells in chronic myeloid leukemia
13. Identification and in-silico characterization of molecular defects underlying inherited deficiencies of FVII and FX in India
14. Imatinib dose escalation in CML: indication, responses and outcomes
15. Immunophenotyping and MRD analysis in Multiple myeloma by flow cytometry
16. Impact of molecular genetics on the phenotype of Indian sickle cell syndrome patients.
17. Minimal residual disease analysis in acute myeloid leukemia by flow cytometry using a limited antibody panel
18. Mitigation of clinical phenotype by activated platelets in severe hemophilia
19. Molecular profiling of Myelodysplastic Syndromes subgroups – MDS with single lineage dysplasia and MDS with multi-lineage dysplasia for assessment of prognosis and treatment response.
20. Myeloid-derived suppressor cells and Precursor B cell acute lymphoblastic leukemias: Identification and quantification in peripheral blood samples
21. Prevalence of common variable immunodeficiency and autoimmune lymphoproliferative disorder in autoimmune hemolytic anemia/evans syndrome and their impact on clinical outcomes

22. Study of the expression of GATA1 protein by immunohistochemistry in BCRABL negative myeloproliferative neoplasm.
23. Study of the role of thromboelastography in predicting risk of hemorrhage in patients with acute leukemia
24. To assess utility of MPN 10 questionnaire for assessment of symptoms burden and quality of life) and assessment of various scoring systems being used in patients of myelofibrosis
25. To compare the diagnostic performance of Whole Body Low dose Computed Tomography (WB LDCT) and Conventional Skeletal Survey (CSS) in diagnosis and management of patients with Multiple Myeloma (MM) in a Tertiary Care Centre
26. To compare the side effect profile, minimal residual disease and early event free survival in patients of CD 20 positive precursor B acute lymphoblastic leukemia who receive rituximab versus those who do not receive rituximab with induction therapy
27. To evaluate the utility of enumerating circulating stem cells with aberrant h-MiCL expression by flowcytometry in the diagnosis and prognosis of philadelphia chromosome negative Myeloproliferative Neoplasms
28. To study the combined role the BCR-ABL1 Kinase Domain and Elsewhere mutation in Chronic Myeloid Leukemia patients with resistance to Tyrosine Kinase Inhibitors (TKIs)

### **Completed**

1. Abdominal infections in immunocompromised hosts: a clinical, microbiological and radiological correlation
2. Assessment of Nutritional status/Parameters in acute leukemia patients undergoing induction chemotherapy
3. Clinical and laboratory profile of patients with hypereosinophilia presenting to a tertiary care center on north India
4. Correlation of serum iron profile and Hepcidin level in patient with microcytic hypochromic anemia.
5. Efficacy of low dose rasburicase in management of tumor lysis syndrome in leukaemia and lymphoma patients
6. Evaluate The Role Of Tissue Factor And Tissue Factor Pathway Inhibitor Gene Polymorphisms In The Pathogenesis Of Deep Vein Thrombosis In India
7. Nilotinib versus Imatinib deep molecular response in CML
8. Role of IHC with CD 61 and p53 on bone marrow biopsies in enhancing diagnosis in suspected MDS cases- retrospective and prospective study.
9. Study of expression of cereblon protein by immunohistochemistry in newly diagnosed and treated multiple myeloma patient

### **Collaborative projects**

#### **Ongoing**

1. A population based prospective cohort study to unravel the causes of stroke and cognitive decline: a cross cultural perspective. DBT international co-operation division. AIIMS and Erasmus Medical Center Rotterdam, Netherlands, Clinical Epidemiology Unit, AIIMS
2. Autoimmune haemolytic anaemia: Clinical and Serological correlation. Transfusion Medicine, AIIMS
3. Development of a quick and specific detection system of BCR-ABL proteins, Department of Anatomy
4. Efficacy of intravenous iron therapy compared to oral iron treatment in iron deficient adult cyanotic, congenital heart disease patients for improvement in clinical outcome at 3 months. Cardiology, AIIMS
5. Electrochemical Sensor Detection of microbial infections and antibiotic resistance within 2 hours in Patients with Febrile neutropenia in hematological malignancies. RAMJA Genosensor Pvt, Ltd, IIT Delhi
6. Identifying association of gene polymorphism and Prakriti in responders & non responders to dual antiplatelet therapy in coronary artery disease patients. Cardiology, AIIMS
7. Immune reconstitution in Haplo identical HSCT, Transplant Immunology & Immunogenetics, AIIMS
8. Ocular GVHD in post Allogeneic HSCT patients, Ophthalmology, AIIMS
9. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion in an Indian setting. Transfusion Medicine, AIIMS
10. Randomized control trial to evaluate safety and efficacy of intra vitreal injection of autologous bone marrow derived stem cells in acute cases of ischaemic central retinal vein occlusion, Ophthalmology, AIIMS
11. Real Time PCR for Diagnosis of Invasive Fungal Infections, Microbiology, AIIMS
12. Relevance of WT1 gene expression in AML, BRAIRCH
13. Role of platelet activation in the development of systemic inflammations in patients with type-2 diabetes, Endocrinology, AIIMS and Regional Centre for Biotechnology (RCB)

14. To evaluate the role of serum d-dimer, neutrophil: lymphocyte ratio, platelet: lymphocyte ratio and CA125 in assessment of ovarian masses, Obstetrics and Gynaecology, AIIMS

### Completed

1. Clinical and aetiological Profile Of Patients With Eosinophilia, Department of Medicine
2. Outcome predictors in Secondary HLH, Department of Infectious Diseases
3. Ras homolog gene family (RHOA) and Isocitrate dehydrogenase 2 (IDH2) mutation in Angioimmunoblastic T cell Lymphoma (AITL), Department of Pathology

### PUBLICATIONS

**Journals: 32**

**Abstracts: 22**

### PATIENT CARE

#### A. Clinical Services

- **OPD/Clinics runs 6 days per week:**  
New Patients: on Monday/Wednesday/Friday Clinics:
  1. Monday: CML, Hemato-oncology
  2. Tuesday: Stem cell Transplant Clinic
  3. Wednesday: Hemolytic anemias and ITP, CMPD
  4. Thursday: Coagulation and Bleeding Clinic
  5. Friday: Aplastic anemia, CLPD Clinic
  6. Saturday: Leukemia Survivor Clinic
- **In Patient care:**
  - i) Inpatients: C2, C6, D6, Emergency ward, Private wards
  - ii) Stem cell Transplant: 4-6 New Allogeneic transplants per month
  - iii) Hematology Day care: for procedures, chemotherapy and transfusion services

#### Hematology Day Care Center

Month	Admissions	Chemotherapy	Transfusions		Procedures			Total Procedures
			RBC	SDP/PRP/FFP/Cryo	Bone marrow	Intrathecal	Phlebotomy	
April 2020	147	38	98	43	NIL	NIL	NIL	172
May 2020	329	133	185	47	NIL	NIL	2	361
June 2020	369	571	226	71	1	NIL	NIL	396
July 2020	445	173	201	71	35	26	3	506
August 2020	523	213	211	67	52	21	5	626
Sept 2020	657	305	253	52	63	42	2	720
Oct 2020	750	357	258	72	73	30	9	801
Nov 2020	776	428	246	63	66	17	5	802
Dec 2020	809	422	248	71	68	40	8	872
Jan 2021	891	502	260	75	84	64	10	993
Feb 2021	858	400	228	84	111	33	13	869
March 2021	913	441	256	94	128	43	22	973

- **Community services**  
The department has been active in the area of thalassemia and hemophilia awareness with the help of Thalassemia federation of India and Hemophilia Federation of India.

#### B. Laboratory Services

The Department of hematology has state of art facilities of following:

- Bone marrow aspirate, bone marrow biopsies and peripheral smears
- Immunohistochemistry

- Molecular genetics
- Hemolytic anemia workup
- Flow cytometry
- Capillary electrophoresis for hemoglobinopathies
- Coagulation workup for inherited and acquired bleeding disorders
- Platelet aggregometry
- Thrombophilia workup
- Prenatal diagnosis of Hemophilia and hemoglobinopathies

#### Census of Various Laboratories (2020-21)

- **Bone Marrow Biopsy laboratory**
  - Biopsy (H & E) 1379
  - Immuno Histochemistry: 1186
  - Reticulin slides: 324
  - Massan Trichome: 48
  - Total Biopsies: 2937**
- **Coagulation laboratory**
  - Coagulation test: 4171
  - Thrombosis; 927
  - Total: 5098**
- **Hemolytic Lab**
  - HPLC: 1200
  - Serum Ferritin: 410
  - G6PD: 241
  - DCT: 105
  - OFT: 55
  - PNH: 50
  - Urine Hemosiderin: 21
  - Cryoglobulin: 08
  - Sickling test: 32
  - LAP Score: 51
  - Cytochemistry: 650
  - Total 2823**
- **Hemogram laboratory**
  - OPD and ward patients: 24381
  - Hematology OPD patients: 3152
  - Bonemarrow staining: 4674
  - Hemogram PS staining: 24381
  - Retic Count: 24381
  - Slide staining for MBBS class: 650
  - Total 81619**
- **Molecular diagnostic laboratory**
  - RTPCR/RQPCR: 725 (RT PCR-145, RQPCR-580)
  - Coagulation molecular: 1082 (Hemophilia-32, Thrombophilia-1050)
  - Total 1807**
- **Flowcytometry**
  - Acute leukemia: 352
  - Chronic lymphoproliferative disorders: 115
  - Paroxysmal Nocturnal hemoglobinuria: 351



- Minimal Residual disease:	86
- CD34 enumeration:	05
- Platelet disorders:	08
<b>Total:</b>	<b>917</b>

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Manoranjan Mahapatra** is currently the editor in chief of Indian Journal Hematology and Blood Transfusion (IJHBT); he is a member of GATEC (gene therapy advisory and evaluation committee) working group on Hematology. He is a member of Expert group for CSIR Mission on Sickle cell anemia; He is also a member of Expert committee on “Use of stem cell as standard of care for their therapeutic use”.

**Professor Tulika Seth** is a member of ethics committees of AIIMS-PG and Delhi University; she is a member subcommittee of IEC AIIMS for reporting of adverse events in clinical trials. She is a nominated member of NBE for Hematology.

**Dr Mukul Agarwal** is working as Hematology expert for Athlete biological passport management unit (ABPU) with National Anti-doping agency (NADA), India and with Anti-Doping Laboratory, Tokyo.

**Dr Rishi Dhawan** was selected for one-year certificate course- Global Clinical Scholars Research Training (GCSRT) 2021 Program by Harvard Medical School, United States with 25% tuition fee waiver scholarship.

## 9.17. Hospital Administration

### Professor and Head

Sidhartha Satpathy

### Medical Superintendent, Dr RP Centre

Shakti Kumar Gupta (up to 31 January 2021)

### Medical Superintendent, Main Hospital

DK Sharma

### Professors

IB Singh

Sanjay Arya

### Additional Professors

Nirupam Madaan

Amit Lathwal

Anoop Daga

Mahesh R

### Associate Professors

Angel Rajan Singh

Parmeshwar Kumar

Vijaydeep Siddharth

### Assistant Professors

Abdul Hakim

Jitender Sodhi

Laxmi Tej Wundavalli

Sheetal Singh Vikas H

### Assistant Professors (Contractual)

Anant Gupta

Kanika Jain

## EDUCATION

The Department is running a postgraduate degree program for medical graduates, viz. MD(HA), earlier known as MHA (Masters in Hospital Administration). This course was started in February 1966, for the first time in India and has since been recognized as a distinct postgraduate discipline. In January 2016, this course was converted to MD (Hospital Administration) in accordance with decision of Academic Committee (AC-113/10) duly ratified by GB (GB-152/7) during its meeting held on 13 April 2015. The Residency Program in Hospital Administration focuses on 'hands on' training, where Resident Administrators are posted in the 'Administrative Control Room' of Main Hospital, Jay Prakash Narayan Apex Trauma Centre and National Cancer Institute, Jhajjar campus round the clock as 'Duty Officers', and coordinate all the hospital activities after duty hours. The department switched to "Online" and "Hybrid" mode of lectures and conducted 7 departmental seminars on Covid-19, Covaxin Initiative, Nurses strike-Genesis, Legal frame work & handling of strike, Demystifying COVID-19 Vaccine Development Landscape, Enabling Registered medical Practitioners to provide healthcare using telemedicine, The Role of Hospital Administration in Management of COVID-19, RTI Act: Boon or Bane; Update and Administrative Challenges, COVID-19 Vaccine: Development, Update and Administrative Challenges; along with 6 Journal Clubs during 2020-2021. It is also the nerve center of the Hospital/centers. The department also has Senior Residents who are posted in the Main Hospital and various centers for assisting Faculty members in administrative tasks. They are also involved in new projects at AIIMS. Faculty members conducted several training programme for the doctors working in various organizations including Central, State Governments, Paramilitary Forces and in various PSUs such as IICM, Ranchi and also other management institutes.

## SHORT AND LONG TERM TRAINING:

1. Four MD (HA) students from SGPGI, Lucknow, Uttar Pradesh
2. Four MD (HA) students from Sher-I-Kashmir Institute of Medical Sciences, Srinagar, J & K

## Lectures delivered

**Sidhartha Satpathy: 9**

**Nirupam Madaan: 3**

**Anoop Daga: 3**

**Mahesh R: 1**

**Angel Rajan Singh: 1**

**Vijaydeep Siddharth: 3**

**Parmeshwar Kumar: 1**

**Kanika Jain: 1**

### **Sidhartha Satpathy**

1. Laws applicable to hospitals and Medico-legal issues MBA (HA) 2nd year organized by AHA, Noida, 20 June 2020, Online platform, NA
2. Lectures on Digital and Tele-health-Evolving role in pandemic and EHR in hospitals PhD program (HA-1st batch) HNB University, 10 July 2020, Online platform, NA
3. Lectures (5) on OPD, Emergency, OT Services, QCI and HRM chapters NABH, QM and AHO program organized by AHA, Noida, 11 July 2020, Online platform, NA
4. Radiodiagnosis and Imaging services in hospitals, PGDM in Hospital Admin. at NIHFW 11 August 2020, Online platform, NA
5. COVID hospital operations- Best practices and Challenges, National Webinar organized by Armed Forces Medical College, 26 August 2020, Online platform, NA
6. AIIMS-a unique institution, Training/sensitization of DDAs for new AIIMS organized by NIHFW, 26 September 2020, Online platform, NA
7. Health is Wealth- personal care during COVID pandemic, National Webinar organized by PBKIVV, 18 October 2020, Online platform, NA
8. EOLC- legal, quality and accreditation perspective, National Grand Rounds organized by RFHHA on End of Life Care (EOLC), 31 October 2020, Online platform, NA
9. Hospital Planning and Design- an overview, 96th Trg Course for Sr. Hospital Administrators at NIHFW, 10 February 2021, Online platform, NA

### **Nirupam Madaan**

1. Four lectures quality management and accreditation of healthcare organizations 9-12 July 2020, Online platform, NA
2. Condemnation and writing off procedures for drugs, linen, equipment administrative workshop for Medical Superintendents of ESICNTA Hospitals, 22 September 2020, Online platform, NA
3. Three lectures disaster preparedness and management and hospital administration for doctors and nurses of Tripura, 18-19 February 2021, Online platform, NA

### **Anoop Daga**

1. Infection control plan and BWWM management strategies BWWM: “Normal to New Normal Strategic Planning and Approach-Preparedness and Way Forward” (**Webinar**), 17 October 2020, Online platform, NA
2. “Impact of Pandemic – New intelligent transportation system: Approaches for infection prevention and preparation for future disruptions “ Intelligent Transport Systems (ITS) - Smart and sustainable Mobility (**Webinar**), 27 January, 17 February and 17 March 2021, Online platform, NA
3. Emerging issues in patient management and safety “Managing Healthcare in times of Covid pandemic and beyond” (Online Seminar), 30 January 2021, Online platform, NA

### **Mahesh R**

1. Four lectures on research methodology and project writing, planning and quality needs in OPD, Accident and emergency services. IPD and human resource management MBA(HA), 9 June 2020, Online platform, NA

### **Angel Rajan Singh**

1. Digitizing healthcare processes in an Apex Institution 6th Virtual Quality Conclave – NABH 22 March 2021, Online platform, NA

### **Vijaydeep Siddharth**

1. Planning and management of OT, 96th Training Course on “Hospital Administration for Senior Hospital Administrators”, 12 February 2021, NIHFW (Online platform), NA
2. Waste management during COVID-19: Process, Issues and Challenges International Conference,
3. On challenges and strategies in reproductive and environmental health with special reference to COVID-19 pandemic and 31st Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF), 20 February 2021, Online platform, NA

### **Parmeshwar Kumar**

1. COVID-19 A Hospital response with focus on hospital based vaccination programme, International Webinar, Management and Economics Research Centre, Isfaghan University, 24 May 2020, Online platform, NA

## **Kanika Jain**

1. Science of quality improvement certificate course in health Care Quality Sessions, Public Health Foundation of India 18 March 2021 PHFI Bhopal

### **List of oral papers/posters presented: 2**

1. Madaan N. Structural changes for physical safety in an OPD, Patient Safety- A universal call! Workshop on Patient Safety, 16 March 2021, Convergence Block, AIIMS, Delhi
2. Mahesh R. Structural changes for physical safety in an Inpatient Department, Patient Safety- A universal call! Workshop on Patient Safety, 16 March 2021, Convergence Block, AIIMS, Delhi

## **RESEARCH**

### **Funded projects**

1. Comparative analysis of different methods of disinfection of medical records DrNirupam Madaan, Research Section, AIIMS, ND, 1 year 6 months 2020-2021, Rs 4.82 lakhs
2. Effectiveness of robot in floor cleaning for minimizing human exposure in view of COVID-19 pandemic. Vijaydeep Siddharth, AIIMS Intramural Grant, 1 year, 2020-2021, Rs 6,28,580
3. Impact of air quality interventions on air quality including microbial load in inpatient environmental air, Vijaydeep Siddharth, AIIMS Intramural Grant, 1 year, 2020-2021, Rs 3.46 lakhs
4. Strengthening health systems governance for pandemic response, Angel Rajan Singh, AIIMS Intramural Grant, 2 years, 2020-2022, Rs 5.0 lakhs

### **Departmental projects**

#### **Ongoing**

1. A comparative analysis of Annual Performance Appraisal Report (APAR) and Annual Confidential Report (ACR) systems in AIIMS, New Delhi
2. A study on financial implications of repair and maintenance of select machinery and equipment items at AIIMS hospital
3. A study to develop a hospital infrastructure project implementation model
4. An interventional study to evaluate the impact of a Patient Safety Incident Reporting system on Incident Reporting in various in-patient areas of AIIMS, New Delhi.
5. Costing of Intensive Care in Neurosciences Centre, AIIMS, New Delhi.
6. Need analysis of CSR at AIIMS.
7. Study of radiotherapy services and utilization of specific radiotherapy equipment across different centers of AIIMS, New Delhi
8. Study to assess the impact of educational intervention on incidence of central line associated blood stream infections (CLABSI) at JPN Apex Trauma Center ICU
9. To evaluate the utility of telemedicine as a screening tool in the Pediatric outpatient department in a tertiary care teaching hospital in Delhi
10. To study patients and physicians satisfaction regarding conventional and telemedicine consultation services in select departments of AIIMS New RAK OPD with a view to improve OPD services.
11. Assessment of Quality of death certification practices at AIIMS, New Delhi and testing quality improvement solutions
12. Comparative Medical record audit of COVID positive COVID suspect and non-COVID patients record in a tertiary care hospital, New Delhi
13. Comparative analysis of the impact of in-hospital confinement indifferent in-patient settings on the psychology of Covid-19 patients
14. Comparative study of secondary trauma, burnout, compassion fatigue of healthcare workers of COVID positive, COVID suspect and non-COVID patients in a tertiary care Hospital
15. Costing of commissioning and functioning a temporary makeshift Isolation facility for COVID-19 suspect cases in a tertiary care institute
16. A study on patient safety culture among the healthcare providers in a tertiary care hospital
17. A study to assess the correlation between co-morbidities and COVID-19 at a tertiary care hospital.
18. A study to assess the utilization of surgical consumables in operating rooms of Main OT of a tertiary care teaching hospital.

19. A study to identify the various patients' financial assistance and welfare schemes available in AIIMS main hospital and its centres and the methods to provide financial assistance through them to the poor patients.
20. A study to standardize acceptable communication among female and male doctors in a hospital setting, with regard to the provisions of Sexual Harassment of women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.
21. A study to understand the linen management system of AB-8 ICU and Main OT and to suggest measures for the improvement of system.
22. Application of queuing theory as a decision making tool in out-patient department in a super specialty Centre in North India.
23. Cost conundrum of anti-cancer drugs: A study on pricing variations across India.
24. Cost-effectiveness of early stoppage of empirical antibiotic therapy at clinical improvement in pediatric cancer patients with high risk febrile neutropenia in an ongoing open label randomized control trial.
25. The epidemiological characteristics of admitted cases of COVID-19 in a tertiary hospital in India
26. To study the awareness about eye donation among patients and their attendants visiting a tertiary care hospital in NCR.
27. Updation of Fire Safety Manual at AIIMS, New Delhi.

### **Completed**

1. A study of the effectiveness of the "never use" list of abbreviations in medical prescriptions at AIIMS.
2. Estimation of quality of anti-cancer drugs and antibiotics in marketed formulations at tertiary care cancer Institute in India. Cost effectiveness nested study of early stoppage of empirical antibiotic therapy at clinical improvement in Paediatric cancer cases.
3. A study of the leadership profile of departmental heads and its impact on the work performance and well-being of fellow doctors at AIIMS.
4. Process flow of MLCs in AIIMS/JPNATC for systemic improvement.

### **Collaborative projects**

#### **Ongoing**

1. Clinical Characteristics of critically ill older adults with COVID-19, Geriatric Medicine
2. Cost analysis of Standardized laparoscopic mesh repair of midline abdominal wall hernia Department of Surgery, AIIMS
3. Determinants of mortality due to COVID in India, CCM
4. Development of online course for Training and Capacity building of Physicians for certifying the underlying cause of death and improving cause of death statistics Centre for Community Medicine
5. High frequency panel for real time insights into COVID-19 in India, Geriatric Medicine
6. Saliva as an alternate specimen source for detection of SARS-CoV-2 in symptomatic patients using cepheid expert express SARS Co V-2 in an outpatient setting, Lab Medicine
7. Study of aetiological profile of brought dead patients and comparison of deaths due to COVID-19, Emergency Medicine
8. To study the perioperative complications and costing of laparoscopic Inguinal Hernia repair Department of Surgery, AIIMS

#### **Completed**

1. Causes of Cancellation among patients scheduled for elective operations, Department of Surgical Disciplines
2. Comparison of methods of assigning cause of death through verbal autopsy, ICMR

### **PUBLICATIONS**

**Journals: 31**

**Chapters in books: 2**

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Sidhartha Satpathy** was Member of National Accreditation Board for Hospital and Health care providers (NABH) as AIIMS representative by Director AIIMS, attended 3 Board meetings during the year, and contributed to improve existing systems; Contributed to development of AIIMS Bhubaneswar as Mentor, and subject expert to assist Selection Committee for non- Faculty Administrative post (Yoga Instructor) at AIIMS Bhubaneswar on 5 March 2021; Participated as Subject Expert for Selection Committee for selection of Associate Professor, School of Health Systems Studies, TISS, Mumbai; and



Assistant Professor, Dept of Hospital Administration, AIIMS Mangalagiri and Bhatinda; Member of Building Committee of National Brain Research Institute, providing oversight for development of Auditorium, Academic block and Laboratories, and legal issues there-of; Contributed as Expert Member of Academic Audit Committee of IIHMR University, for improvement of academics as mandated by UGC; and Subject Expert for MPhil Thesis Evaluation & Viva Voce for Advanced Professional Program in Public Administration at IIPA, New Delhi in February 2021; Expert member of BIS Committee (MHD-21) for development of standards for PPE (15919) in June 2020; Contributed as Editorial Committee member of JAHA and IJRFHHA, and Reviewer for National Medical Journal of India, Indian Journal of Public Health (IJPH); Contributed to “Critical appraisal of Covid Literature” which is available at covid.aiims.edu for public.

**Professor DK Sharma** visited Rewari (Haryana) for site inspection of new AIIMS like institute to be established by MoHFW, GoI; visited Dehradun (Uttarakhand) to accept conferment of Degree of “Doctor of Science” (Honoris Causa) by HNB Uttarakhand Medical Education University (A state govt. university), Dehradun; visited Jodhpur to attend Standing Selection Committee Meeting as an External Expert for selection of Faculty in Deptt. of Hosp. Admn. at Committee Room, Medical College Block, AIIMS Jodhpur; visited Karnataka (Hubli-Dharwad) as a part of central team constituted by MoHFW, GoI to inspect the suitability of site for establishing AIIMS in Karnataka.

**Professor IB Singh** was appointed as Internal Examiner of the Board of Examiners for MD in Hospital Administration examination in May 2020 held at AIIMS, New Delhi; appointed as External Examiner for Master in Hospital Administration Examination held w.e.f. 27 June 2020 to 30 June 2020 at Postgraduate Institute of Medical Education and Research, Chandigarh; Participated in International Development – Convention organized and held on Dec. 15 by MASHAV – Israel Agency for International Development Cooperation. I participated the 9th Dr Yehuda Paz Annual International Day conference on “The Changing Face of International Development and Humanitarian Aid amid COVID-19” Organized by Society for International Development (SID), Israel on 15 December at 1930hrs (India time), 2020; appointed as moderator for moderation of question papers for NBE for awarding DNB (Diplomat of National Board) in the field of Health and Hospital Administration and I moderated the question papers on 12 September, 2020; Appointed as examiner to examine Theory papers and of the NBE final theory examination held from 24 to 27 September 2020 and examined the question papers on 18 December 2020 in NBE office, Dwarka, New Delhi; Appointed as Question Setter for the NBE examination for award of DNB Qualification (Diplomat of National Board) in the discipline of Health and Hospital Administration and prepared the question papers (paper I, II, III and IV) on 17 February 2021 in NBE office, Dwarka, New Delhi; appointed as Examiner/Evaluator of thesis of two candidates of MD Hospital Administration for PG degree examination in the Specialty of Hospital Administration (MD) held from 1 May 2021 in Medical Colleges under Dr NTR University of Health Sciences, AP, Vijayawada-08.

**Dr Nirupam Madaan** was Mentor for the states of Bihar and New Delhi to create and register facilities for COVID testing; Proposed strategy for overcoming the shortage of oxygen in rural India through the planned provisioning of Pressure Swing Adsorption Oxygen Extractors in the wake of the COVID pandemic for the Government of India, which has thence been approved and implemented; Commissioning of the New OPD Complex with 18 departments; Commissioning of the renovated CSSD; Procurement of machinery and equipment for all covid care areas of AIIMS, New Delhi; Member Secretary of the committee for the formulation of staffing guidelines for COVID care hospitals which later went on to be adopted as national guidelines for staffing of COVID care hospitals; Modification of the Emergency department to receive, triage and cater to COVID patients by the institution of a graded screening system, donning and doffing areas and protocols for patient reception and transfer; Modification of the physical infrastructure and management of the New OPD and institution of protocols for social distancing and public safety during the pandemic; Shifting and management of Trauma ED in the Old RAK OPD; Assistance to the computer facility in establishing and operationalizing teleconsultations; Provisioning of a new Liquid oxygen storage tank for JPNATC, AIIMS; Management of the JPNATC COVID hospital as its Additional Medical Superintendent; Commissioning of 53 ward beds (24 in JPNATC and 29 in Burns and Plastic Surgery) and upgradation of 21 ward beds to ICU beds; upgradation of 30 ward beds into oxygen beds for COVID use; Provisioning of video conferencing for ICU patients in the JPNATC; Planned and established a new EHS consultation area and pharmacy in the New OPD; Assistance in setting up vaccination area in the New OPD; Organized a Blood donation camp targeting women donors on the International day for Women, March 8, 2021 along with the AIIMS Blood bank; Arranged meals for inmates of the three sadans of AIIMS during the first wave of COVID 19 from April 2020 to June 2020.

**Dr Anoop Daga** was Associate Editor, Journal of Academy of Hospital Administration (JAHA), Noida, India; Member, Editorial Board, International Journal of Research Foundation of Hospital and Healthcare Administration (IJRFHHA), New Delhi, India; Member, Technical Textile Committee (incl. Medical & Surgical Textile), Bureau Of India Standards (BIS), New Delhi, India; Member, Service Sector Division Council, Bureau Of India Standards (BIS), New Delhi, India.

**Dr Mahesh R** was Member, Committee to examine the pros and cons of Central Legislation against the assault on Doctors on duty and Clinical Establishments; Member Secretary, Fire Audit Team Constituted vide Memo No. F.20-5/2020-Estt. I (Committee) dated 4 March 2020; Chairman, Sub-Committee for assessment of cases for eligibility for Compassionate appointment at AIIMS, New Delhi; Technical Expert, Medical Value Travel as part of Champion Service Sector Scheme, MOHFW, FICCI & SEPC Department of Finance Services.

**Dr Angel Rajan Singh** was appointed member of Technical Committee of NABH on 28 April 2020

**Dr Vijaydeep Siddharth** was Coordinator for the conduct of Kaya Kalp Assessment of the Institute and AIIMS won the first prize in Kaya Kalp Programme in Group A of Central Government of Tertiary Care Hospitals; Member of creative team responsible for making AIIMS Documentary, which was released in February 2020; Member of the expert committee constituted by CPCB for drafting guidelines for management of COVID 19 waste; Expeditious completion of Burns and Plastic Surgery Block during complete lockdown in view of preparedness for COVID 19 Pandemic. B & PS Surgery Block has been inaugurated in Feb 2020; Maintaining supply chain of Medicines and Disinfectants/Antiseptics required for management of COVID 19 Pandemic for the entire institute.

**Dr Parmeshwar Kumar** was Nodal officer for COVID 19 vaccination at AIIMS; established and operationalised the facility at AIIMS; Augmented, streamlined and relocated the facility for RTPCR testing for HCWs and their beneficiaries during pandemic surge; Augmented the capacity of Liquid Oxygen Tank from 12,000 Ltr. to 20,000 Ltrs. at AIIMS main hospital Manifold; Streamlined procurement and supply chain of Personal Protective Equipment (PPE) as part of COVID pandemic response.

**Dr Jitender Sodhi** was Member of the main Stores Purchase Committee (SPC) of AIIMS, New Delhi; Member of the Specialists Board in Health Administration including Hospital Administration of National Board of Examinations; Contributed substantially in preparation of replies from the hospital side for group petitions listed in the matter of Rare Diseases of children in Hon'ble High Court of Delhi in the capacity of Officer-in-charge for court cases; Contributed to the initiative of replacement of old, anaesthesia pendants in all the operating rooms of Main OT with newer, contemporary ones; Contributed in planning and ensuring uninterrupted supply of linen; scrubs, linen masks to all the patient care areas of the hospital throughout the COVID-19 pandemic; Contributed to the initiative of getting the operating rooms readied in 48 hours time for the emergency surgery of COVID-19 suspects in Main OT; Streamlined the system of linen condemnation in main hospital and ensured that it takes place at every three months; Undertook the initiative of purchase of suction tooth brush, shampoo caps and bath wipes through hospital stores for AB-8 ICU and other critical care units; Contributed in the strengthening of fire safety measures for Main OT and AB-8 ICU.

**Dr Abdul Hakim** was Member of National Task Force to recommend the modalities of the implementation of Rashtriya Arogya Nidhi (RAN) on National Health Authority (NHA) IT platform, November 2020; Committee member to ensure adequate availability of medical oxygen in the wake of Covid-19 Pandemic. (Constituted by Ministry of Commerce and Industry, Department of Promotion of Industry and Internal Trade (Explosive Section), April 2020; Committee Member of Working Group-5 "Strengthening of Public Hospitals through AB PM-JAY".

## 9.18. Laboratory Medicine

### Professor and Head

Subrata Sinha

### Professor

Sarman Singh (On deputation to AIIMS Bhopal)

### Associate Professors

Sudip Kumar Datta

Shyam Prakash

### Assistant Professors

Suneeta Meena

Tushar Sehgal

Aparna Ningombam

Parul Chopra

(Contract)

(Contract)

### HIGHLIGHTS

The department has successfully inaugurated and operationalized a state-of-the-art fully automatic integrated laboratory (SMART Lab) using a Total Laboratory Automation platform in the New RAK OPD block. This has facilitated an increase of available test parameters from around 35 last year to 92 (hematology + biochemistry + immunoassays + serology) in the current year. This lab is catering to the OPD and IPD loads from Main hospital and CNC with a rapid turn-around-time. MD (Laboratory Medicine) program has been recognized by NMC and included in the PG regulations vide gazette notification in MCI-18(1)/2020-Med./118224 dated 2 September 2020. The course has been developed by and was run in AIIMS, New Delhi only. The department has successfully installed Fully-automated dry chemistry lab for IPD services in the main Department. Platelet function tests and Quantitative SARS-COV-2 antibody for healthcare workers have been started. The Central Collection facilities have been augmented with facilities for sample collection for COVID patients with appropriate protection for staff. Department has collaborated with Centre of Community Medicine in two WHO unity projects. Besides the department is providing lab support to numerous research projects and clinical trials conducted at AIIMS. Department has performed 1,33,05,359 (approx. one crore 35 thousand) tests in the current year.

- 4 Departmental Projects
- 34 Collaborative projects
- 11 MDs, 9 SRs, 1 PhD students currently working

### EDUCATION

Department is running a 3-year MD (Laboratory Medicine) course and a thriving PhD program. Departmental Faculty is involved in following teaching and training programs:

- Immunology lectures for M Biotechnology students (Clinical and molecular Immunology)
- Training of Phlebotomists
- Lectures/Seminars for MBBS student
- BSc Nursing classes
- MD Pathology, Biochemistry, Pediatrics students

### Lectures delivered

#### Sudip Kumar Datta: 1

#### Sudip Kumar Datta

1. Should Electronic medical records be an alternative to reference intervals for interpretation of laboratory results in geriatric subjects? 11th International Conference on Applied Human Factors and Ergonomics (AHFE 2020), 16-20 July 2020, San Diego, California, USA (conducted online)

### Oral papers/posters presented: 11

1. Acharya S, Ningombam A, Sarkar A, Kumar K A plethora of diverse lymphocytes in peripheral blood smear of dengue patients: Rods, Motts, Downey and beyond. 61st Annual Conference of Indian Society of Hematology and Blood Transfusion (ISHBT) 20-21 November 2020, Virtual

2. Acharya S, Ningombam A, Sarkar A, Brijwal M, Dar L, Arulselvi S Association of high fluorescence lymphocyte cell percentage of sysmex XN analyser with Dengue Serology Status (Best student presentation award) 33rd International Symposium on Technical Innovations in Laboratory Hematology, 22 June – 25 September 2020, Melbourne, Virtual
3. Acharya S, Sarkar A, Ningombam A, Madan K, Soneja M, Datta S Flow Cytometric Assessment of Cd4 + T and Cd8 + T Cell subset populations in pulmonary tuberculosis patients with or without type 2 Diabetes Mellitus, 33rd International Symposium on Technical Innovations in Laboratory Hematology, 22 June – 25 September 2020, Melbourne, Virtual
4. Anupurba S, Sehgal T RET-He as a novel parameter for assessment of anemia in Hemodialysis Patients, HAEMATOCON 2020, November 2020, Virtual
5. Bhardwaj S, Chopra P, Arora A, Recognising and Resolving ABO, Discrepancies: Study of 191351 Cases, 61st Annual Conference of Indian Society of Hematology and Blood Transfusion (ISHBT), November 2020, Virtual
6. Chopra P, Bhardwaj S, Samkaria A, Amoli A, Arora A. Evaluation of Erythrocyte Magnetization Technique for Measurement of Abo Isoagglutinin Titres, 61st Annual Conference of Indian Society of Hematology and Blood Transfusion (ISHBT), November 2020, Virtual
7. Gaur M, Sehgal T, Typhoid masquerading as plasma cell neoplasm, HAEMATOCON 2020, November 2020, Virtual
8. Mishra C, Sehgal T, TRISOMY 21, Transient abnormal Myelopoiesis and transposition of great arteries, HAEMATOCON 2020, November 2020, Virtual
9. Ranjan R, Yadav R, Chaurasia V, Singh U, Sehgal T, Blue Green neutrophil Inclusion in a case of Acute pancreatitis, HAEMATOCON 2020 Virtual, November 2020
10. Singh S, Sehgal S, Graphic Displays of automated cell counter in Acute promyelocytic Leukemia HAEMATOCON 2020, November 2020, Virtual
11. Vasishtha V, Monga C, Chaturvedi H, Sehgal T, Arulselvi S, “The Accuracy of Physical Examination to Diagnose Anemia Among Patients 5 Years of Age or Older: A Systematic Review of the Literature HAEMATOCON 2020, November 2020

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Development of Opto-electronic sensor for point-of-care diagnostics of micro-albumin in urinesample, Sudip Kumar Datta (AIIMS), Satish Dubey (IIT-Delhi)AIIMS – IIT Delhi Collaborative Research Project, 2 years 2019-2021 Rs 20 lakhs
2. Evaluation of Rapid Thromboelastography (r-TEG)in Predicting Acute Trauma-Induced Coagulopathy in Severe Traumatic Brain Injury, Tushar Sehgal AIIMS, 1 year, 2020-2021 Rs 5 lakhs
3. Evaluation of the role of vitamin D receptors (VDR) polymorphisms on the efficacy of calcitriol therapy in stage 3-5 chronic kidney disease (CKD): A prospective double blind study, Sudip Kumar Datta ICMR, 3 years 2020-2022, Rs 53,97,494
4. Next-gensequencing based evaluation of the functional implications of Angiotensin converting enzyme 2 (ACE2) gene polymorphisms in Indian population and their role in the outcome of SARS CoV2 infection in Indian COVID-19 patients: A pilot study. Sudip Kumar Datta COVID-19 IMRG, AIIMS, 1 year 2020-2021, Rs 10 lakhs

#### ***Completed***

1. A prospective multicentric study on the role of blood coagulation and fibrinolysis in the emergence of ARDS in patients with New Coronavirus Pneumonia (COVID-19), Tushar Sehgal AIIMS, 1 year, 2020-2021, Rs 10 lakhs
2. Genotypic characterization of Autosomal Dominant Polycystic Kidney disease (ADPKD) in Indian population: a pilot study, Sudip Kumar Datta IMRG, AIIMS2 years, 2018-2020, Rs 10 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A prospective study on the optimal usage of Hospital information systems and its impact in Emergency care settings
2. A study on Carbapenam and colistin resistance in urine isolates at tertiary care centre
3. Assessment of Fok 1 polymorphism of vitamin D receptor gene (VDR), Vitamin D and parathyroid hormone levels in stage 4-5 chronic kidney disease patients
4. Determination of reference ranges for healthy individuals for new red blood cell and reticulocyte parameters in Indian population
5. Evaluation of acute and long-term consequences of COVID-19 infection on thyroid function

6. Gastrointestinal parasitic and Microsporidia infections in renal transplant patients at a tertiary care centre
7. Saliva as an Alternate Specimen Source for Detection of SARS -CoV -2 in Symptomatic Patients Using Cepheid Xpert Xpress SARS CoV-2 in an outpatient setting
8. Triacetylfusarinine C (TAFC) as a potential biomarker for early diagnosis of invasive pulmonary aspergillosis in patients with hematological malignancies

### **Completed**

1. Development of a multiplex real time PCR (qPCR) for simultaneous detection of Hepatitis viruses (A-G) in serum
2. Role of Serum Matrix Metalloproteinase 7 Levels in Diagnosis and Prognostication of Infants with Extra-Hepatic Biliary Atresia
3. To study stability of citrated plasma stored in a conventional refrigerator over 36 hours for use as Internal Quality Control in resource finite settings.
4. To study SUPAR as a marker for prognostication in COVID-19 patients

### **Collaborative projects**

#### **Ongoing**

1. A multi centric Novel coronavirus (COVID-19) population based age stratified ser-epidemiological study under 9 In urban, rural and tribal communities at selected centres in India: A prospective study
2. Analysing the link between male infertility and cancer, Anatomy
3. Application of Integrated Care Tool- BRIEF (ICT-BRIEF) in detection of Intrinsic Capacity and Geriatric Syndromes of older Indians Geriatric Medicine
4. Assessing the role of yoga in ageing process using CBC parameters, Anatomy
5. Assessment of Adrenocortical function and its clinico metabolic implications in PLHIV population, Medicine
6. Assessment of risk factors for coronavirus disease 2019 (COVID-19) in health workers: a case-control study
7. Augmented renal clearance in an adult intensive care setting – prevalence, risk factors and impact on Clinical outcomes Critical care Medicine
8. Comparative evaluation of endocrine disrupter chemicals (organochlorine, organophosphate, Biphenyl A, Phthalate) in polycystic ovary syndrome, type-2 diabetes mellitus and healthy reproductive age Indian women, and their correlation with dietary habits (vegetarian Vs non-vegetarian ) and genetic variability, Multi-centric project
9. Comparing effect of TEG guided transfusion in resuscitation of patients presenting with acute trauma to ED in terms of patient and process outcomes, Emergency medicine
10. Comparison of dried blood spots and plasma samples for the quantification of amino acid using HPLC method among inborn error of metabolism patients Pediatrics
11. Correlation of serum inflammatory biomarkers with fetomaternal outcome in intrahepatic cholestasis of pregnancy: A pilot study, Gynaecology and Obstetrics
12. Effect of parental presence on stress biomarkers, melatonin level and anxiety scores during induction of anesthesia in children undergoing ophthalmic procedures. A randomized controlled trial, Anesthesia
13. Estimation of innate and adaptive immunity in COVID-19 patients with and without mucormycosis, Neurology
14. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation. Laboratory Medicine, JPNTC
15. Evaluation of HE4 level in epithelial ovarian cancer for diagnosis and monitoring of therapy Laboratory Oncology
16. Evaluation of prevalence, regional phenotypic variation, co morbidities, risk factors and the variations in response to different therapeutic modalities among Indian women with polycystic ovary syndrome (PCOS): A Multicenter study across India, Multi-centric project
17. Expression of Immune checkpoints (CTLA-4, PD-1, PD-L1), cytokines and T-reg cells in Lupus Nephritis, Nephrology
18. Fenofibrate as adjuvant therapy in persons with active epilepsy: a double-blind, randomized, placebo - controlled study” Pharmacology
19. Household transmission investigation for Corona Virus disease 2019 (COVID-19) in a rural and urban population of North India
20. Incidence, outcome and risk factors of paradoxical reaction in HIV negative lymph node tuberculosis. Medicine
21. Prevalence of Augmented Renal Clearance in Pediatric Traumatic Brain Injury Patients, Neuro-anaesthesiology
22. Prevalence of parasitic infections in patients with eosinophilia in a partially care hospitals in north India Medicine and Microbiology
23. Psychological and occupational impact among health care professionals treating NCOVID-19 patients, Psychiatry and Emergency Medicine



24. Randomised Controlled trial to compare the impact of exercise and nutritional interventions on changes in skeletal muscle mass and function in obese patients with sarcopenia Medicine
25. Red-cell distribution width as a prognostic marker in an acute traumatic brain injury. Neurology
26. Role of CSF Lactate and chloride in identifying the etiology of meningitis Medicine
27. Role of T- Regulatory cells (T-regs) in obesity and their clinical correlation in obesity associated inflammation in type 2 diabetic and chronic kidney disease (CKD), Nephrology
28. Study of molecular and peripheral blood biomarkers and their utility to diagnose mild and moderate TBI induced cognitive impairment, Laboratory Medicine, JPNTC
29. To evaluate the role of commercially available kit-based loop mediated isothermal amplification (TB LAMP Assay) in diagnosis of extra pulmonary TB. Medicine
30. To examine myelination and changes in oligodendrocytes in white matter pathology post severe traumatic brain injury (sTBI) among humans, Forensic Pathology and Molecular DNA, JPNATC
31. Urine albumin creatinine ratio as a marker for predicting acute kidney injury and patient outcome in critically ill sepsis patients – A prospective observational study Anaesthesiaand Critical Care
32. Usefulness of TEG in guiding therapy COVID-19 Patients, Gastroenterology
33. Utility of serum ferritin in Dengue fever Medicine and Microbiology
34. Validation of an empiric tool to predict neurological outcomes in critically ill children- A prospective observational study. Paediatrics

### **Completed**

1. A study of the efficacy of Intraperitoneal injection of methylprednisolone and anti-TNF alpha antibody (Infliximab) on the severity of organ dysfunction in adult male wistar rats with acute pancreatitis induced by surgical ligation of the pancreatic duct, Gastro-intestinal surgery and Liver transplant
2. Experimental model of Acute Pancreatitis with organ dysfunction, Gastro-intestinal surgery and Liver transplant
3. The prevalence and risk factors of cystic fibrosis related diabetes in children with cystic fibrosis: cross-sectional study, Paediatrics

### **PUBLICATIONS**

**Journals: 20**

**Abstracts: 3**

**Chapter in book: 1**

### **PATIENT CARE**

In patient care/supportive activities include information regarding: (a) facilities available in the department (including special clinics and/or special laboratory facilities (b) community services/camps etc.

### **EMERGENCY LABORATORY SERVICES (Round the clock)**

#### **Hematology Services**

<b>Name of Tests</b>	<b>No. of Tests</b>
Complete blood counts	187468
TLC	
RBC	
HGB	
HCT	
MCV	
MCHC	
PLT	
RDW	
NRBC	
NEUT	
LYMPHO	
MONO	
EO	
BASO	
ABSOLUTE N. COUNT	
ABSOLUTE L. COUNT	
ABSOLUTE M. COUNT	
ABSOLUTE E. COUNT	
ABSOLUTE B. COUNT	

Name of Tests	No. of Tests
RETIC COUNT	1593
PERIPHERAL SMEAR	4912
ESR	7607
PT	93846
APTT	47495
D-DIMER	3427
FIBRINOGEN	3237
BODY FLUID	11235
URINE KETONE/ SUGAR	1705

### Clinical Biochemistry

Name of Tests	No. of Tests
Glucose	10193
S. Urea	129592
S. Creatinine	129564
S. Bilirubin	106147
S. Amylase	8118
Sodium	136712
Potassium	136539
Chloride	100838
Ionic Calcium	100838
SGOT	23
SGPT	22
ALP	00
CSF Glucose	4760
CSF Protein	4474
Arterial Blood Gas Analysis	4660
Total	872480

### Clinical Biochemistry: Main Hospital Lab

Name of Tests	No. of Tests
Urea	30220
Creatinine	30428
Calcium	33528
Phosphorus	30564
Uric acid	30304
Na	30239
K	30237
Total Bilirubin	30353
Direct Bilirubin	30288
Total Protein	30204

Name of Tests	No. of Tests
Albumin	30242
AST	30290
ALT	30287
Alkaline Phosphatase	30298
Cholesterol	806
Amylase	760
Sugar	32,756

**Urine and Fluids samples:**

Name of Tests	No. of Tests
Urine	2162
Fluids	665
<b>TOTAL</b>	<b>2827</b>

**SMART Lab SERVICES**

Name of Tests	No. of Tests
<b>Clinical Chemistry</b>	
Calcium	135727
Phosphorus	135626
Uric Acid	135569
ALP	134142
ALT	134054
AST	134036
Bilirubin (I)	134024
Bilirubin (T)	134013
Bilirubin (D)	134002
Creatinine	131038
Urea	131000
Chloride	130873
Potassium	130670
Sodium	130657
Albumin	112256
Total protein	112060
A/G ratio	111843
Globulin	111803
Total Cholesterol	28975
Triglycerides	23870
LDL-C	23862
CHOL/HDL ratio	23861
LDL/HDL ratio	23857
HDL-C	23857
VLDL-C	23853

Name of Tests	No. of Tests
Glucose F	20840
CRP	18052
Vitamin D3 Total	11602
Vitamin B12	9041
Glucose PP	8404
Glucose R	7661
Ferritin	6723
Serum Folate	5932
Iron	4839
LDH	4657
TIBC (UIBC)	4240
Transferrin	3612
Magnesium	3282
Urine Creatinine	2869
AFP	2275
Urine Protein	2078
Total Amylase	1909
CK	1743
Urine 24hr Creatinine	1658
GGT	1565
Urine Albumin	1499
Urine 24hr Albumin	1447
Urine ACR	1282
Urine 24hr Protein	1177
Urine Sodium	1127
RA Factor	1095
OGTT	1038
IgG	1010
Lipase	994
OGTT-1 Hr	942
OGTT-2 Hr	880
Homocysteine	834
Urine Potassium	803
Urine 24hr Calcium	767
CK-MB (Activity)	752
Complement C3	743
LDH	679
hs CRP	635
IgA	605
Complement C4	507
Urine 24hr Phosphate	458

Name of Tests	No. of Tests
IgM	454
Urine Calcium	409
U Chloride (Cl)	393
Troponin T - hs	384
Total PSA	356
Urine 24hr Uric Acid	350
Valproic acid	316
Urine Phosphate	305
ASO	266
Urine 24hr Urea	245
Beta HCG	231
Urine 24hr Sodium	226
Urine 24hr Potassium	220
Free PSA	207
U 24 Sp request	174
Urine Urea	156
Urine 24hr Chloride	133
Urine Uric Acid	121
Myoglobin	110
Carbamazepine	76
<b>Hormones and Immunoassays</b>	
TSH (ultrasensitive)	16292
T4	15575
T3	15571
Intact PTH	2637
Cortisol	1183
FT4	891
FT3	851
Prolactin	728
FSH	686
LH	628
Testosterone	488
Insulin	435
Estradiol	189
Progesterone	169
<b>Hematology</b>	
MCV	67523
Mono	67515
MPV	67513
Neutro	67511
Mono - Abs	67510



Name of Tests	No. of Tests
Neutro - Abs	67503
NRBC	67500
Platelet count	67498
MCHC	67491
RBC count	67490
RDW-CV	67486
MCH	67479
WBC count	67475
Hb	67464
Lympho	67461
Eosino	67455
Baso - Abs	67448
Hematocrit	67445
Lympho- Abs	67438
Eosino - Abs	67432
Baso	63711
HbA1c	8685
INR	7751
PT	7076
APTT	5271
PS for (Others)	1355
PS for Hemoparasites	855
PS for Atypical cells	672
Corrected Reticulocyte	627
Reticulocyte count - Abs	584
PS for Schistocytes	491
D Dimer	329
Fibrinogen	154
Lupus Anticoagulant Confirm	114
Lupus Anticoagulant Screen	112
Antithrombin	41
Protein C	24
TT	16
<b>Serology</b>	
Anti HCV Ab	9280
HIV Combo (HIV 1, 2)	8812
HBs Ag	8294
Anti HBs	2738
Anti HAV IgM	1810
IgM Anti HBc	337

**Grand Total: 41,68,015 tests**

## Clinical Microbiology Services

### A. Routine Investigations

<b>1. Urine</b>			
<b>Name of the Tests</b>	<b>O.P.D</b>	<b>WARD</b>	<b>TOTAL</b>
Medical board	1965	0	1965
Routine	13842	47512	61354
Microscopic	6921	23756	30677
pH	6921	23756	30677
Specific gravity	6921	23756	30677
Acetone	6921	23756	30677
Bile pigment/salt	6921	23756	30677
Urobilinogen	6921	23756	30677
Blood	11	4	15
Bence Jones Protein	40	52	92
Chyluria	59	42	101
Porphobilinogen	0	0	0
Myoglobinuria	0	0	0
Haemoglobin	0	0	0
Urine Cultures	4415	0	4415
Strain identifications tests	3440	0	3440
Antibiotic Sensitivity	892	0	892
Sub Total	64225	190146	254371
<b>2. Stool Investigations</b>			
<b>Name of the Tests</b>	<b>OPD</b>	<b>WARD</b>	<b>TOTAL</b>
Wet mount saline	890	2214	3104
Wet Iodine stain	890	2214	3104
Occult blood in stool	452	1281	1733
Fat globules	29	17	46
Special stains for stool Z-N stain, Modif	15	27	42
Sub Total	2276	5753	8029
<b>3. Semen analysis</b>			
<b>Name of the Tests</b>	<b>OPD</b>	<b>WARD</b>	<b>TOTAL</b>
Routine	824	0	824
No. of Reactions	824	0	824
Motility	824	0	824
Count	495	0	495
Fructose	247	0	247
Subtotal	3214	0	3214
<b>4. Sputum Analysis</b>			
<b>Name of the Tests</b>	<b>OPD</b>	<b>WARD</b>	<b>TOTAL</b>
Total Number of samples received	458	0	458
ZN staining (Microscopy)	916	0	916
MTB Culture	166	0	166
Sub total	1540	0	1540

<b>5. Urine AFB Analysis</b>			
<b>Name of the Tests</b>	<b>OPD</b>	<b>WARD</b>	<b>TOTAL</b>
Total Number of samples received	336	0	336
ZN staining (Microscopy)	672	0	672
MTB Culture	0	0	0
Sub total	1008	0	1008
<b>B. Specialized Investigations</b>			
Immuno-Serological &Molecular Diagnosis			
Tests 6. TORCH			
NAME OF THE TEST *(these tests remained suspended for most of the year)			
Toxoplasma gondii IgG	697		
Toxoplasma gondii IgM	716		
Rubella IgG	651		
Rubella IgM	670		
Cytomegalo virus IgG	821		
Cytomegalo virus IgM	756		
Herpes Simplex virus IgG	379		
Herpes Simplex virus 2 IgG	378		
Herpes Simplex virus (1+2) IgM	0		
Rubella IgG avidity	0		
Sub Total	5068		
<b>6. Viral Marker &amp; HIV</b>			
HAV IgM	823		
HBsAg	15389		
HBc IgM	49		
HBeAg	572		
Anti HBe	115		
Anti HBs	696		
Anti HCV antibody	15361		
HEV IgM	305		
HIV	14138		
HBV DNA	65		
HCV RNA	378		
Subtotal	47891		
<b>7. Others</b>			
MeaselesIgG	56		
Mumps IgG	56		
Varicella IgG	56		
Varicella IgM	0		
EBV IgG	0		
EBV IgM	0		
Subtotal	168		

<b>8. Molecular Tests</b>			
Leishmania PCR	0		
TB PCR	0		
CMV (RT PCR)	463		
Subtotal	463		
<b>9. Leishmania Serology</b>			
rkE-16 Serology	0		
Microscopy for L.D.	0		
Leishmania Culture performed from clinical samples	0		
Lab Strain Maintenance (In vitro)	0		
Lab Strain Maintenance in Hamster	0		
Subtotal	0		
<b>10. BD Influx Cell Sorter (Flow Cytometer)</b>			
Flow Cytometer Assays		0	
<b>11. TB Laboratory</b>			
Total Number of samples received		114	
ZN staining:		228	
LJ medium inoculated		0	
ADA Test		0	
BACTEC MGIT 960 inoculated		124	
BACTEC MGIT DST 960:		0	
BACTEC MGIT DST 960: Second Line		0	
Colorimetric Redox Indicator assay (CRI)		0	
Line Probe assay (HAIN'S Test)		0	
GeneXpert MTB/RIF		109	
RK 39		25	
DNA Sequencing		0	
Subtotal		600	
<b>Grand Total</b>		<b>324,317</b>	

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Sudip Kumar Datta** is Corresponding Member from India for International Federation of Clinical Chemistry (IFCC) Task Force on Ethics (2018-till date); Secretary, American Association of Clinical Chemistry (AACC)- India Section (2018-till date); Executive member, Association of Medical Biochemists of INDIA (AMBI), Delhi chapter. (2019-till date).

**Dr Tushar Sehgal** Chaired a session on Monocyte distribution width as a screening tool for early detection of sepsis in 44th Annual Conference of Mumbai Hematology Group, 12 March 2021.

## 9.19. Medicine

### Professor and Head

Naveet Wig

### Professors

Rita Sood	Ashutosh Biswas
Sanjeev Sinha	Naval K Vikram

### Additional Professors

Manish Soneja	Piyush Ranjan
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### Associate Professors

Neeraj Nischal	Pankaj Jorwal
Arvind Kumar	Ranveer Singh Jadon

### Assistant Professors

Animesh Ray	Upendra Baitha
Prayas Sethi	Ved Prakash Meena
Parul Kodan (on contract)	Gaurav Gupta (on contract)
Bindu Prakash (on contract)	

## HIGHLIGHTS

The Department of Medicine is a vibrant department providing holistic patient care services, innovating in medical education, and conducting translational and clinical research. The department has a strong presence in the fields of infectious diseases, metabolic disorders, chest medicine and sleep disorders and many medical problems requiring multi-disciplinary care. The department took lead at the institute and national level to tackle the COVID-19 pandemic. The department was integrally involved in planning and implementing various measures to control the impact of the pandemic and preparing the institute for management of COVID-19 patients. The faculty and residents of the department prepared management guidelines and algorithm, which were subsequently adapted as National Guidelines for management of COVID-19 patients. The algorithm has been widely used across the country.

The department faculty and residents are at the forefront contributing to various national level activities like guidelines formulation in various infectious diseases like tuberculosis, HIV, dengue, chikungunya, influenza, etc. This year we also started using digital platform for teaching and training. The YouTube channel created to share videos on procedures and common topics of interest for trainee residents has been widely appreciated.

## EDUCATION

The department runs comprehensive undergraduate and postgraduate teaching program, which includes integrated lectures, seminars, journal club and bedside clinical case discussions. Currently 64 MD students, 41 DM-Infectious Diseases and 18 Senior Residents are being trained in the department. We are striving to improve the clinical training of undergraduates and postgraduates with better alignment between the expected outcomes, learning opportunities and assessments. This year we switched to online mode of teaching and training in view of the pandemic.

### CMEs/Workshops/Symposia/National and International Conferences (Organized by the department/departmental faculty)

- Virtual Symposium on “End of COVID 19 in India” held on 14 August 2020 at AIIMS, New Delhi
- Virtual Symposium on “Evidence Based Medicine” held on 6 September 2020 at AIIMS, New Delhi
- Virtual Symposium on “HIV” held on 4 December 2020 at AIIMS, New Delhi
- Virtual Symposium on “Quality Improvement” for 1 and 2 Semester residents held on 22 December 2020 at AIIMS, New Delhi

### Lectures delivered

Sanjeev Sinha: 5

Naval K Vikram: 4

Arvind Kumar: 4

Ved Prakash Meena: 1

Manish Soneja: 5

Animesh Ray: 8

Neeraj Nischal: 1

Prayas Sethi: 4



### **Sanjeev Sinha**

1. Chaired a session on HIV, API-DSC –ANNUAL CME, October 2020, New Delhi, Virtual
2. Session on reverse innovation, FAM conference 2020, May 2020, Paris, Virtual
3. Lecture on Carcinoma Lung, NAPCON – 2020, January 2020, Hyderabad, Virtual
4. Chaired a session on Management of HIV and TB, APICON 2021, Virtual
5. Chaired a session on management of OSA, ATS 2020, USA, Virtual

### **Naval K Vikram**

1. Weight loss plateau- can it be overcome successfully, 4th International Diabetes Experts Conclave Digital Meeting 2020, 9 -10 May 2020, Virtual
2. Continuous energy restriction is better than intermittent fasting, Obesity India 2020, 3 – 4 October 2020, Prayagraj, India, Virtual
3. Muscle Loss in Diabetes: How to Tackle? Ahuja Bajaj Symposium-VI, 21 - 22 November 2020, New Delhi, Virtual
4. Rising Burden of Maternal Obesity in India, Burden, Challenges and What can be Done Under Poshan 2.00: What are challenges in practice - clinician's perspective?, Strengthening maternal nutrition screening and services in antenatal care in India E-dialogue series, 26 February 2021, Virtual

### **Manish Soneja**

1. COVID-19 Management: Panel Discussion, CoE Program, MoHFW, 22 July 2020, New Delhi, Virtual
2. COVID-19 Management of complications: Panel Discussion, CoE Program, MoHFW, 6 August 2020, New Delhi, Virtual
3. COVID-19 Management, CoE Program, MoHFW, 19 October 2020, New Delhi, Virtual
4. Recent Trials and Therapies: COVID-19 Management, AIIMS National Grand Rounds, 21 October 2020, New Delhi, Virtual
5. Unfolding the Journey of COVID-19, Delhi API, 27 March 2021, New Delhi

### **Neeraj Nischal**

1. "Current Aspect of Clinical Management of COVID-19", International Conference 2020 of Pharmaceutical Care and Management Prospectives of COVID-19 Pandemic (E conference center Mohali, India), 16 May 2020, E-Platform, MOHALI

### **Arvind Kumar**

1. Update in Medical Management of Covid-19", IMA, West Champaran Chapter on Annual Doctors Day, through an online platform, 1 July 2020, E-Platform, Bihar
2. "Basic Management of Covid-19", Training on Infection Prevention and Control for COVID-19 Bihar, for 6 districts (Katihar, Khagaria, Kishanganj, Lakhisarai, Madhepur, Madhubani) of Bihar State, organised by Government of Bihar, 24 August 2020, E-Platform, Bihar through department of health
3. "Death certification in Covid-19", Training on infection prevention and control for COVID-19 Bihar, 27 August 2020, E-Platform, Bihar through department of Health
4. "COVID-19 vaccine-what physicians need to know", conducted by Academy of family physician of India, 13 February 2021, E-Platform, Delhi

### **Animesh Ray**

1. Panel discussion, Vaishwik Bharatiya Vaigyanik (VaiBhaV) Summit Session on AMR (panel discussion), 17 October 2020, Faridabad, Haryana, online
2. Management of COVID, West Bengal Doctor's associations, 8 November 2020, West Bengal, Kolkata, virtual meeting
3. Post Covid Cough Management, AP Covinar, 10 November 2020, Andhra Pradesh, virtual meeting
4. Post-COVID syndrome (thromboembolic, multisystem disease, neurological complications etc, 3rd Annual Conference 'FeFCon 2020'- Virtual Conference', 22 November 2020, Delhi, virtual meeting
5. Pulmonary Manifestation in HIV, Virtual-World AIDS Day Symposium 2020, 1 December 2020, Manipal, virtual meeting
6. Stem cell therapy in emphysema, "75th National Conference of Tuberculosis and Chest Diseases" (NATCON 2020 VIRTUAL CONFERENCE), 18 -20 December 2020, Indore, MP, virtual meeting

7. Future Leaders Mentoring Program Tutors, International Conference Workshop on Lung health (as speaker/ Faculty), 13-16
8. January 2021, Boulevard d'Italie, MONACO- Virtual
9. Topic "Approach to and Interpretation of PFT in OSCE" Topic "Airway clearance techniques for Bronchiectasis" NAPCON 2020" (VIRTUAL CONFERENCE) 22nd Joint National Conference of NCCP (India) and ICS (workshop and lecture), 27 January 2021, Hyderabad, Virtual

#### **Prayas Sethi**

1. COVID 19- Scientific and Medical facts, UGC-Human Resource Development Centre, Guru Nanak Dev University, Amritsar, 26 September 2020, Online
2. SEPSIS and MODS: Pathogenesis, Chettinad Academy of Research and Education, 30 September 2020, Online
3. Rational use of Medicines, UGC-Human Resource Development Centre, Guru Nanak Dev University, Amritsar, 23 February 2021, Online
4. NIV: Equipment and Settings, E-APICON, 4 March 2021, Online

#### **Ved Prakash Meena**

1. Post COVID Pulmonary Fibrosis, AP- COVINar, 10 November 2020, Andhra Pradesh, Virtual

#### **List of oral papers/posters presented: 4**

1. Ray A, Batra G, Singh K, Wig N. Seroprevalence of anti-SARS-CoV-2 IgG antibodies in hospitalised patients at a tertiary referral center in North India, ECCVID-ESCMID Conference on Coronavirus Disease, 23–25 September 2020, Basel Switzerland, Virtual Meeting 2020, Online
2. Ray A, Manikanta J, Vyas S, Gabra P, Soneja M, Wig N, Kabra SK. An open label randomised controlled trial comparing nebulised amphotericin B with oral itraconazole in patients with, ERS International Virtual Congress 2020, 7–9 September 2020, Lausanne, Switzerland Virtual Congress, Online
3. Ray A, Manikanta J, Vyas S, Gabra P, Sinha S, Sethi P, Prakash V, Xess I, Singh G, Soneja M, Wig N, Kabra SK. Nebulised amphotericin b versus oral itraconazole in pulmonary aspergilloma: A Parallel group randomised controlled trial, American College of Chest Physicians (CHEST) Annual Meeting 2020, 18–21 October 2020, Patriot Boulevard Glenview, Illinois, Virtual Meeting 2020, Online
4. Ray A, Vyas S, Sinha S, Wig N. A study on the diagnostic accuracy of CT parameters for identification of recurrence of tuberculosis in post-tubercular bronchiectasis patients, 4th World Bronchiectasis and NTM Conference" (VIRTUAL CONFERENCE), 16-19 December 2020, Boulevard d'Italie, MONACO, Virtual meeting

### **RESEARCH**

#### **Funded projects**

##### **Ongoing**

1. A randomized controlled trial of 6 months yogic exercise vs regular physical activity on body composition, multiple metabolic measures in North India individuals with non-alcoholic fatty liver disease and obesity, NK Vikram, DST, 3 years, June 2019-2022, Rs 96,39,720
2. A study on pulmonary microbiome and metabolomics in patients with chronic pulmonary aspergillosis, Animesh Ray, AIIMS, 1 year, 2020-2021, Rs 9,98,168
3. A study on the effects of simulation on resident doctors and nurse's knowledge and skills about basic and advanced life support, Upendra Baitha, Intramural project sanctioned by AIIMS, New Delhi, 2 years, 2018-2020, Rs 5 lakhs
4. An international randomised trial of additional treatments for COVID-19 in hospitalised patients who are all receiving the local standard of care (Solidarity Trial), Manish Soneja, WHO-ICMR, 6 months, 2020-2021, Rs 4,11,000
5. Association of antimalarial antibody levels and patient outcomes in corona virus disease COVID-19 infection, Prayas Sethi, Fast track COVID intramural grant (AIIMS), 1 year, 2020-2021, Rs 2,83,960
6. Clinical and cytokine profile of acute febrile illness patients with multi-organ dysfunction presenting with and without shock: A prospective observational study, Ranveer Singh Jadon, AIIMS Intramural Grant, 1 Year (extended), 2019-2021, Rs 2 lakhs
7. Clinical and Socio-demographic Profile of COVID-19 Patients at AIIMS, New Delhi, Upendra Baitha, Intramural project sanctioned by AIIMS, New Delhi, 2 years, 2020-2022, Rs 5 lakhs
8. Clinical Predictor of Severity among COVID-19 Cases, Pankaj Jorwal, AIIMS, 2 years, 2020-2021, Rs 10 lakhs
9. "COVID-19 Survivors: Short Term and Long Term Complications", Ashutosh Biswas, AIIMS, 2 years, 2020-2022, Rs 10 lakhs

10. Development and evaluation of a women centric comprehensive weight management module, Piyush Ranjan, DST, 2 years, 2020-2022, Rs 34,28,560
11. Development and Evaluation of a Yoga based intervention program to deal with the psychological distress among family members of the healthcare workers engaged in the management of COVID-19 patients. Piyush Ranjan, DST SATYAM, 1 year, 2021-2022, Rs 9,78,306
12. Development of Multidimensional scale and study of psychosocial and behavioural impacts during COVID-19 pandemic among different population groups in India, Piyush Ranjan, AIIMS Intramural Research, 1 year, 2020-2021, Rs 6.21 lakhs
13. Effect of probiotics on gut microbiome and clinical course in patients with critical care illnesses-a pilot study, Animesh Ray, Funded by ICMR, 2 years, 2019-2021, Rs 35,33,234
14. Efficacy of LD Bio Aspergillus ICT Lateral flow assay for serodiagnosis of Chronic pulmonary aspergillosis, Animesh Ray, Pvt. Company (Jolly Healthcare), 6 months, 2021-2021, Rs 2,49,700
15. FTIR based ultrafast detection and assessment of COVID-19 viral load, Piyush Ranjan, SERB, 3 years, 2020-2023, Rs 5,67,000
16. Functional analysis of human CD8 T cell response induced during dengue disease, Naveet Wig, DBT, 3 years, 2019-2022, Rs 25,18,800
17. Initiating antimicrobial stewardship activities in hospitals in India, Naveet Wig, ICMR, 2 years, 2019-2021, Rs 10 lakhs
18. Mechanism of rapid propagation of dengue virus during infection”, NK Vikram, DBT, 3 years, 2018-2021, Rs 20 lakhs
19. Need-based vs guidelines-based fluid administration in dengue patients with warning sign: Open-label randomised study, Manish Soneja, ICMR, 3 years, 2019-2022, Rs 57 lakhs
20. New Bio therapeutic Approaches to the Treatment of Tuberculosis. Funded by. (A collaborative project between NIPER, Mohali and AIIMS). Year 2016. Role: Principal Investigator, AIIMS, Sanjeev Sinha, Department of Pharmaceuticals, Government of India, 5 years (Got 2 years extension), Starting year-2015, Rs 1,17,000,00
21. Paradoxical reaction in lymph node tuberculosis among non HIV subjects–Clinical implications and Outcome, Pankaj Jorwal RNTCP, 2 years, 2019-2021, Rs 1,90,000
22. Post-mortem minimally invasive tissue sampling in patients of COVID-19 with histopathologic examination, Animesh Ray, AIIMS, 1 year, 2020-2021, Rs 8,53,600
23. Prevention of Relapse in Category I Treated Pulmonary Tuberculosis Patients with and Without Vitamin D3 Supplementation: A Randomised Double Blind Control Clinical Trial. (Multicentric project having 3 sites from all over country. AIIMS, New Delhi is LRI), Sanjeev Sinha, DHR, ICMR, 5 years (Got 2 years extension), Starting year-2016, Rs 2 lakhs
24. Randomised controlled trial to compare the impact of exercise and nutritional interventions on muscle functional improvement and changes in skeletal mass in obese patients with sarcopenia, NK Vikram, ICMR, 3 years, August 2019-2022, Rs 83,01,698
25. Role of biomarkers and its utility in algorithm for early diagnosis of invasive fungal infections, Manish Soneja, AIIMS, 3 years, 2018-2021, Rs 10 lakhs
26. Safety and efficacy of HCQ chemoprophylaxis for COVID-19 among healthcare workers, Manish Soneja, AIIMS, 1 year, 2020-2021, Rs 2,50,000
27. Sarcopenia in People living with HIV and AIDS (PLHIV) population: Clinical and Laboratory correlates and the effect of resistance training exercises, Prayas Sethi, ICMR, 3 years, 2021-2024, Rs 9,66,000/- for first year
28. Sero-prevalence of COVID-19 in hospitalised patients, Animesh Ray, AIIMS, 1 year, 2020-2021, Rs 75,000
29. To compare the effect of Intermittent fasting and Continuous energy restriction on body composition, multiple metabolic and physiological parameters in obese adults, NK Vikram, ICMR, 2 years, February 2021-2023, Rs 53,16,985
30. To evaluate efficacy of Bacillus Calmette-Guerin (BCG) in Reducing the Incidence and severity of COVID-19 in the high-risk population (BRIC): A phase III, Multicentric, Quadruple blind Randomised controlled trial, Sanjeev Sinha from AIIMS, ICMR, 2 years, Starting year-2020, Rs 2 lakhs
31. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population: Single blind, Randomised controlled trial, Arvindkumar, ICMR New Delhi, 3 years, 2019-2022, Rs 50 lakhs
32. Translational Research Consortium for Establishing Platform Technologies to Support Prophylactic and Therapeutic Strategies for Dengue – Discovery to Proof-of-Concept, Naveet Wig, BIRAC, 4 years, 2019-2023, Rs 33,56,908

### **Completed**

1. A Study comparing nebulised amphotericin b with oral itraconazole for treatment of chronic cavitary pulmonary aspergillosis patients". (Funded by AIIMS), Animesh Ray, AIIMS Intramural Grant, 2 years, 2018-2020, Rs 4,60,000
2. Consumption pattern of food and food products/items high in fat, salt and sugar among selected cities/towns and rural population of India, NK Vikram, ICMR, 15 months, 2018-2020, Rs 62,59,700
3. The pattern of invasive fungal infections in high risk patients in medical ICU at AIIMS, New Delhi", Pankaj Jorwal, Intramural, 2 years, 2016-2018, Rs 5 lakhs
4. To study the effect of mobile phones on well-being, sleep and cognitive function.(Multicentric project having 3 sites from all over country. AIIMS, New Delhi is LRI), Sanjeev Sinha, DST, 5 years, 2015-2020,

### **Departmental projects**

#### **Ongoing**

1. A comparative study on lung ultrasound based PEEP titration Vs FiO<sub>2</sub> based PEEP titration in patients with acute respiratory distress syndrome: A two year prospective randomized study at a tertiary hospital in New Delhi
2. A cross sectional study to determine the cause of death in adult using minimally invasive tissue sampling (MITS).
3. A cross-sectional study to develop reference equations for prediction and validating respiratory impedance parameters of healthy Indian Adults in North India
4. A prospective observational study to determine clinical profile & outcome of ventilator associated pneumonia due to Multi-drug Resistant (MDR) & Extensively Drug resistant (XDR) gram negative bacteria
5. A Prospective Observational Study to determine the utility of Modified Shock Index for the diagnosis of septic shock.
6. Active Surveillance and Targeted intervention on Hospital infection Control Practices and its impact on Ventilator Associated Pneumonia rates in medical ICU
7. Anti Tubercular Drug Induced Liver injury in patients with Fatty Liver
8. Antibody response among healthcare workers recovered from COVID 19.
9. Anti-tubercular therapy induced liver injury in patients with type 2 diabetes mellitus prospective cohort study
10. Assessment of body composition and metabolic profile of young health care providers
11. Assessment of sarcopenia in HIV population
12. Association of Pneumocystis jirovecii infection in bronchiectasis and its effect on clinical characteristics and disease progression
13. Candida auris: Infection, Colonization and Risk of Transmission in Healthcare Setting.
14. Clinical profile and outcome of patients intubated in view of altered sensorium in medicine ward and ICU.
15. Clinico-etiological profile and outcome of patient of fever of unknown origin at a tertiary care center
16. Dyslipidemia -A cardiovascular risk factor in HIV-AIDS patients
17. Effect of probiotics on whole gut microbiome in patients with critical care illnesses
18. Impact of upper body exercise on body composition and weight in obese patients with knee osteoarthritis
19. Incidence and outcome of ventilator associated pneumonia among adults: A Prospective observational study
20. Incidence, outcome and predictors of paradoxical reaction in HIV negative lymph node tuberculosis
21. Invasive Fungal Infections and role of Biomarkers and molecular approaches in early diagnosis
22. Lung function impairment and radiological sequelae post pulmonary tuberculosis: A systematic review
23. Prediction of ventilator associated pneumonia using artificial intelligence based decision support system
24. Predictor of HIV sero- discordance among couple. A Retrospective Study.
25. Role of Gene Xpert ULTRA in Diagnosis of Tubercular Meningitis.
26. Role of serum ca-125 level in diagnosis and monitoring of treatment response in pulmonary and extra-pulmonary tuberculosis
27. Study of brain volume and cognitive assessment in patients with NAFLD
28. Thromboelastographic abnormalities and correlation with bleeding manifestations in dengue fever
29. Utility of PET Scan in HIV encephalopathy
30. Utility of serum ferritin in dengue fever

### **Completed**

1. A Study comparing nebulised amphotericin B with oral itraconazole for treatment of chronic cavitary pulmonary aspergillosis patients attending a tertiary care hospital
2. Association of lean mass, muscle strength and physical performance with diabetes and metabolic parameters
3. Catheter-associated urinary tract infection (cauti) – a prospective observational study
4. Clinical and etiological profile of patients with eosinophilia
5. Clinical, radiological and functional correlation in treated pulmonary tuberculosis sequel patients
6. Comparison between Obese and Non-obese Individuals with Non-alcoholic Fatty Liver Disease
7. Determination of secondary attack rate among households of confirmed mild COVID-19 status admitted at a tertiary hospital in North India.
8. Effectiveness of Isoniazid Preventive Therapy for tuberculosis among retro positive individuals
9. Effects of implementation of evidence-based practices in the care of patients on mechanical ventilation: a quasi-experimental study”
10. Evaluation of commonly used bedside early warning scores in patients with suspected infection for Prediction of outcome
11. Evaluation of loop mediated isothermal amplification (tb-lamp) assay in the diagnosis of tuberculosis meningitis
12. Expression of immune exhaustion markers in pulmonary tuberculosis”
13. Functioning of Institutional COVID-19 Screening OPD and Central Sampling Team during pandemic at a Tertiary care Centre
14. Predictors of severe dengue and development of a scoring system for severity
15. Role of impulse Oscillometry (IOS) in the evaluation of newly diagnosed cases of interstitial lung disease
16. Utility of gene-xpert in diagnosis, clinico-radiological profile and outcomes of urinary tract tb

### **Collaborative projects**

#### **Ongoing**

1. A 26 week randomised open label parallel group comparison of SAR 341402 mix 70/30 to NovoMix® 30 in adult patients with diabetes mellitus using pre-mix insulin analogs, Endocrinology and Metabolism.
2. A randomised 24 week controlled open label parallel arm multicentered study comparing the efficacy and safety of the insulin glargine/lixisenatide fixed ratio combination to insulin glargine in T2DM patients, inadequately controlled on basal insulin with or without metformin, Endocrinology and Metabolism.
3. A randomised double blind placebo control parallel group multicentered study to demonstrate the effects of Sotagliflozin on cardiovascular risk and renal events in patients with T2DM cardiovascular risk factor and moderately impaired renal function, Endocrinology and Metabolism.
4. A Randomised Placebo Controlled Prospective Phase II Clinical Study of an Ayurvedic Coded Drug ‘AYUSH-D’ on Glycaemic control in Pre-Diabetic Subjects”, Endocrinology and Metabolism.
5. A randomised double blind placebo controlled parallel group multicentered study to evaluate the effect of EFPEGLENATIDE on cardiovascular outcomes in T2DM patients at high cardiovascular risk, Endocrinology and Metabolism.
6. A Randomised Placebo Controlled Prospective Phase II Clinical Study of an Ayurvedic Coded Drug ‘AYUSH-D’ on Glycaemic control in T2DM with metformin as add on therapy Subjects”, Endocrinology and Metabolism.
7. Effect and safety of semaglutide 2.4 mg once-weekly in subjects with overweight or obesity and type 2 diabetes, Endocrinology and Metabolism.

### **PUBLICATIONS**

**Journals: 100**

**Abstracts: 1**

**Books and monographs: 1**

### **PATIENT CARE**

#### **Medical OPD**

Total cases 22974 (including tele OPD)

#### **Infectious Diseases, Travel Health and Adult Immunization Clinic**

Total Cases 300 (including tele OPD)



**Sleep Clinic**

Total Cases 51

**Chest Clinic**

Total cases 260 (including tele OPD)

**Obesity and Metabolic Disorders Clinic**

Total cases 87 (including tele OPD)

**Antiretroviral (ART) Centre**

Pre-ART 433

ART 407

**Laboratories:****POCT Lab:**

PCT 3504

Pro BNP 1868

Trop I 1907

ABG 25641

Blood Culture 3025

ROTEM 131

**Sleep lab:**

Sleep studies 52

Ambulatory monitoring of blood pressure 08

**PFT Lab:**

Pulmonary Function Test 428

6 Minute walk test 90

FOT 48

**Number of Bronchoscopy done:**

Bronchoalveolar (BAL) 78

Biopsy 17

Transbronchial needle Aspiration (TBNA) 27

EBUS 6

Tracheostomy 1

**ADA/ACE Lab:**

ACE tests 340

**Intermediate Reference Laboratory (IRL) services:**

No. of samples for sputum smear- 13299

No. of samples for liquid culture- 9972

No. of samples for liquid DST (1st line) 113

No. of samples for liquid DST (2nd line) 201

No. of samples for Line Probe Assay(1st line LPA) 5683

No. of samples for Line Probe Assay(2nd LPA) 718

No. of samples for Gene/Xpert 4835

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Naveet Wig** is Chairperson of COVID-19 Task Force and Chairman Medical Board at AIIMS, New Delhi; member of National Task Force on COVID-19, Clinical Research Group (ICMR) on COVID-19; Nodal Officer, WHO Collaborating Centre for Training and Research in Tuberculosis; Chairman, National Technical Working Group on TB – comorbidities; Chairman Expert Committee, DHR – ICMR for funded workshop on clinical training and translational research; Co-chair, Standing Treatment Guidelines (Medicine), ICMR; Member, Governing Body of All India Institute of Ayurveda; Member of Scientific Body of Indian Pharmacopoeia Commission; Member of ICMR Technical Resource Group on HIV/AIDS and member of HIV/AIDS Project Review Committee (PRC) of ICMR.

**Professor Ashutosh Biswas** was nominated as Reviewer of WHO Dengue Bulletin; He played a key role as an expert in preparing National Guideline on Dengue and COVID-19 Co-infection Management during Covid-19 Pandemic, National Vector Borne Disease Control Programme, Ministry of Health and Family Welfare, Govt. of India; Through an international process of screening was selected as a member of council of International Society of Infectious Diseases (ISID, HQ. USA) for 5 years; Expert member of UPSC, New Delhi to assist the commission in Personality Test Board for the Combined Medical Services Examination, 2021 at UPSC, Dholpur House, Shahjahan Road, New Delhi-8 February 2021; Member of the Board of Examiner appointed by Jawaharlal Institute of Postgraduate Medical Education and Research Puducherry for adjudicating the PhD thesis, January 2021; Expert in the panel of standing selection committee of AIIMS, Bhopal(MP) as virtual interview for recruitment of faculty in the Department of General Medicine on 3 December 2020; External Examiner of Ch. Charan Singh University, Meerut(UP) for Practical examination in General Medicine for BDS III year, at ITS Centre for Dental Studies and Research, Murad Nagar, Ghaziabad(UP) on 27 November 2020; Expert member nominated by AIIMS, Telangana for selection committee for recruitment against faculty post on 28 October 2020. External Expert of IGIMS, Patna (Bihar) as virtually through zoom for the selection for the eligible faculty member in Department of General Medicine for the post of Assistant and Additional Professor on 18 September 2020; External Examiner of University of Delhi, the Board of examination in the discipline of MD (Gen Medicine) to conduct/evaluate the practical/clinical/viva written Annual Examination of MD (Gen Medicine) at Army Hospital (R&R) (Centre of Practical Examination) on 22 July 2020. Nominated as one of the Expert Members of central team by M/o Health and Family welfare (Disaster management Cell), Government of India for Deployment of Central Multi – Disciplinary teams and Central Nodal Officer to investigate and control outbreak of Corona Virus Disease in the Kapurthala, Punjab on 9-13 April 2021.

**Professor Sanjeev Sinha** was member of Association of Physician of India, Indiaclen, National Academy of Medical Sciences (MNAMS), Indian Chest Society, Indian Thyroid Society, American Thoracic Society, International AIDS Society, National Academy of Sciences India (NASI); He was also member of Medical Board Antarctica Expedition, Government of India, Goa, Scientific Committee, NACO, Ministry of Health and FW, Government of India, Health wellness programme, Ministry of Tourism, Government of India. Membership of Editorial boards of indexed international journals/Review committees of National bodies and Institutions: Member of Editorial board of “Cases Journal”, Review Committee of Journal of Physical Education and Sport Management; Published from South Africa, Review Committee of Journal IJMR and Review Committee of Journal of Current HIV Research, Review Committee of projects funded by DHR, ICMR, Government of India; He is also Member Secretary of AIIMS Ethics Committee of PGR.

**Dr Manish Soneja** was awarded the prestigious Smt Pawan Kumari Jain Oration award by the Association of Physicians of India, Delhi State Chapter; Delivered lectures and participated in discussions for physicians and public on various platforms including CoE, MoHFW, AIIMS CGR, national media including various news channels and newspapers on issues related to COVID pandemic.

**Dr Animesh Ray** was awarded Fellowship in Indian College of Physicians, APICON 2021 and Fellowship in National College of Chest Physician (India) 2020.

**Dr Parul Kodan** was awarded TAE Outstanding Trainee Award 2020 for outstanding trainee in clinical microbiology and infectious diseases; awarded by European Society of Clinical Microbiology and Infectious Diseases -ESCMID.

## 9.20. Microbiology

### Professor and Head

Rama Chaudhry

### Professors

Arti Kapil	Lalit Dar	Bimal K Das
Bijay Ranjan Mirdha	Immaculata Xess	Benu Dhawan
Seema Sood		Urvashi B Singh

### Associate Professors

Sarita Mohapatra	Aashish Choudhary	Gagandeep Singh
Hitender Gautam		Nishant Verma

### Assistant Professors

Kiran Bala	Megha Brijwal	Rajaleen Das
Priyam Batra	Ashima Jain Vidyarthi	Arghya Das

## HIGHLIGHTS

The Department of Microbiology has been at the forefront in fighting the COVID-19 pandemic during the past one year, be it the diagnostic support including RT-PCR and CBNAAT as well as infection control activities. In view of the COVID-19 pandemic, Microbiology Department initiated a new laboratory to offer rapid diagnosis for COVID-19, using CBNAAT/TRUENAT systems. These systems provide diagnosis in 1-1.5 hrs. These services were offered to patients reporting to Emergency Department and those requiring Emergency Interventions. The CBNAAT-COVID laboratory started functioning from May 29, 2020 and started 24 hours services since July 2020. This service not only helped in early triage and isolation of infected patients but also contributed immensely to protection of health care workers. The facility continues to give 24 hours services for the ongoing epidemic.

The Department of Microbiology, which is an essential component of health care services, contributed significantly towards patient care. During this year it carried out a total of 2,89,009 diagnostic tests which include 72,285 RT-PCR and 46,422 CBNAAT for COVID-19. A number of faculty members are members of the Hospital Infection Control Committee and have been involved in training the entire staff of the institute for prevention and control of COVID-19. They have also prepared a couple of documents related to infection prevention and control guidelines which serve as ready references to all our healthcare workers. The past year has been unique in terms of innovations for teaching for all of us. The curriculum of the undergraduate and postgraduate students enrolled in MBBS, MD, DM, PhD and BSc (Nursing) courses was managed online. The online mode of teaching was used gainfully to spread information to all across the country by way of webinars. The department successfully organised three webinars under the headship of Dr Rama Chaudhry, HOD and American Society for Microbiology (ASM) country ambassador as a part of the AIIMS-ASM webinar series. The first webinar was jointly organised by AIIMS, New Delhi and SHUATS, Prayagraj on “Combating with the Millennium Pandemic COVID-19” from 2-4 July 2020. The webinar, which was attended by over 1500 participants from across the globe, gave a detailed insight into all the aspects of SARS Coronavirus disease from epidemiology, pathogenesis, clinical presentation to its diagnosis, prevention and treatment. The second webinar entitled “Antibiotic Resistance: Renewed fight” was held on 7 and 8 October 2020 was attended by nearly 500 participants mainly from the Indian subcontinent. The webinar was organised to make all of us cognizant that we should not forget the most important problem of our nation i.e. Antimicrobial Resistance. The webinar discussed the emergence of resistance amongst bacteria as well as fungi and also discussed the various novel therapeutic options such as phages, antimicrobial peptides which are being made available across the globe to combat the problem of AMR. The third webinar entitled “Anaerobes: Microbes of the Millennium” had various national and international faculties and delegates, it was held on 4 and 5 March 2021. The webinar enlightened us about anaerobes which are often very important but neglected pathogens. The webinar stated the role of anaerobes in the various diseases, the various treatment modalities available and the role of gut microbiome and probiotics in health and disease. The Department successfully completed onsite NABL External Assessment and continuation of NABL Accreditation of the Department as per ISO 15189:2012. This highlights the perseverance and sincerity of our entire Microbiology team. This year too, the external inspection committee for Kaya Kalp were immensely satisfied with the level of cleanliness and bio-medical waste management standards being followed.

The Department made a significant contribution in terms of research with 90 publications in indexed national and international journals. Several funded research projects were started or continued during the period, many of which were in collaboration with other departments or institutes. Many award winning oral and poster presentations were made at national and international online conferences. A patent was granted for development of Oligonucleotides (Probes) for XDR-TB (full patent granted in March 2021).

Professor BR Mirdha received prestigious Dr PN Chuttani Oration by National Medical Academy of India in the year 2020.

## NABL Assessment



## NABL Renewal Certificate







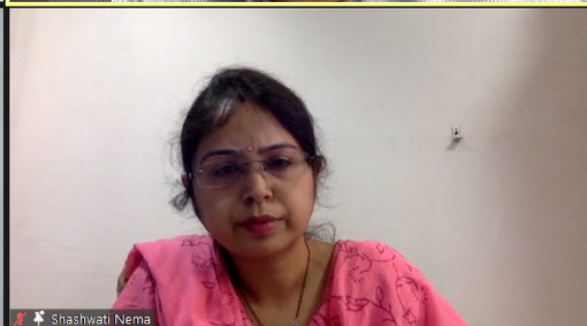
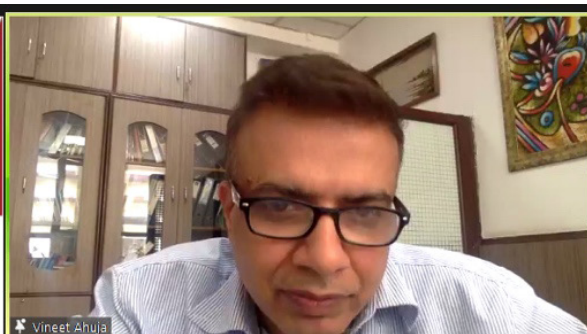
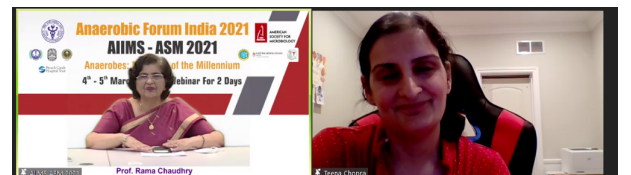
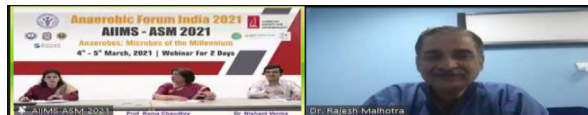
**COVID-19 related Infection Control Activities**



**AIIMS-ASM Conferences**









### **Urvashi B Singh**

1. Role of CBNAAT in Diagnosis of COVID-19, ASM WEBINAR ON COVID-19, 2-4 July 2020, 3 July 2020, Delhi/Online
2. Update on Lab diagnosis of Female Genital Tuberculosis, Recent Updates on Management of Female Genital Tuberculosis Organized by South Asian Federation of Gynaecology (SAFOG), 12 February 2021, Delhi/Online
3. Assessing Immunity to COVID-19: Role of Antibody Testing, AIIMS Pulmocrit 2021, 21 March 2021, Delhi/Online

### **Sarita Mohapatra**

1. Challenges in healthcare settings in COVID era, DNACON, 6 February 2020, Online
2. Panel Discussion on COVID impact on spine, cranial and trauma patients workflow, Webinar on “Surgical workflow in COVID era-lessons learned”, 14 August 2020, Online
3. Hospital and Antimicrobial Resistance, World Antimicrobial Awareness Week, 18-24 November 2020, Online

### **Gagandeep Singh**

1. Strategic approach to fungal infections in COVID-19 patients, 12th annual meet of IAMM Delhi Chapter, 28 January 2021, Delhi/Online
2. Utility of TDM in Haematological Setting, Infection update for practicing Haemato-Onco 2021, 21 February 2021, Delhi/Online
3. Disinfection practices in hospital during COVID-19 pandemic, 31st Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF), 21 February 2021, Delhi/Online
4. Epidemic of dermatophytosis in India, MYCOCON 2021, 26-28 March 2021, Chennai/Online
5. Infection control Practices related to COVID-19, AIIMS Staff, Regular intervals, New Delhi

### **Hitender Gautam**

1. COVID Biomedical Waste Management, Cleaning and Disinfection, ASM Webinar, Combating with the Millennium Pandemic COVID-19, 3 July 2020, Delhi/Online
2. Microbiological surveillance – surface, air sample, Career Accelerator Programme on Health Care Quality (CAP-HCQ) for Bihar Government. Online session in Administrative Staff College of India, Hyderabad ASCI Hyderabad, 17 January 2021, Hyderabad/Online
3. Monitoring of HIC – hand wash audits, Biomedical waste management audit, Infection control audits, Career Accelerator Programme on Health Care Quality (CAP-HCQ) for Bihar Government. Online session in Administrative Staff College of India, Hyderabad ASCI Hyderabad, 17 January 2021, Hyderabad/Online

### **Nishant Verma**

1. PPE and their reuse, AIIMS-ASM 2020 – Antibiotic resistance: renewed fight, 7 - 8 October 2020, Delhi/Online

### **Megha Brijwal**

1. Effects of SARS-CoV-2 on the human body, Practice of cardiac anaesthesia nearly a year into the pandemic: Challenges, insights and the way forward: West Bengal Association of Cardiothoracic and Vascular Anaesthesiologists (WB-ACTVA), 2 January 2021, Online

### **Oral papers/posters presented: 24**

1. Ahmed NH, Xess I, Singh G, Sharma N, Aggarwal T, Chawla R, et al., Rhodotorula species; an emerging pathogen in ocular infections, MYCOCON 2021, 26-28 March 2021, Chennai/Online
2. Batra P, Khullar S, Vinayraj EV, Saikiran KVP, Ahmed J, Baidya DK, et al., Diagnostic dilemma of leptospirosis in COVID-19 times, CIDSCON 2020, 21 November 2020, Delhi/Online
3. Bir R, Gautam H, Arif N, Tyagi S, Mohapatra S, Sood S, et al., Molecular insights with whole genome sequencing in carbapenem colistin resistant XDR *Klebsiella pneumoniae* with comparison of different colistin susceptibility testing methods, Virtual Micro-D CON 12th Annual Conference, 19 January 2021, Delhi/Online
4. Bir R, Gautam H, Arif N, Tyagi S, Mohapatra S, Sood S, et al.<sup>1</sup>, Colistin susceptibility Testing and mcr-1 detection for Carbapenem-Resistant Enterobacteriales: Comparison of four phenotypic tests with Broth Microdilution, AIIMS-ASM 2020, Antibiotic Resistance: Renewed Fight, 7-8 October 2020, Delhi/Online
5. Bir R, Mohapatra S, Kumar A, Arif N, Tyagi S, Ashwin Pius AK, et al., In-vitro susceptibility of Fosfomycin to drug-resistant uropathogens and evaluation of its performance by various susceptibility testing methods, AIIMS-ASM 2020, Antibiotic Resistance: Renewed Fight, 7-8 October 2020, Delhi/Online
6. Biswas J, Gautam H, Raza S, Jahan F, Mohapatra S, Sood S, et al, Eravacycline & Tigecycline susceptibility in XDR & MDR *Acinetobacter baumannii*: molecular detection of RND- efflux pump resistance mechanism & effect of efflux pump inhibitor, Virtual Micro-D CON 12th Annual conference, 19 January 2021, Delhi/Online
7. Biswas J, Gautam H, Tyagi S, Maheshwari B, Mohapatra S, Dhawan B, et al., Detection of mcr-1 gene among colistin resistant *E.coli* from stool samples, AIIMS ASM 2020, Antibiotic Resistance: Renewed Fight, 7-8 October 2020, Delhi/Online



8. Chakraborty S, Mohapatra S, Kumar A, Jadon RS, Nayak B, Soneja M, et al., Clinico-microbiological profile & outcome with patients of Urosepsis, AIIMS-ASM 2020, Antibiotic Resistance: Renewed Fight, 7-8 October 2020, Delhi/Online
9. Khullar S, Gautam H, Choudhary AH, Das BK, Satpathy S, Kapil A., Evaluation of hospital environmental cleaning and disinfection practices by Adenosine Triphosphate (ATP) bioluminescence based assay during COVID-19 times , AIIMS ASM 2020, Antibiotic Resistance: Renewed Fight, 7-8 October 2020, Delhi/Online
10. Khullar S, Khan R, Hasan F, Sagar T, Chaudhry R, Khanna N, Microbial Spectrum and antibiotic resistance profile of Cutibacterium species in acne vulgaris patients from a tertiary care centre in India, AIIMS-ASM 2020, Antibiotic resistance; Renewed Fight, 7-8 October 2020, New Delhi/India
11. Kumari S, Bala K, Rabia, Sagar P, Thakkar A, Sharma SC, et al, Tuberculosis and Non-tubercular Mycobacterial infections of Head and Neck: A Case Series, IAMM E - Microcon Virtual 2020, 8-11 December 2020, Delhi/Online
12. Maheshwari B, Gautam H, Raza MS, Mohapatra S, Sood S, Dhawan B, et al.<sup>3</sup>, Detection of Aminoglycosides Modifying Enzymes (AMEs) genes and Mutation in *Acinetobacter baumannii* isolates along with efflux pump activity., IAMM E - Microcon Virtual 2020, 8-11 December 2020, Delhi/Online
13. Maheshwari B, Gautam H, Raza MS, Tyagi S, Jahan F, Mohapatra S, et al.<sup>2</sup>, Detection of Aminoglycosides Modifying Enzymes (AMEs) genes and mutation in *Acinetobacter baumannii* isolates along with the effect of efflux pump activity on drug susceptibility, 2nd Chapter Virtual Meet of Indian Association of Medical Microbiologists, Delhi Chapter, 11-12 September 2020, Delhi/Online
14. Mohapatra S, Sharma P, Shwetha JV, Sneha KC, Tak V, Panigrahi R, et al.<sup>4</sup>, Antimicrobial resistance pattern of Community-acquired Urinary Tract Infection from different geographical regions of India, FIS/HIS international 2020, 10 November 2020, Edinburgh, Scotland/Online
15. Mohapatra S, Chaudhary S, Kumari R, Sharma P, Sharma P, Pundir S, et al., Identification of virulence and resistance determinants of Uropathogenic *Escherichia coli* among pregnant women with bacteriuria from Community-settings using whole genome sequencing, IAMM E - Microcon Virtual 2020, 8-11 December 2020, Delhi/Online
16. Mohapatra S, Chaudhary S, Kumari R, Sharma P, Sharma P, Pundir S, et al., Comparative evaluation of in-vitro activity of minocycline against multidrug resistant *Acinetobacter baumannii* and *Neisseria gonorrhoeae* using different phenotypic methods, IAMM E - Microcon Virtual 2020, 8-11 December 2020, Delhi/Online
17. Perumulla S, Bala K, Thakkar A, Singh UB., Primary tuberculous skull base osteomyelitis: A rare case report, IAMM E - Microcon Virtual 2020, 8-11 December 2020, Delhi/Online
18. Raj S, Mohapatra S, Gautam H, Sood S, Das BK, Kapil A., Hypervirulent *Klebsiella pneumoniae*: An emerging nosocomial threat, FIS/HIS international 2020, 10 November 2020, Edinburgh, Scotland/Online
19. Rathor N, Sachdeva P, Batra P, Mohapatra S, Dey AB, Chaudhary R., The bacteriophage infecting *Pseudomonas luteola* (A rare pathogen): The first report from the world, AIIMS-ASM 2020, Antibiotic Resistance: Renewed Fight, 7-8 October 2020, Delhi/Online
20. Raza S, Gautam H, Maheshwari B, Mohapatra S, Sood S, Dhawan B, et al., Detection of RND-efflux pump genes and Mutation in clinical isolates of *Acinetobacter baumannii* along with the effect of Efflux pump inhibitor Carbonyl-cyanide m-chlorophenyl hydrazone, AIIMS ASM 2020, Antibiotic Resistance: Renewed Fight, 7-8 October 2020, Delhi/Online
21. Samanta P, Bamola V D, Malhotra P, Chaudhry R., Proteomic analysis of surface associated proteins of indigenous intestinal *Lactobacilli* and evaluation of their immune-modulatory properties, 5th biennial conference of PAI and international symposium entitled Probiotics and Immunity: way forward to microbial therapy, 19-20 November 2020, Karnal, India
22. Samanta P, Bamola VD, Das BK, Malhotra P, Chattopadaya P, Chaudhry R., Assessment of Immunomodulatory properties of indigenous *Lactobacillus acidophilus* and its Peptidoglycan and surface proteins against *Salmonella* Typhimurium, 11th India probiotic symposium entitled Role of gut microbiota and probiotics in reducing viral infections- mechanisms to combat them, 13-14 March 2021, New Delhi, India
23. Sreenath K, Chaudhry R., Detection, antimicrobial susceptibility, and identification of virulence genes in *Legionella pneumophila* from water systems of a health care facility in India, AIIMS-ASM 2020, Antibiotic Resistance: Renewed Fight, 7-8 October 2020, Delhi/Online
24. Yadav VS, Bala K, Singh UB, Difficult to diagnose TB meningitis aided by rapid culture and drug susceptibility testing, IAMM E - Microcon Virtual 2020, 8-11 December 2020, Delhi/Online

## RESEARCH

### Funded projects

#### Ongoing

1. A detail study to understand the non-putrefying property of river Ganga in both water and sediment, ICMR., Rama Chaudhry, MoWR and ICMR, 4 years, 2017–2020, Rs 70 lakhs
2. A multi-centric observational study to examine replicative fitness and pathogenic properties of the emerging new viral strains of HIV-1 in India, Bimal Kr Das, DBT, 6 years 6 months, 2014-2021, Rs 79 lakhs

3. A multi-centric, prospective, community-based cohort study to estimate the incidence of dengue infection in India (INDEN study), Aashish Choudhary, ICMR, 2 years, 2020-2022, Rs 38 lakhs
4. A prospective study of viral infections in hematopoietic stem cell transplant recipients at a tertiary care hospital in India, Megha Brijwal, ICMR, 3 years, 2019-22, Rs 45 lakhs
5. A Study of the Ecology, Evolution and Resistance mechanisms of *Candida auris*, Immaculata Xess, DST, 3 years, 2019-2022, Rs 32 lakhs
6. A study to assess the effect of a probiotic strains (*Bacillus clausii*) on gut microbiota and mucosal immunity in Inflammatory Bowel Disease (Ulcerative Colitis / Crohn's disease), Rama Chaudhry, Unique Biotech, 4 years, 2017-2021, Rs 70 lakhs
7. Active surface modification strategies to inhibit biofilm formation and bacterial infections, Sarita Mohapatra, AIIMS-IIT, 2 years, 2019-2021, Rs 20 lakhs
8. Nodal Center for National surveillance of Antimicrobial resistance- 2018-2023 ICMR, New Delhi. Arti Kapil, Rs 50 lakhs in 2nd year
9. Bacteriophage endolysins: An alternative strategy for MDR Acinetobacterspp, Rama Chaudhry, ICMR, 3 years, 2020-2023, Rs 43 lakhs
10. Biomarkers for bacteremia, antimicrobial resistance and hospital acquired infections by NMR and Mass Spectrometry among febrile neutropenic patients", Hitender Gautam, BIRAC- DBT, 2.5 years, 2019-2021, Rs 36.5 lakhs
11. Clinical and Epidemiological study of Lyme disease: A multi-centric task force study in India (Indian Council of Medical Research (ICMR) a multi-centric task force study), Dr Rama Chaudhry, ICMR, 3 years, 2020-2022, Rs 90 lakhs
12. Comparison of conventional and molecular tests for the diagnosis of herpes zoster, Aashish Choudhary, AIIMS, New Delhi (MBBS Mentorship program), 1 year, 2020-2021, Rs 2 lakhs
13. Crohn's Disease in India: A multicentre study from country where intestinal tuberculosis as well as Johne's disease in endemic, Urvashi B Singh , DHR, 3 years, 2016-2021, Rs 500 lakhs
14. Detection and genotyping of BK polyomavirus in renal transplant recipients, Megha Brijwal, AIIMS, New Delhi, 2 years, 2018-2020, Rs 9 lakhs
15. Development of Novel Method for Rapid Pathogen Culture to Facilitate their Identification and Antimicrobial Susceptibility Testing, Arti Kapil, THSTI, DBT and AIIMS, New Delhi, 2 years, 2019-2021, Rs 10 Lakhs
16. Development of super hydrophobic catheters to inhibit bacterial and yeast growth, Sarita Mohapatra, AIIMS-IIT, 2 years, 2019-2021, Rs 20 lakhs
17. Diagnosis of Pulmonary and Extra Pulmonary Tuberculosis Patients Using Differently Expressed Proteins as Potential Biomarkers. Approach towards Development of Point of Care Test, Urvashi B. Singh, ICMR, 3 years, 2018-2021, Rs 60 Lakhs
18. Drug resistance in Fungal infections: Under the Antimicrobial Resistance Surveillance and Research Network (AMRSN), Immaculata Xess, ICMR, Ongoing, 2016-Onwards, Rs 10 lakhs per annum
19. Early Bactericidal Activity (EBA) and Pk/Pd Study of Rifampicin Feropenem Cefdinir with Clavulanate vs Standard of Care in Newly Diagnosed Smear Positive Rifampicin Susceptible TB, Urvashi B Singh, ICMR, 2 years, 2019-2021, Rs 70 lakhs
20. Early Bactericidal Activity (EBA) of Rifampicin and Feropenem in Tuberculosis (Rifampicin Susceptible), Urvashi B Singh, ICMR, 2 years, 2019-2021, Rs 70 lakhs
21. Effectiveness of bundled intervention in surgical site infections among patients undergoing clean orthopedic surgeries with hardware implants: A randomised controlled trial", Benu Dhawan, ICMR, 3 years, 2019-2022, Rs 43 lakhs
22. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Sarita Mohapatra, AIIMS-IIT, 2 years, 2019-2021, Rs 20 lakhs
23. Emerging drug resistance in community acquired urinary tract infection and molecular insights into dynamics of resistant traits in Indian isolates- A pan-India multi-centric cross-sectional study, Sarita Mohapatra, ICMR, 3 years, 2019-2022, Rs 65 lakhs
24. Epidemiological impact and intersection of the COVID-19 and Tuberculosis Pandemics in Brazil, Russia, India and South Africa, Urvashi B Singh, DST, 2 years, 2021-2023, Rs 172 lakhs
25. Evaluating immune mechanism leading to carrier stage in typhoid infection among Indian Population; prospective cohort study, Bimal Kr Das, ICMR, 3 years, 2020-2023, Rs 101 lakhs
26. External Quality Assurance Scheme (EQAS) of National HIV/AIDS Reference Laboratory, AIIMS, Delhi, Bimal Kr Das, NACO, Ongoing, 2005- onwards, Rs 9 lakhs per annum
27. HIV integrated counselling and testing and CD4 testing programme, Bimal Kr Das, NACO, Ongoing, 2005- onwards, Rs 8.5 lakhs per annum
28. Human cytomegalovirus disease in pediatric hematological malignancies, Aashish Choudhary, AIIMS, New Delhi, 2 years, 2019-2021, Rs 10 lakhs
29. Identification of possible co-infections in COVID-19, and its impact on patient outcomes, Rama Chaudhry, AIIMS, 2 years, 2020-2022, Rs 10 Lakhs



30. Implementation of an institutional antifungal stewardship program (AFSP) and its impact on antifungal usage and outcomes in patients with invasive fungal infections, Gagandeep Singh, ICMR, 3 years, 2020-23, Rs 48 lakhs
31. In vitro susceptibility of Plazomicin in clinical isolates of Enterobacteriaceae and its correlation with Aminoglycoside modifying enzyme resistance mechanism., Dr Hitender Gautam, AIIMS, New Delhi, 1year, 2020-2021, Rs 4.82 lakhs
32. Magnitude of asymptomatic malaria infections in pregnant women in a community hospital, Nishant Verma, AIIMS, New Delhi, 1 year, 2018-19 (work continued in this year too), Rs 4.98 lakhs
33. Mapping hotspots of MDR-TB in Assam, Sikkim and Tripura using Genomics approaches, Urvashi B Singh, DBT-NER, 3 years, 2018-2021, Rs 400 lakhs
34. NACO Regional Reference Laboratory for HIV viral load (VL) and early infant diagnosis (EID), Lalit Dar, National AIDS Control Organization (NACO), No fixed duration, 2012-onwards, Rs 11 lakh (per annum) + reagent support
35. National Surveillance System for Enteric Fever in India (NSSEFI)- Tier 3, Arti Kapil, Wellcome Trust, CMC, Vellore, 4 years, 2018-2022, Rs 45 Lakhs
36. National Vector Borne Disease Control Programme Apex Laboratory for Dengue and Chikungunya, Lalit Dar, NVB-DCP, No fixed duration, 2012-onwards, Rs 3 lakhs (per annum) + reagent support
37. National Viral Hepatitis Control Program Surveillance Laboratory Lalit Dar, Ministry of Health and Family Welfare (MoHFW), No fixed duration, 2019-onwards, Approx. Rs 95 lakhs
38. Nodal Center for National surveillance of Antimicrobial resistance- 2018-2023 ICMR, New Delhi.
39. Platform for discovery of novel therapeutic monoclonal antibodies against MDR and XDR *Klebsiellapneumoniae*, Sarita Mohapatra, DBT-BIRAC, 3 years, 2021-2024, Rs 90 lakhs
40. Point of care Urinary Lipoarabinomannan antigen (LAM) detection as a diagnostic tool for Extra-pulmonary tuberculosis, Kiran Bala, AIIMS, New Delhi, 1year, 2020-2021, Rs 4.90 lakhs
41. Prevalence of Histoplasmosis in HIV positive patients, Gagandeep Singh, AIIMS, New Delhi, 2 years, 2017-2019, Rs 6 lakhs
42. Rapid Molecular Drug Resistance Detections for MDR and XDR-TB and Molecular Typing of Mycobacterium Tuberculosis From Ziehl-Neelsen's Stained Microscopic Slides From Delhi State, Urvashi B. Singh, ICMR, 3 years, 2018-2021, Rs 60 lakhs
43. Regional Virus Research and Diagnostic Laboratory (RL-VRDL), Lalit Dar, Department of Health Research (DHR), No fixed duration, 2019-onwards, Approx. Rs 500 lakhs
44. Sero-epidemiological study of Rickettsia and Scrub typhus among patients with acute febrile illness and molecular detection by Real time PCR. DBT Twinning Programme for NER, Rama Chaudhry, DBT, 3 years, 2018-2021, Rs 70 Lakhs
45. Streptococcus pneumoniae and Hemophilus serotype distribution and antibiotic resistance in isolates from pediatric pneumonia cases in Assam, Bimal Kr. Das, DBT, 3 years, 2019-2022, Rs 38 lakhs
46. Studies on halophilic/haloalkaliphilic actinomycetes and bacteria from hyper saline habitat as potential source of antibacterial molecules for drug resistant microbes, Seema Sood, AIIMS-IIT, Rs 2.5 years, 2019-2021, Rs 10 lakhs
47. Study of hyaline non-sporulating moulds isolated from clinical samples of tertiary care respiratory hospital in Delhi, India, Gagandeep Singh, ICMR, 3 years, 2021-2024, Rs 30 lakhs
48. Study of immunopathogenesis and disease dynamics of *Pneumocystis jirovecii* pneumonia (Pneumocystis pneumonia), BR Mirdha, DST-SERB, 3 years, 2018-2021, Rs 44 lakhs
49. Towards point of care test development for Bacterial Vaginosis, a polymicrobial infection, Seema Sood, ICMR, 3 years, 2020-2023, Rs 46 lakhs
50. Whole genome sequencing of the SARS-CoV-2 novel coronavirus strains at a tertiary care center in Delhi, Aashish Choudhary, AIIMS, New Delhi, 1 year, 2020-2021, Rs 11 lakhs

### Completed

1. Halophilic/haloalkaliphilic actinomycetes and bacteria and hypersaline habitat as potential source of antibacterial molecules for drug resistant microbes, Arti Kapil, IIT, Delhi, 2 years, 2018-2020, Rs 10 lakhs
2. Invasive Fungal Infections: Epidemiology, Drug Resistance and Molecular characterization of the clinical and environmental isolates from the hospital, Immaculata Xess, ICMR, 3 years, 2017-2020, Rs 45 lakhs
3. Nano-enabled Biosensor for detection of *Ngonorrhoeae*, Seema Sood, DBT, 3 years, 2016-2019, Rs 50 lakhs
4. Development of an aptamer based detection system for *N. gonorrhoeae*, Seema Sood, DHR, 3.5 years, 2016-2019, Rs 46.5 lakhs
5. Design and validation of point of Care Disposable Sensor Strip for Diagnosis of Tuberculosis from Urine Samples, Urvashi B Singh, DBT, 3 years, 2018-2021, Rs 60 lakhs
6. Validation of Novel Bio- signature for Diagnosis of Active Pulmonary Tuberculosis in Children, Urvashi B. Singh, DBT, 3 years, 2018-2021, Rs 38 lakhs

7. Validation of Indigenously Developed Technologies for Diagnosis of Pediatric Pulmonary Tuberculosis. Multi Centric, Urvashi B Singh, ICMR, 1year, 2018-2019, Rs 125 lakhs
8. Validation of Indigenously Developed Technologies for the Diagnosis of Extra Pulmonary TB. Multi-Centric, Urvashi B Singh, ICMR, 1year, 2018-2019, Rs 125 lakhs
9. Prognostic Value of Serum Markers in Category II Tuberculosis Patients, Urvashi B Singh, Delhi State or Task Force, RNTCP, 1year, 2017-2020, Rs 2 lakhs
10. Utility of Moxifloxacin As Treatment Operational Pre XDR - TB, Dr Urvashi B. Singh, Delhi State or Task Force, RNTCP, 1year, 2017-2020, Rs 2 lakhs
11. Correlation of circulating dengue types with primary and secondary dengue infection in children and adults, Aashish Choudhary, AIIMS Delhi (MBBS Mentorship program), 1year, 2020-2021, Rs 2 lakhs
12. Study of cytokine profile and immune cells in acute and chronic meningitis, Hitender Gautam, AIIMS, New Delhi, 1 year, 2019-2020, Rs 4.95 lakhs
13. Clinical evaluation of viability assays for assessing treatment response in pulmonary tuberculosis, Kiran Bala, AIIMS, New Delhi, 1year, 2018-2019, Rs 4.94 lakhs

## Departmental Projects

### Ongoing

1. A cross-sectional study to determine the cause of death in adults using minimally invasive tissue sampling (MITS).
2. Antibody response among healthcare workers recovered from COVID-19
3. Association of Microbial Pathogens in Oral Infection with Various Systemic Diseases such as Cardio Vascular Disease and Preterm Birth and Effects of Neem Leaf and other Herbal Medicine Extracts on Oral Pathogens (*Texila American University*)
4. Audit for antifungal treatment usage in adults with invasive fungal infections.
5. Azithromycin for poorly controlled Asthma in Children: A randomized controlled trial
6. Clinical and radiological outcomes of revision Joint replacement surgery in periprosthetic joint infections: An ambispective study.
7. Comparison of conventional and molecular techniques for the diagnosis of herpes zoster (shingles)
8. Comparison of diagnostic accuracy of Real time PCR versus Nugent's scoring in Indian women with and without Bacterial Vaginosis (BV)
9. Detection of Parvovirus B19 infection in patients with hematological disorders
10. Development of POCT using Aptamers: *Neisseria gonorrhoeae* as a prototype
11. Effect of probiotic and trans cranial magnetic stimulation on cognitive and motor function in 6 hydroxy dopamine rat model of Parkinson's disease
12. Frequency and genetic characterization of *Mycoplasma pneumoniae* and *Pneumocystis jirovecii* in immunocompromised patients.
13. Human cytomegalovirus (HCMV) disease in pediatric leukemias (ALL and AML)
14. Identification and antimicrobial susceptibility pattern of hypervirulent *Klebsiella pneumoniae* in clinical specimens.
15. Identification and antimicrobial susceptibility pattern of hypervirulent *Klebsiella pneumoniae*
16. Identification and characterization of cryptic species of *Aspergillus* isolated from clinical samples.
17. In vitro evaluation of alternate antimicrobial combinations for *Neisseria gonorrhoeae*
18. In vitro susceptibility of Cefiderocol against carbapenem-resistant gram-negative bacilli from patients with blood stream infection/sepsis, urinary tract infection or pneumonia
19. In vitro susceptibility of Eravacycline v/s Tigecycline in clinical isolates of XDR *Acinetobacter baumannii* and study of resistance mechanisms
20. Incidence and determinants of outcome of neutropenic enterocolitis in Paediatric cancer patients
21. Incidence and Impact of Gut Colonization by Multi-Drug Resistant Bacteria in Patients receiving Standard Induction Chemotherapy for AML or Conditioning for Autologous HSCT
22. Incidence, risk factors and complications of venous thrombosis associated with central venous catheters.
23. Isolation and Characterization of bacteriophages against *Acinetobacter baumannii* clinical isolates
24. Isolation and identification of bacteriophages against MDR bacterial strains
25. Microbiological follow up and genotypic investigation of close contacts of MDR-TB patients.
26. Multiplex PCR assay for diagnosis of malaria and molecular detection of chloroquine resistance in *Pvivax*
27. Occurrence of *Chlamydia trachomatis*, *Ureaplasma urealyticum*, *Mycoplasma hominis* and *Mycoplasma genitalium* in patients with sterile pyuria.
28. Prevalence of parasitic infections in patients with eosinophilia in a tertiary care hospital in North India
29. Profile of vaginal and placental microbial flora in antenatal women
30. Rapid electrochemical detection of MRSA and azithromycin-resistant NG: A Novel strategy
31. Role of aptamer technology in detection of Bacterial Vaginosis (BV) associated bacteria
32. To assess the vaginal microbial flora and colonization of placenta in antenatal patients

## Completed

1. BK and JC polyomavirus detection in patients with allogenic hematopoietic stem cell transplant
2. Characterization of lactobacillus strains and assessment of their immunomodulatory effects
3. Clinico-Microbiological Profile and Outcome of Urosepsis – A Prospective Study In A Tertiary Care Hospital In North India
4. Determination of acute bacterial meningitis aetiology in children by multiplex PCR and virulence markers of *S. pneumoniae* (*Stopped at One Year as it was under ICMR SRF Fellowship and the student left the fellowship*)
5. Etiological Agents in Ventilator Associated pneumonia with special emphasis on Atypical organisms
6. Impact of Hepatitis C treatment on long term outcomes of renal allograft recipients in Indian setting
7. Metabolomic profile in childhood intra-thoracic tuberculosis
8. Molecular detection and characterization of tick-borne Lyme Borreliosis, Human Monocytic Ehrlichiosis and Human Granulocytic Anaplasmosis
9. Molecular detection and characterization of Rickettsiaeae **among patients with acute febrile illness**
10. Molecular detection of Legionella pneumophila by real time PCR and characterization of isolates by sequence-based typing
11. Staphylococcus aureus colonization in HIV infected patients: incidence, risk factors and subsequent skin and soft tissue infections.
12. Study of bacterial infections in a cohort of patients clinically diagnosed of *Pneumocystis jirovecii* pneumonia (PjP)/ Pneumocystis pneumonia (PCP) and its impact on outcome of the disease
13. Study of *Pneumocystis jirovecii* as an etiology of bronchiectasis and its effect on disease progression.
14. Utility of 99m-TcUbiquinidin in differentiation of infective and non-infective lesions

## Collaborative Projects

### Ongoing

1. A phase IIB Open label randomized trial to evaluate the anti-bacterial activity, pharmacokinetics, safety and tolerability of metformin when given along with rifampicin, isoniazid, pyrazinamide and ethambutol in adults with newly diagnosed sputum positive pulmonary tuberculosis: An 8-week study Funded by ICMR, New Delhi; 2018-19., Pulmonary, Critical Care and Sleep Medicine
2. A Phase-IV, double blind, comparative, prospective, multicentric study to assess safety and efficacy of fixed dose combination of Clindamycin 100 mg and Clotrimazole 100 mg vs Clotrimazole 100 mg vaginal suppositories in patients with mixed vaginal infection, Obstetrics and Gynaecology
3. A study validating the efficacy of a herbal mouthwash in reduction of plaque and gingivitis: An in vitro evaluation and a randomised controlled clinical trial, Periodontics
4. AMR-Diag: A novel diagnostic tool for sequence based prediction of AMR, Biophysics (Indo-Norway)
5. Analysis of clinical and environmental fungal isolates in medical ward and Intensive care unit –A tool for hospital infection surveillance, Medicine
6. Analysis of the diagnostic /or predictive potential of metabolomics in BV, its treatment failure, relapse and susceptibilities to other STIs, Dermatology
7. Analysis of vaginal microbiome and metabolome in women affected with bacterial vaginosis before and after treatment and their correlation with relapse or recurrences, Dermatology
8. Antiseptic efficacy and plasma chlorhexidine levels following two different methods of application of 1% aqueous CHG for skin disinfection in preterm new borns: A blinded, parallel group, randomized trial, Paediatrics
9. Association of anti-malarial antibody levels and disease outcomes in Coronavirus disease 19 infection, Medicine
10. Bacteriophage endolysins: An alternative strategy for superbug MDR Acinetobacter spp., Microbiology
11. Burden of Invasive Fungal infections in critically ill children, Paediatrics
12. Burden of multidrug-resistant neonatal sepsis in district hospital settings in India, Paediatrics
13. CDC-AIIMS Cooperative Agreement projects on Influenza and other respiratory viruses, Centre for Disease Control (CDC), Atlanta (USA) and Centre for Community Medicine, AIIMS
14. Clinical efficacy of using MALDI-TOF MS over Conventional processing in Blood Stream Infections patients combined with Prescription pattern monitoring: A pre-post quasi experimental study, Medicine
15. Clinical profile and outcomes of ventilator associated pneumonia due to MDR & XDR gram-negative bacilli, Medicine
16. Clinico-epidemiological spectrum and factors affecting prognosis of mucormycosis, Medicine
17. Comparative analysis of different methods of disinfection of Medical Records, Hospital Administration
18. Comprehensive National Nutrition Survey, UNICEF
19. Developing an app-based bilingual e-learning module for primary health care workers in response to COVID-19 pandemic, Community Medicine
20. Dietary supplementation with a probiotic sachet of 8 strains in patients with fluctuating Parkinson's disease; duration 3 years: June 2019 – May 2022, Physiology

21. Does the fetal immune response in case of neonatal early onset sepsis begin in utero, Paediatrics
22. Effect of glycemic control on initial presentation and treatment response in newly diagnosed sputum positive pulmonary tuberculosis patients: A prospective study, Centre for Community Medicine
23. Effect of probiotic supplementation on cognition and motor symptom in patients with fluctuating Parkinson's disease, Physiology
24. Effectiveness of a Cranberry extract mouth rinse vs sodium fluoride mouth rinse on microbial counts in Caries active children – a double blinded Randomised Controlled Trial, Paedodontics
25. Effectiveness of Robot in floor cleaning for minimizing human exposure in view of COVID-19 pandemic, Hospital Administration
26. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, IIT, New Delhi
27. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Centre for Community Medicine
28. Efficacy of LD Bio Aspergillus ICT Lateral flow assay for serodiagnosis of chronic pulmonary aspergillosis, Medicine
29. Etiological profile of infants, children and adolescents presenting with acute, sub-acute and chronic encephalitis / encephalopathy in a tertiary care centre in north India: 2019-2022, Paediatrics
30. Etiological profile of infants, children and adolescents presenting with acute, subacute and chronic encephalitis/encephalopathy in a tertiary care centre in North India, Paediatrics
31. Evaluation of a novel herbal antiseptic formulation – SEPIL for the treatment of chronic limb ulcers and pressure ulcers: A randomized, double-blind, placebo-controlled Multi-centric Trial, Orthopaedics
32. Evaluation of diagnostic potential of Hysteroscopy, Histopathology, and molecular Microbiology in chronic endometritis in women with tubal and unexplained infertility undergoing IVF- A Prospective Cohort study, Obstetrics and Gynaecology
33. Evaluation of newer molecular methods and antigen based diagnostic modalities against RNTCP recommended methods in early diagnosis of female genital tuberculosis, Obstetrics and Gynaecology
34. Exploration of alternate salivary diagnostic strategies for ovarian cancer, Biophysics
35. Identification of bacterial agents causing atypical pneumonia in COVID-19, and its impact on patient outcomes, Anaesthesia and Medicine
36. Identification, antimicrobial susceptibility pattern and clinical correlation of the rare pathogens detected by MALDI-TOF MS in North India, Microbiology
37. Impact of air quality interventions on air quality including microbial load in inpatient environmental air, Hospital Administration
38. In vitro evaluation of sulbactam combination therapies for *Acinetobacterbaumannii* ventilator-associated pneumonia (VAP), Medicine
39. Incidence and determinants of outcome of neutropenicenterocolitis in paediatric cancer patients duration 2 years: June 2019 – May 2021, Paediatrics
40. Invasive Fungal Infections and role of Biomarkers and molecular approaches in early diagnosis, Medicine
41. Investigation of Colistin sensitivity by different methods and rapid detection of Colistin resistance in Enterobacteriaceae, Microbiology
42. In-vitro susceptibility of Eravacycline V/S tigecycline in clinical isolates of XDR *Acinetobacterbaumannii* and study of resistance mechanisms, Microbiology
43. Isolation and Identification of Bacteriophages against MDR Bacterial strains, Microbiology
44. Metagenomic assessment of microbiome of placenta, Obstetrics and Gynaecology, Sero-epidemiological study of Rickettsia and Scrub typhus among patients with acute febrile illness and molecular detection by Real time PCR, Medicine
45. Multi-centric prospective hospital-based sentinel surveillance to determine the aetiology of acute bacterial meningitis in children, Central Research Laboratory, KIMS Hospital and Research Centre, Kempegowda Institute of Medical Sciences, Bangalore
46. Phase III, Randomised, Double blind, Placebo controlled Trial to Evaluate the Efficacy and Safety of VPM1002, Immunovac Vaccines in Preventing of Tuberculosis Disease in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB (PTB) Patients Funded by ICMR, New Delhi; 2018-2020, Pulmonary, Critical Care and Sleep Medicine
47. Prevalence and persistence of IG Antibodies to SARS-CoV-2 in COVID-19 confirmed health care worker and their family cluster Duration- 2020-2022, Microbiology
48. Profile of vaginal and placental microbial flora in Antenatal women, Obstetrics & Gynaecology
49. Role of tuberculosis and genital *Chlamydia trachomatis* infection in women with “unexplained infertility”, Obstetrics and Gynaecology
50. Screening For Candida Colonization, With Special Reference To *Candida auris* Among Patients Admitted In Medicine ICU, Medicine



51. Secular trend of the urinary tract infection in diabetic patients and their antibiotic sensitivity, Endocrinology and Metabolism
52. The effect of candida and antifungal therapy on pro-inflammatory cytokines in oral leukoplakia - A pilot study, Oral Medicine and Radiology
53. To evaluate the efficacy of Bacillus Calmette Guerin (BCG) in reducing the incidence and severity of COVID-19 in the high risk population (BRIC): A multicentric, quadruple blind randomised controlled trial, Medicine
54. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population: Single blind, Parallel Group, Randomized controlled trial, Medicine
55. Umbilical cord blood culture positivity in preterm and term neonates: prospective cohort study, Paediatrics
56. Utility of Radio labeled Antibiotics as Imaging Agents in Establishment of a Decision Support Algorithm in Patients with Pyrexia of Unknown Origin (PUO) caused by Infection and its Impact on Short Term and Long Term Clinical Outcomes, Nuclear Medicine
57. Utility of radiolabeled antibiotics as imaging agents in establishment of a decision support algorithm in patients with pyrexia of unknown origin (PUO) caused by infection and its impact on short term and long term clinical outcomes, Nuclear Medicine
58. Whole Genome Sequencing of *Candida auris*. (Co-ordinating group under 'Genomic Epidemiology of Fungal Infections' working group of ISHAM.), CDC, Atlanta

### Completed

1. A Detail Study to Understand the Non-Putrefying Property of River Ganga in both Water and Sediment, Funded by toNational Mission of Clean Ganga (NMCG) Ministry of Water Resources and River Rejuvenation, MoWR, Government of India
2. Abdominal infections in immunocompromised hosts: A radiological, microbiological and clinical correlation, Haematology
3. Association of therapeutic drug levels and worm infestation with treatment response in patients with TB lymphadenitis, Medicine
4. Efficacy of enriched fecalmicrobiota transplantation in patients with treatment naïve ulcerative colitis: a randomized control trial, Gastroenterology
5. Efficacy of two different Chlorhexidinegluconate preparation for skin antisepsis in neonates: Anoninferiority randomized trial, Paediatrics
6. Evaluation of risk factors for severity in *Plasmodium vivax* infection - A prospective study, Medicine
7. Multiplexed Point-of-Care test for acute febrile illness (mPOCT), Paediatrics
8. NeoAMR Global Observational Study: a prospective cohort study of sepsis in hospitalised neonates, Paediatrics
9. The clinicopathological evaluation of cholesteatoma aggressiveness, ENT
10. To study the dynamic relationship of airway colonization and Endotracheal Tube Biofilm with Ventilator Associated Pneumonia, Pulmonary Medicine and Sleep Disorders

### PUBLICATIONS

Journals: 73      Chapters in Books: 2      Books & Monographs: 1

### PATIENT CARE

The Department of Microbiology carried out a total of **2,89,009 tests** during the year 2020-2021.

Name of assay /test/investigation	No. of tests performed	Name of assay /test/investigation	No. of tests performed
<b>BACTERIOLOGY LAB.</b>		<b>PARASITOLOGY LAB</b>	
Pus samples culture and identification	10,334	<b>A. SEROLOGICAL INVESTIGATIONS</b>	
Orthopedic implants for sonication	15	Serology for anti- <i>amoebic</i> IgG antibodies by ELISA	116
Urine samples culture and identification	22,098	Serology for anti- <i>echinococcus</i> for IgG antibody by ELISA	62
Blood samples culture and identification	18,790	Serology for anti- <i>toxoplasma</i> IgG antibodies by ELISA	24
Sputum/Throat swab/Tracheal swabsamples culture and identification	10,009	<b>B. INVESTIGATION FOR MALARIA</b>	



CSF/sterile samples culture and identification • Automated culture of CSF samples for routine patient care	5,379 (700/5379)	Fluorescent staining (Acridine Orange)	2178
Stool samples culture and identification	1,063	Giemsa staining	2178
Latex Agglutination (Antigen detection) from CSF Samples for Bacterial Meningitis	415	Quantitative Buffy Coat (QBC) Assay	2178
<b>Antimicrobial susceptibility testing</b>		HRP-II Antigen Detection test	2178
Pus/Exudates/Tissue -Antimicrobial susceptibility testing	2,254	<b>C. INVESTIGATION FOR KALAAZAR</b>	
Urine - Antimicrobial susceptibility testing	1,718	Fluorescent staining (Acridine Orange)	112
Blood - Antimicrobial susceptibility testing	1,752	Giemsa staining	112
Respiratory samples - Antimicrobial susceptibility testing	4,090	Kala-azar serology (rk-39)	225
CSF/sterile samples - Antimicrobial susceptibility testing • Automated anti-microbial susceptibility testing (VITEK-2) from CSF/ Sterile samples	712 (65/712)	<b>D. EXAMINATION OF FECAL SAMPLES FOR INTESTINAL PARASITOSIS</b>	
Stool samples - Antimicrobial susceptibility testing	Nil	Direct and concentration techniques	805
<b>Total</b>	<b>78,215</b>	<i>In –vitro</i> Cultures	030
		Modified Acid-fast and special staining for intestinal coccidia	805
<b>HOSPITAL INFECTION CONTROL (HIC)LAB.</b>		PCR assay for the detection of microsporidia species	805
Surveillance cultures	13,512	<b>E. EXAMINATION OF ASPIRATES</b>	
CSSD/Sterilization Monitoring	1,605	Sputum, pus and other aspirates	40
Water samples	1,261	<b>F. INVESTIGATION FOR FILARIASIS</b>	
<b>Total</b>	<b>16,378</b>	Direct and Concentration techniques	281
		Acridine Orange	281
<b>ANAEROBIC&amp;SPECIAL BACTERIAL PATHOGEN LABORATORY</b>		Thin Smear examination	281
<b>Samples for Anaerobic culture</b> (Blood, Bile, BAL, CSF, Tissue)	287	Thick Smear examination	281
		Filarial Antigen detection	281
<i>Clostridiodes difficile</i>		QBC	281
Stool culture for <i>C. difficile</i>	326	<b>G. OTHER INVESTIGATIONS</b>	
Stool samples for <i>C. difficile</i> ELISA	326	Investigation for the detection of <i>Pneumocystis jirovecii</i> infection(PCP) by staining & PCR assay	159
Stool sample for <i>C. difficile</i> PCR	300	Cerebrospinal fluid examination for Free living Amoebas (FLAs)	14
Stool sample for <i>C. difficile</i> Genexpert	22	Worm Specimens	01
<b>Special Bacterial Pathogen Laboratory (SBPL)</b>		Arthropod Specimens	02

<b>Leptospira</b>			<b>Total</b>	<b>13,770</b>
Citrate blood samples for Culture for <i>Leptospira</i> spp.	25			
Urine samples for Culture for <i>Leptospira</i> spp.	22		<b>VIROLOGY LABORATORY</b>	
ELISA for Leptospira IgM antibodies	602		<b>Molecular tests (Conventional, Real time PCR)</b>	
Urine Dark Ground Microscopy	390		SARS-CoV-2 novel coronavirus real time RT-PCR	72,285
Plasma Dark Ground Microscopy	401		Whole genome sequencing (NGS) for SARS-CoV-2	55
<b>Scrub typhus and Rickettsia</b>			Influenza real time multiplex RT-PCR	359
IgM ELISA for Scrub typhus	628		Respiratory virus panel (other than influenza) multiplex PCR	54
IFA for Scrub typhus	152		HSV 1&2 DNA PCR (CSF, GUD, Ocular etc.)	117
ICT for scrub typhus	70		HCMV DNA PCR (Urine, Colonic biopsy, CSF etc.)	180
Scrub typhus nested PCR 56 kDa gene	106		HIV-1 RT-PCR for Early Infant Diagnosis (DBS samples)	3,188
Scrub typhus Real time PCR 47 htra gene	172		HIV-1 RNA RT-PCR (Viral load)	2,138
Rickettsia Spotted fever group IgM ELISA	212		Dengue & Chikungunya virus real time RT-PCR	99
Rickettsia Typhus group IgM ELISA	212		Polyomavirus (BK/JC) real time RT-PCR	247
Rickettsia nested PCR glt gene	56		Fever with Rash Viral Panel (Measles, Enterovirus, Parvovirus B19, HHV-6 & HHV-7)	3
Rickettsia real-time PCR glt gene	112		Viral Meningitis/Encephalitis PCR panel (HSV, Enteroviruses, Parechoviruses, VZV, Mumps)	120
<b>Bartonella</b>			Viral Gastroenteritis Panel (Rotavirus, Norovirus, Adenovirus 40/41)	13
Samples for Bartonella Culture	02		Epstein-Barr virus (EBV) DNA PCR (Conventional, real time PCR)	87
Sample for Bartonella IFA	02		Parvovirus B19 real time PCR	67
<b>Legionella pneumophila</b>			Dengue virus serotyping by real time RT-PCR	181
Legionella serology	353		<b>Antigen detection</b>	
Legionella PCR	353		Dengue NS1 antigen (ELISA)	1,854
Culture for Legionella	117		Rotavirus antigen (ICT)	12
Legionella urine antigen	353		SARS-CoV-2 Antigen detection test (ICT)	10
<b>Mycoplasma pneumoniae</b>			<b>Antibody detection (Serology)</b>	
Mycoplasma IgM antibody detection	353		Anti-Dengue IgM (ELISA)	2,225
Mycoplasma IgG antibody detection	60		Anti-Dengue IgG (ELISA) for primary vs. secondary dengue determination	94

Mycoplasma PCR	317	Anti-ChikungunyaIgM (ELISA)	67
Mycoplasma culture	153	Anti-Japanese Encephalitis IgM (ELISA)	30
<b><i>Chlamydia pneumoniae</i></b>		Anti-Measles IgM (ELISA)	1
ELISA for <i>Chlamydia pneumoniae</i> IgM antibodies	353	Anti- EBV (VCA) IgM (ELISA)	2
ELISA for <i>Chlamydia pneumoniae</i> IgG antibodies	60	Anti-SARS-CoV-2 IgG (ELISA)	658
<b>Lyme Disease</b>		<b>Direct Microscopy</b>	
Lyme Disease IgM ELISA	44	Tzanck smear (for HSV 1&2, VZV)	23
Lyme Disease IgG ELISA	44	PS for Downey cells/atypical lymphocytes (EBV-related Infectious mononucleosis)	3
Lyme Disease IgMimmunoblot	10	<b>Total</b>	<b>84,174</b>
Lyme Disease IgGimmunoblot	10		
Borrelia 16S Real-time PCR	67	<b>MYCOLOGY LABORATORY</b>	
<b>Total</b>	<b>7,072</b>	<b>Direct Microscopy &amp; Culture</b>	
		Blood culture/Bone marrow/Blood BACTEC	960
<b>MYCOPLASMA LABORATORY</b>		Respiratory (BAL, Sputum, Tracheal aspirate)	3355
<i>Chlamydia trachomatis</i> PCR	120	Urine	1079
<i>Ureaplasmaurealyticum</i> culture	81	C.S.F	909
<i>Ureaplasmaurealyticum</i> PCR	113	Tissue/Biopsy	525
<i>Mycoplasma hominis</i> culture	81	Skin scrapping/Nail/Hair	51
<i>Mycoplasma hominis</i> PCR	113	Fluids (Peritoneal, Pericardialand Ascitic fluid)	653
<i>Mycoplasma genitalium</i> PCR	100	Pus	420
<b>Total</b>	<b>608</b>	Miscellaneous (Plates, Swabs, Catheter tips)	804
		<b>Fungal Serology/Antifungal/TDM/PCR</b>	
<b>SEXUALLY TRANSMITTED DISEASES (STD) LABORATORY</b>		Cryptococcal antigen	767
<b><i>Clinical samples for Culture (Routine/NG)</i></b>		Galactomannan antigen	2444
High vaginal swabs (HVS)	329	β D glucan assay	121
Semen	137	TDM (Voriconazole)	109
Expressed prostatic secretions (EPS)	08	TDM (Posaconazole)	56
Urethral discharge	17	Antifungal susceptibility	259
Cervical discharge	27	PCR (Panfungal 9, Histoplasma 2)	11
Vaginal discharge	11	<b>Total</b>	<b>12,523</b>
Pharyngeal swabs	11		
Rectal swabs	11		
<b><i>Clinical samples for microscopy alone</i></b>		<b>TUBERCULOSIS LABORATORY</b>	
Vaginal swabs for BV	59	<b>Tuberculosis Diagnosis</b>	

<b>Clinical samples for PCR for NG</b>		Gene Xpert MTB/RIF	1497
Urethral discharge	17	Samples processed for ZN Smear	3949
Vaginal discharge	11	PCR for <i>Mycobacterium tuberculosis</i>	917
Cervical discharge	27	Rapid Culture on MGIT 960	581
Rectal swab	11	Culture on LJ medium	2287
Pharyngeal swab	11	MGIT DST	348
<b>Antimicrobial susceptibility testing</b>		<b>Total</b>	<b>9,579</b>
HVS	63	<b>COVID-19 Diagnosis by CBNAAT</b>	
Semen	18	Gene Xpert	17955
EPS	03	TRUENAT	28467
Urethral discharge	-	<b>Total</b>	<b>46,422</b>
Cervical discharge	-		
Vaginal discharge	-	<b>HIV IMMUNOLOGY LAB.</b>	
Pharyngeal swabs	-	HIV testing	619
Rectal swabs	-	CD4 counts <ul style="list-style-type: none"> <li>• ART centre of AIIMS</li> <li>• Linked centre : LRS Hospital</li> <li>• Admitted patients in AIIMS hospital</li> </ul>	3749 1810 128
<b>Total</b>	<b>771</b>	Western blot for HIV indeterminate samples (Received from linked State Reference Laboratories)	03
		<b>ICTC activity</b> <ul style="list-style-type: none"> <li>• Pre-test Counselling</li> <li>• Post-test counselling</li> <li>• Patients referred to RNTCP centre</li> </ul>	620 474 34
<b>MOLECULAR BIOLOGY LABORATORY</b>		HIV testing of Dried blood spot samples under HIV DBS sentinel surveillance program <ul style="list-style-type: none"> <li>• Total sample received till 31st March 2021 (Total samples tested : 528)</li> </ul>	900
Multiplex PCR for Acute Bacterial Meningitis (ABM) <b>Total</b>	<b>238</b>	<b>Total</b>	<b>8337</b>
<b>SEROLOGY LABORATORY</b>			
VDRL	3057		
Widal	1858		
TPHA	96		
ASO	46		
Standard Agglutination Test (SAT) for Brucella antibody	22		
Antibody detection by ELISA to SARS-CoV-2	5843		
<b>Total</b>	<b>10,922</b>		

### **STD Lab**

- External Quality Assessment  
Participated in external quality assurance (EQA) programme of WHO GASP (Gonococcal Antimicrobial Surveillance Program) and the results are awaited. Our previous percentage score was 97.3 %.

### **Serology Laboratory**

- External Quality Assessment Scheme (EQAS):  
Participated in ILC for Syphilis Serology (VDRL/TPHA) with APEX Regional STD Centre, Department of Dermatology & STD, VMMC & Safdarjung Hospital, New Delhi and our results were 100% Concordant  
Participated in IAMM-EQAS, New Delhi, with concordant result

### **HIV Laboratory**

1. EQAS activity with Apex lab, National AIDS Research Institute, Pune  
August, 2020 and January 2021: Performance: 100%
2. EQAS Panel Distributed to 4 HIV State reference laboratories  
August, 2020 and December, 2021 : Performance: 100%

### **Parasitology Laboratory**

The Parasitology laboratory has consistently received “A+” grade for External quality Assessment Scheme (EQAS) conducted by Indian Association of Tropical Parasitology (IATP). National NABL assessors highly appreciated the record keeping and other parameters of the parasitology section during their visit in the beginning of the year 2021.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Rama Chaudhry** was Special Invitee, Joint Monitoring Group (JMG) of MOHFW for COVID-19; Expert of National Institute of Malaria Research of IBSC Committee; Member of IBSC Committee of Acharya Narendra Dev College, University of Delhi; Chairperson of the Project Review Committee of ICMR for Zoonotic Diseases; Member for Review meeting for Regional Coordinator for ISCP (Program for Intersectoral Coordination) under NCDC DGHS; Member of expert group meeting of Integrated Public Health Laboratories (IPHL); Member of AMR Technical advisory group of Grant Challenges India BIRAC-DBT; Reviewer for projects for ICMR, DBT & CSIR; Reviewer of Journal of Clinical Microbiology, Indian Journal of Medical Research, Indian Journal of Medical Microbiologist, Emerging Infectious Diseases, BMC Infectious Diseases, Molecular & Cellular Biochemistry, Journal of Gastroenterology & Hepatology and Journal of Postgraduate Medicine.

**Professor Lalit Dar** was Member of the ICMR High Level Task Force for the SARS-CoV-2 /COVID-19; Member, Joint Monitoring Group (JMG) for emerging diseases, DGHS, MoH; Designated by DHR ICMR as a Chair of the Viral Research and Diagnostic Laboratory (VRDL) national network comprised of 105 virology laboratories across the country; Nominated as a member of the National Technical Advisory Group on Immunization (NTAGI), the apex body for advising the Government of India on its immunization policies; Actively contributes to various agencies outside of AIIMS; Member, Core Accreditation Committee of the National Accreditation Board for Testing and Calibration Laboratories (NABL); Adjunct Faculty, Public Health Foundation of India; Member, Technical Resource Group, National Viral Hepatitis Control Programme (NVHCP); Member, ICMR Virology Project Review Committee for Virology; Member, ICMR Fellowship Committee; Member, NACO Technical Resource Group (Laboratory Services).

**Professor Bimal K Das** received Scholarship to attend “23rd International AIDS Conference” and “IAS COVID-19 Conference” 6-11 July 2020 organised by International AIDS Society, USA (Shesh, Research Associate under Bimal K Das); Scholarship to attend “Vaccinology in the Age of Pandemics: Strategies against COVID-19 and Other Global Threats” June 15-16, 2020 organised by Keystone symposia, USA (Dr Shesh, Research Associate under Professor Bimal K Das); Scholarship to attend “COVID-19: One Year Later” 8-9 February 2021 organised by Keystone symposia, USA (Dr Shesh, Research Associate under Professor Bimal K Das).

**Professor BR Mirdha** Awarded the 2020 Dr Pran Nath Chuttani Oration from the National Academy of Medical Sciences (NAMS), India for his outstanding research accomplishment to clinical microbiology and for his significant leadership in professional development in the microbiological sciences; Recognized at the Academy’s 60th Annual Conference on 21st February at which he delivered oration titled “Evolving Patterns of Cryptosporidiosis: Issues and Implications in the Context of Public Health in India.”

**Professor Seema Sood** Patent: Malhotra S and Sood S. Aptamers for Neisseria gonorrhoeae. Application Number: 201911021888 (Status: Awaiting Request for Examination); Grant of Teachers Associateship for Research Excellence (TARE) fellowship – SERB; Included in “Erudite women’s outstanding contribution to the Indian Medical Education: A Recognition on International Women’s Day 2021” Global Journal of Medical Research 2021; 21(1): Version 1.0; Executive Member- IUSTI Asia Pacific Region; Faculty- National Board of Examination (NBE); Invited as expert for IITD-AIIA Interdisciplinary



projects; Member- Institution Human Ethical Committee (IHEC), ACBR (Dr B.R. Ambedkar Centre for Biomedical Research); Reviewer- Nature Reviews, IJMR, IJMM, Ind J of STD & AIDs

**Professor Urvashi B Singh** was Member, Subject Expert Committees (Antimicrobial and Antiviral), CDSCO (DCGI), GoI; Member, Subject Expert Committees (In-vitro Diagnostic Devices), CDSCO (DCGI), GoI; Member, Operational Research Committee, National TB Elimination Program, GoI; Co-Chairperson, National Technical Expert Group on Diagnosis of Tuberculosis under National TB Elimination Program, GoI.; Member, National Technical Working Group on LTBI Management in India, National TB Elimination Program, GoI.; Member, National Technical Expert Group on Treatment of Tuberculosis under National TB Elimination Program, GoI.; Member, National Technical Expert Group on Treatment of Pediatric Tuberculosis under National TB Elimination Program, GoI; Member, National Technical Working Group on TB Co-morbidities, National TB Elimination Program, GoI.; Member, Technical Specifications Committee for National TB Elimination Program, GoI.; Member 'STOP TB New Diagnostics Working group', WHO since 2009; Member 'Expert Committee for finalizing validation protocols for Indian Indigenous Technologies', ICMR; India TB Research Consortium, ICMR, Member on Diagnostic, Therapeutic, Vaccine and Implementation Research Groups; Member, State TB Task Force and Operation Research Committee; Expert member on International SAG committee of India TB Research Consortium, ICMR; Member Editorial Board –Frontiers in Microbiology; Reviewer: Scientific Reports, Emerging Infectious Diseases, Medical Microbiology, Microbes and Infection, Epidemiology and Infection, PLOS One, Journal of Biosciences, Indian J Med research, Indian J Tuberculosis.

**Dr Sarita Mohapatra** awarded the Microbiology Society Infection Science Award at FIS/HIS international 2020; Co-Principal Investigator with DBT BIRAC funded project entitled "Platform for discovery of novel therapeutic monoclonal antibodies against MDR and XDR Klebsiellapneumoniae"; Adjudged the poster session: EMICROCON-2020.

**Dr Aashish Choudhary** awarded the 'Certification in Infection Control (CIC)' based on the on-line written examination conducted by the 'Certification Board of Infection Control and Epidemiology, Inc.' (CBIC), USA on 18 December 2020; Member- Institute Biosafety Committee (IBSE), AIIMS Delhi; Member- BSL-3 facility, Central Core Research Facility (CCRF), AIIMS Delhi.

**Dr Gagandeep Singh** was Member, Standing National Committee on Medicines and Healthcare Products (SNMC & HCP) under the National List of Essential Medicines (NLEM), Subcommittees 1. Hygiene and other healthcare products and 2. Anti-infectives, MOHFW & ICMR; Co-opted by Head of the Department as Member, Joint Monitoring Group (JMG) of MOHFW for COVID-19; Member, Resource Management Committee for COVID-19, Sub-committee: PPE purchase, AIIMS; Member, Infection Control Committee for COVID related practices in Hon'ble Supreme court and High Court; Member, Committee for use of UVGI for disinfection of PPE, MOHFW; Member of team for weekly monitoring COVID response in Delhi hospitals, GNCTD; Member, Committee for setting up of COVID care Hospital and COVID care Centres at various Hotels, GNCTD; Member, Core Committee of the Hospital Infection Control Committee (HICC), AIIMS, New Delhi involved in: 1. Preparation of Infection Prevention & Control Guidelines for COVID-19 for AIIMS, New Delhi, 2. Delivered Lectures for Health Care Staff of Main AIIMS on Prevention and Control of COVID-19. Faculty resource person, Resident training program for COVID-19 on SARAL platform 3. Involved with preparing IEC material like videos and posters for donning and doffing 4. Prepared Checklists for prevention of Device associated infections CLABSI, CAUTI, VAP and SSI; Member, PPE disinfection and reuse committee, AIIMS; Member, Department Contact Tracing Team (DCTT) for COVID-19; Contributor in ICMR Dental Guidelines for COVID-19; Member, AIIMS Kaya Kalp Team for Infection Control, 2020-2021; Nodal person for NABL accreditation of Mycology lab; Member, Committee for monitoring progress of ICMR Advanced Mycology Diagnosis and Research Centres; Chairperson, Committee looking into equipment for large scale renovation of CSSD at Main AIIMS; Member, Committee for monitoring progress of work for new CSSD at Masjid Moth Complex; Member, Departmental Store purchase committee; Member, Departmental Committee for AIIMS Master Plan; Member, Committee for Departmental Equipment audit (external and internal); Member, Committee for MBBS Curriculum reforms & AIIMS Undergraduate Curriculum Organizing Group (AU-COG) at AIIMS, New Delhi; Organizing Secretary: AIIMS-ASM 2020 International Webinar; Internal examiner for Second Prof. MBBS exam (Microbiology) at AIIMS, New Delhi; Executive Committee Member: Indian Association of Medical Microbiology-Delhi Chapter; Reviewer: Mycopathologia, BMC Infectious Diseases, Mycoses, Indian J Med Microbiology, Indian J of Dermatology, Venereology and Leprosy, Journal of Lab Physicians, Iranian J of Microbiology, National Medical Journal of India etc.

**Dr Hitender Gautam** received Dr Srinivas was award for best poster on antibiotic susceptibility testing category at 2nd Chapter Virtual Meet of Indian Association of Medical Microbiologists, Delhi Chapter on 11-12 September 2020; received Certificate of Appreciation in AIIMS ASM 2020, Antibiotic Resistance: Renewed Fight, 7– 8 October 2020, Delhi; received **Best poster Award** in Antimicrobial resistance category (2020) at E-Microcon 2020, First Virtual Annual Congress of Indian Association of Medical Microbiologists on 8-11 December 2020; Nodal Officer for COVID-19 for Department of Microbiology: 1. Contact tracing of Positive COVID-19 cases 2. Defining and managing high risk & low risk contacts of positive cases 3. Provision of PPE for whole department including the COVID-19 testing laboratories 4. Infection Prevention & Control activities of department 5. Management of Cleaning & Disinfection of department 6. COVID-19 related Bio-Medical Waste management for the department; Nodal Officer for department: Equipment audit of Department; Contributor in ICMR Autopsy Guidelines

for COVID-19; SARS CoV-2 IgG Sero-surveillance of Delhi under MOHFW, GOI, India; Initiation of SARS CoV-2 IgG Testing in our department; Inspection Team Member under ICMR-AIIMS for ATC (Antigen Testing Centre) for COVID-19 at Containment Zones of New Delhi; Member: Department Contact Tracing Team (DCTT) for COVID-19; In House preparation of Anti-Microbial Handrub for Department of Microbiology in concern with COVID-19; Member Secretary: Infection Control Committee in Dr BRA IRCH, AIIMS, New Delhi; Initiation of Environmental Cleaning Monitoring through ATP bioluminescence in DrBRA IRCH, AIIMS, New Delhi, w.e.f April 2020. Helped for control of COVID-19; Hospital Infection Control Committee (HICC), Core Committee Member AIIMS, New Delhi: 1. Formulation of Infection Prevention & Control Guidelines for 2019-nCoV (COVID-19) for AIIMS, New Delhi, as a core group member for HIC at AIIMS, New Delhi 2. Series of Lectures for Health Care Staff of Dr B.R.A. IRCH & Main AIIMS on “Prevention & Control of COVID-19 in Health Care Setting” AND “Donning & Doffing of PPE” 3. Involved with making & implementation of Cleaning & Disinfection Protocols and checklist 4. Centralized preparation of Checklists for prevention of Device associated infections (CLABSI, CAUTI, VAP) and SSI; External Assessor for Peer assessment of NIMHANS, Bangalore under Kaya Kalp Award Scheme for year 2020-21. 23-24 November 2020; External Assessor for Peer assessment of Dr Ram ManoharLohia (RML) Hospital, New Delhi under Kaya Kalp Award Scheme for year 2020-21, 20 November 2020; Incharge: Departmental KAYA KALP Committee. Part of AIIMS KAYA KALP Team. KAYA KALP Inspection Management for Department, March 2021; Department NABL Core Committee Member & Deputy Quality Manager for Dept. of Microbiology, AIIMS, New Delhi: Department has been NABL Accredited w.e.f. 15/11/2019; Member: Australasia College for Infection Prevention & Control (ACIPC); Member of the British Society for Antimicrobial Chemotherapy (BSAC); Committee member for MBBS Curriculum reforms & AIIMS Undergraduate Curriculum Organizing Group (AU-COG) at AIIMS, New Delhi; Co-Guide for PhD in Medicine by Research Medical Microbiology program at Texila American University; Undergraduate Class Incharge till June 2020.

**Dr Nishant Verma** was NABL accreditation of Parasitology lab; Member secretary-PPE disinfection and reuse committee; Undergraduate teaching in-charge; Member departmental Store purchase committee; Departmental DM ID teaching committee member; Core committee member for DM infectious diseases curriculum; Member-AIIMS under graduate curriculum organizing group; Member of the committee coordinating the establishment of Microbiology services at NCI, Jhajjar; Initiated four new investigations in Parasitology section-Malaria multiplex PCR, ELISA for Strongyloides IgG, Toxocara IgG and Taenia IgG; Core Group Member: Hospital Infection Control Committee (HICC), AIIMS, New Delhi; Series of training sessions for healthcare staff regarding COVID-19; Member Secretary: Infection Control Committee at CDER, AIIMS, New Delhi; Organizing secretary in a webinar-Anaerobic forum India 2021, AIIMS-ASM 2021; Chairperson - session in a webinar-Anaerobic forum India 2021, AIIMS-ASM 2021; Internal examiner for Second Prof. MBBS exam (Microbiology) at AIIMS, New Delhi; Internal examiner for BSc (H) Nursing (Microbiology) prof. examination at AIIMS, New Delhi; Internal examiner for BSc (H) Nursing (Supple.) prof. (Microbiology) examination at AIIMS, New Delhi; Executive committee member: Indian Association of Tropical Parasitology; Member-Hospital Infection Society- India; Member-IAMM- Delhi Chapter; Reviewer: Journal of Hospital Infection, Tropical Parasitology and PLoS neglected tropical diseases.

**Dr Kiran Bala** was Member - Indian association of Medical Microbiologists (Life Membership 3301/19), The Union International union against tuberculosis and lung disease (Membership CU 0783207); Member Secretary- Disinfection and reuse of PPE kit/items & N-95 face masks used in management of COVID-19 pandemic at AIIMS, New Delhi; Member- Infection prevention & control team of centralized core research facility at AIIMS, New Delhi; Expert member BSL-3, BSL-2 Subcommittee of CCRF core committee at AIIMS, New Delhi; Reviewer: BMJ case reports, Indian J of Urology, International J of Medicine and public health, Medical mycology, Indian J Med research, Indian J Tuberculosis, Mycopathologia.

## 9.21. Nephrology

### **Professor and Head**

Sanjay Kumar Agarwal

### **Professor**

Dipankar Madhusudhan Bhowmik      Sandeep Mahajan

### **Additional Professors**

Soumita Kamal Kumar Bagchi

### **Associate Professor**

Raj Kumar Yadav

### **Assistant Professor**

Arunkumar Subbiah

## **HIGHLIGHTS**

Department provides state-of-the-art nephrology care including renal transplantation at affordable cost. ABO incompatible renal transplant is regularly being done. Department is continuing immunosuppressive drug monitoring and monitoring of infection in renal transplant free of charge for all renal transplant patients. The department is providing round the clock hemodialysis facility at very low cost and free for patients below poverty line. Department is also providing bed side dialysis in many departments across institute and supporting dialysis in Trauma Centre and National Cancer Institute, Jhajjar, Haryana. Department is running a bio-repository of samples for potential research in renal sciences for patients of primary glomerular disease and chronic kidney disease. Department faculty is in almost all government policy-making bodies related to chronic kidney disease, dialysis and renal transplantation, and National Program of Prevention and Control of Cancer, Diabetes, Cardiovascular disease and Stroke (NPCDCS). Dr SK Agarwal is technical advisor to National Organ and Tissue Transplant Organization (NOTTO) and officer-in-charge of National Organ and Tissue Transplant Registry (NOTTR). Department has also started interventional nephrology program for vascular access for hemodialysis and peritoneal access for peritoneal dialysis within own department. Our centre is the one of the centers in South Asia which has been selected to train international residents in interventional nephrology by the International Society of Nephrology. Our webinar for Physicians on World Kidney Day conducted on 10 March 2021 was well attended by physicians all over India. Renal care for COVID patients and dialysis support of covid positive patients have been provided throughout the pandemic period. Further, non-covid patients accepted for dialysis continued throughout pandemic period. To serve the patients better, teleconsultations were initiated and over 20000 teleconsultations have been provided by the department.

## **EDUCATION**

### **Long-term training**

The department runs DM Nephrology, a three-year degree course for post MD/DNB (Medicine and Pediatric) candidates, selected by AIIMS on the basis of merit through All India Entrance Examination. Along with AIIMS Delhi, department is conducting examination for other AIIMS like institution as per need. Three candidates were admitted to DM Nephrology course at AIIMS, New Delhi during this period. Residents from department of pediatric nephrology and pathology regularly come for the training courses in Nephropathology. Every semester, department has two to three non-academic junior residents working for a maximum period of 6 months each.

### **Short-term training**

The department is providing short-term training for following:

1. Postgraduates from the department of Internal Medicine, Geriatric Medicine, Emergency Medicine, Urology, Anesthesia, Infectious disease, Critical Care Medicine and Transfusion Medicine are posted on rotational basis for a variable period of few weeks to few months.
2. Our center has been selected as International Intervention Nephrology Center by the International Society of Nephrology this year. We would have short term trainees selected from other countries to be trained by the department in the coming year.

### **CMEs/Workshops/Symposia/National and International Conferences**

World Kidney Day-2021, Webinar for Physicians on 10 March 2021 was organized virtually in collaboration with ABVIMS Dr RML Hospital and was well attended by nearly 200 physicians across India.

## Lectures delivered

**Sanjay Kumar Agarwal: 5**

**Dipankar Bhowmik: 5**

**Sandeep Mahajan: 11**

**Soumita Bagchi: 2**

**Raj Kumar Yadav: 2**

**Arunkumar Subbiah: 3**

### **Sanjay Kumar Agarwal**

1. CKD-Two decades of progress and challenges for the future, ERA-EDTA Conference 2020, 23 July 2020, Online
2. Policy to enhance living and deceased renal transplant in India, organised by AIIMS Bhopal, 7 August 2020, Online
3. Managing immunosuppression in renal transplant with COVID-19, organised by Indian Society of Organ Transplant, 9 January 2021, Online
4. Magnitude of CKD in India, Annual Conference of Association of Physician of India, 6 March 2021, Online
5. Covid and Kidney, Heart Care Foundation of India, 11 March 2021, Online

### **Dipankar Madhusudhan Bhowmik**

1. Assisted versus non-assisted ultrafiltration in cardio-renal syndrome, Biannual Conclave in Nephrology Critical care Nephrology, 16 May 2020, Online
2. Hemodialysis in diabetic kidney disease: A year before or a day later than indication, Cardiabcon Uttarakhand Chapter – 2020, 30 August 2020, Online
3. Chronic kidney disease and microbiota, 5th Annual Conference of Ind Soc of Renal Nutrition and Metabolism, 5 September 2020, Online
4. Understanding anemia in kidney diseases, 53rd Annual Conference of Indian Dietetic Association, 5 December 2020, Online
5. Renal transplant and bone marrow transplant in multiple myeloma, Onco-Nephrology Update 2020, Department of Nephrology, SGRH, New Delhi, 19 December 2020, Online

### **Sandeep Mahajan**

1. Hypertension in renal diseases, Certificate Course in Hypertension Management: A Case Based Approach: Indian Society of Hypertension, 28 June 2020, Online
2. Case based approach in nephrology, Renal Care Foundation, 20 July 2020, Online
3. Covid-19 and The Kidney, 3rd Regain Congress on Excerpts from EDTA 2020, 2 August 2020, Online
4. Uremic syndrome in 2020, Indian Perspectives on ERA-EDTA Conference 2020, 6 August 2020, Online
5. Management of renal disease in COVID-19 infection: Practical Aspects, Physician update held by Punjab Government, 19 September 2020, Online
6. Diabetic kidney disease: Diagnosis and management, Knowledge Forum and Diabetes Health Care Jodhpur, 27 September 2020, Online
7. Overcoming the inevitable: nephrotoxicity of CPI/VEGF inhibitors, Onco-Nephrology update, Department of Nephrology, SGRH, New Delhi, 20 December 2020, Online
8. Transplantation update, Medanta - Medicity, Gurgaon, 7 February 2021, Online
9. Reno-vascular hypertension, 13 February 2021, Online
10. Nephrology update, 5 March 2021, Online
11. World Kidney Day Webinar for Physicians conducted by Department of Nephrology, AIIMS and ABVIMS, New Delhi, 10 March 2021, Online

### **Soumita Bagchi**

1. Immunological work up pre-transplant, PG-Connect conducted by International Society of Nephrology, 17 January 2021, Online
2. World Kidney Day Webinar for Physicians conducted by Department of Nephrology, AIIMS and ABVIMS, New Delhi, 10 March 2021, Online

### **Raj Kumar Yadav**

1. Know your Machine – IHD and SLED, CRITICARE 2021, Annual Conference of the Indian Society of Critical Care Medicine, 24 February 2021, Online
2. Contrast nephropathy, World Kidney Day Webinar for Physicians conducted by Department of Nephrology, AIIMS and ABVIMS, New Delhi, 10 March 2021, Online



## **Arunkumar Subbiah**

1. Acute kidney injury in burns, NABI (National Academy of Burns) Burn Tutorials, 13 December 2020, Online
2. Safety measures during clinical practice, Safety measure and good health during clinical practice, National Conference on Infection Control, 29 January 2021, Online
3. Blood pressure targets for treatment, World Kidney Day Webinar for Physicians conducted by Dept of Nephrology, AIIMS and ABVIMS, New Delhi, 10 March 2021, Online

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. A randomized, treatment open-label, dose-blinded parallel group, three arm, proof-of-concept clinical trial to investigate the efficacy and safety of LNP023 compared with rituximab in the treatment of subjects with idiopathic membranous nephropathy, Soumita Bagchi, Novartis Ltd, 3 years, 2019-2022, Rs 2 lakhs per patient
2. An adaptive seamless randomized, double blind, placebo-controlled, dose ranging study to investigate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis Ltd, 2 years, 2019-2021, Rs 1.98 lakhs per patient
3. Hydroxychloroquine blood concentration and its correlation with disease activity in lupus nephritis, Arunkumar Subbiah, Intramural grant, 1 year, 2020-2021, Rs 4.75 lakhs
4. Prospective cohort study to find Circulating Levels of Anti Phospholipase A2 receptor (PLA2R) Antibodies and its Correlation with Idiopathic Membranous Nephropathy (IMGN), SK Agarwal, ICMR, 4 years, 2017-2021, Rs 30 lakhs
5. Role of T-regulatory cells (T-regs) and their clinical correlation in obesity associated inflammation in type-2 diabetic & CKD, Sandeep Mahajan, ICMR, 3 years, 2019-2022, Rs 5653300.00
6. The Association of HLA antigens with primary IgA nephropathy in Indian patients, Soumita Bagchi, Intramural grant, 1 year, 2019- 2020, Rs 9.7 lakhs
7. Therapeutic drug monitoring of valganciclovir in renal transplant recipients, Arunkumar Subbiah, Indian Society of Nephrology, 2 years, 2020-2022, Rs 5 lakhs

#### ***Completed***

1. A randomized, double-blind, placebo-controlled, parallel-group, multicenter study to demonstrate the effects of Sotagliflozin on cardiovascular and renal events in patients with type 2 diabetes, cardiovascular risk factors and moderately impaired renal function, RK Yadav, Sanofi Pharma, 5 years (Prematurely terminated due to COVID), 2018-2020, Rs 4.71 lakhs per patient
2. Prevalence and significance of serum galactose deficient IgA1 in Indian patients with IgA nephropathy: A case control study, Soumita Bagchi, Intramural grant, 1 year, 2017-2018, Rs 5 lakhs
3. Prospective monitoring of BK virus replication in the first year following renal transplantation in Indian patients, Soumita Bagchi, Intramural grant, 2 years, 2014-2016, Rs 6.2 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A randomized control trial to assess the efficacy of renal care bundle on quality of life among CKD patients at AIIMS, New Delhi.
2. A randomized trial- To compare the catheter malfunction in Laparoscopic CAPD insertion with omentectomy versus open CAPD insertion
3. A randomized trial to compare the catheter malfunction in laparoscopic CAPD insertion with omentectomy versus open CAPD insertion
4. A study to develop hemodialysis patient safety care protocol for the patients undergoing hemodialysis at AIIMS, New Delhi and assess its feasibility, nurses acceptability and patient satisfaction
5. Characterization of chronic kidney disease of unknown origin in patients attending Nephrology OPD of AIIMS, New Delhi-A cross-sectional study
6. Comparison of renal functions in children with primary vesicoureteral reflux (VUR) grade III-V without renal scarring and with grade 1 and grade 2 renal scarring
7. Evaluation of nutritional status and exercise tolerance in chronic kidney disease- dialysis and nondialysis
8. Impact of Hepatitis C treatment on long term outcomes of renal allograft recipients in Indian setting



9. Molecular epidemiology of mycoplasma pneumonia and pneumocystis jirovecii in immunocompromised individuals
10. Renal transplant outcomes in patients with primary FSGS
11. Study to evaluate the effect of fundus fluorescent angiography on renal functions
12. Supportive management of IgA nephropathy-a prospective study

### ***Completed***

1. A cohort study to evaluate the changes in exercise tolerance and nutritional status in chronic kidney disease patients on hemodialysis before and after renal transplantation
2. A study of proteinuria in kidney transplant recipients in first year post transplant
3. Correlation of serum Immunoglobulin A/complement factor 3(IgA/C3) with the clinical and histologic severity in patients with IgA nephropathy
4. Electrolyte and acid base disturbances in post renal transplant patients: prospective study
5. Evaluation of changes in measured GFR, Echocardiography, markers of bone mineral metabolism and carotid intimal medial thickness (CIMT) after renal donation
6. To study the role of Vitamin D levels on disease severity and outcome in Indian patients with primary IgA nephropathy

### **Collaborative projects**

#### ***Ongoing***

1. A randomized trial- To compare the catheter malfunction in Laparoscopic CAPD insertion with omentectomy versus Open CAPD insertion, Surgery
2. Assessment of Fok I polymorphism of VDR gene, vitamin D and parathyroid hormone levels in stage 4-5 CKD patients, Laboratory Medicine
3. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum and urine samples of post-renal transplant patients, Anatomy
4. Double blind randomized control trial to study the re-pigmentation in non-segmental vitiligo using 0.1% tacrolimus / 0.2% tacrolimus / placebo, in combination with excimer lamp, Dermatology
5. Genotypic characterization of Autosomal Dominant Polycystic Kidney disease (ADPKD) in Indian population: a pilot study, Laboratory Medicine
6. Impact of intra-operative determinants on graft outcome following live donor renal transplant, Surgery
7. Improving maturation rates of AV fistula hemodialysis access in CKD V patients using autologous adipose tissue derived mesenchymal stem cells: a double blind, randomized placebo-controlled trial, Cardiovascular Radiology & Endovascular Interventions
8. Intestinal Parasitic and microsporidia infections in renal transplant patients at a tertiary care center, Laboratory Medicine
9. Long-term outcome of anti-complement factor H antibody associated atypical hemolytic uremic syndrome, Pediatric
10. Molecular detection and characterization of Pneumocystis jirovecii in respiratory samples from the patients both immunocompromised as well immunocompetent with suspected interstitial pneumonia and other chronic lung diseases, Microbiology
11. Short term and long-term outcomes following laparoscopic donor nephrectomy and open donor nephrectomy: An ambispective comparative cohort study, Surgery
12. Surgical audit of renal transplantation data of a single surgical unit over the last decade, Surgery

#### ***Completed***

1. To define intestinal insufficiency in patients with celiac disease, Gastroenterology
2. To study the effect of 24 hour versus standard 7 day prophylactic antibiotic regimen in renal transplant recipients: a randomized control study, Department of Surgery

### **PUBLICATIONS**

**Journals: 23**

**Abstract: 1**

### **PATIENT CARE:**

Dr Arunkumar S: Health awareness Camp for Hon'ble M.P.'s (16.03.2021 & 23.03.2021)

### Facilities available in the department

In addition to providing general nephrology care for all nephrology related illnesses, department provides state-of-the-art renal replacement therapy; hemodialysis, CAPD and renal transplant at very low cost to any patient of end stage renal disease. Department provides swap transplant and ABO incompatible renal transplant. During hemodialysis, ultrapure water is provided to machine so that absolutely safe hemodialysis can be provided to patients. Isolation rooms were made ready to provide dialysis to COVID-suspect patients. During the lockdown and subsequently, teleconsultations were provided to outpatients to ensure continuity of care and appropriate medical management.

### Special laboratory facilities

Department provides immunosuppressive drug monitoring free of cost to transplant patients. Apart from renal function tests, serum bicarbonate levels are measured in departmental laboratory. Accurate assessment of proteinuria is provided to renal patients in the laboratory.

### Following number of patients were provided respective facility

SN	Area	Sub-heading	2020
1	HD Related	HD New Patients	1304
		Emergency HD Patients	1228
		Total HD	10761
		Plasmapheresis	58
		Femoral Vein catherization	677
		Jugular / Subclavian catherization	152
		AV Shunts	0
		AV Fistula	88
		Permcath Insertion	17
		2	ICU Related
3	Peritoneal Dialysis	Acute PD	16
		CAPD	6
4	Indoor Related	Kidney Biopsy	346
		Liver Biopsy	3
		Indoor regular admission	573
		Indoor short admission	1736
		Indoor Death / male	65/40
		Nephrology consultation	4448
		Ultrasound	329
5	Day Care Treatment	Pulse Methylprednisolone Tt	31
		IV iron Therapy	34
		IV Cyclophosphamide Therapy	22
		Other Miscellaneous Therapies	1649
6	Renal Transplant	Evaluation of LRRT	88
		Evaluation of Cadaver recipient	46
		Living RT done	28
		Cadaver RT done	4
7	Renal Lab related	Blood sampling	60107
		Biochemistry (Urea, Cr, Na, K)	38469
		Urine osmolality	1140
		24 hr urine testing	7213
		Hemogram for RT Patients	5372
		CO2	11520
	Serum iron	3931	

SN	Area	Sub-heading	2020
		<b>TIBC</b>	3931
		<b>UIBC</b>	3931
		<b>T Saturation</b>	3931
		<b>Serum Ferritin</b>	1326
		<b>NGAL</b>	0
		<b>Tac Level</b>	2666
		<b>Vit-D &amp; PTH</b>	0
		<b>Urine PO4</b>	0
<b>8</b>	<b>OPD Related</b>	<b>Renal clinic new patient</b>	3091
		<b>Renal clinic old patient</b>	13779
		<b>Renal clinic Total Patients</b>	16870
		<b>RTCC New Cases</b>	101
		<b>RTCC Old Cases</b>	252
		<b>RT new cases</b>	27
		<b>RT old cases</b>	3323
		<b>RT Clinic Total Patients</b>	3350
	<b>COVID-19 DIALYSIS</b>		2215
	<b>TELECONSULTATION</b>		20713

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

Our center has been selected as International Interventional Nephrology Training Center by the International Society of Nephrology this year. We are the only center from India and South Asia to receive this honor. We would have short term trainees selected from other countries to be trained by the department in the coming year.

**Dr Arpit Gupta**, Senior Resident in the department won the 3rd SVIMS University Dr V Siva Kumar Gold medal for Annual Nephrology Essay Competition on Peritoneal Dialysis for DM/DNB Nephrology Students.

**Professor Sanjay Kumar Agarwal** Invited to be associate editor for Journal of Lab Physician (2020 onward), Invited to be editorial board member of International "Open urology and Nephrology Journal" (2020 onward); Invited as subject expert for collaboration strategy between National Tuberculosis Elimination Program and National Organ Transplant Program in India (2020 onward); Invited as subject expert for collaboration strategy between National Tuberculosis Elimination Program and Pradhan Mantri National Dialysis Program in India (2020 onward); Invited to be Champion in Transplantation from South Asian region by The Transplantation Society of the world (January 2021 onward); Member of Expert Committee to comprehensively review the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) (2021 onward); Expert member of National Oversight Committee (NatCom) for Pradhan Mantri National Dialysis Programme (PMNDP) (2020 onward); Editor in chief Seminars in Dialysis (2020 onward); Editor in Chief Indian J of Nephrology (2015 onward); Chair of Burden of Disease: India CKD expert group as part of World Burden of Disease activity (2017 onward); President Institute Foundation Delhi (2012 onward); Chief Advisor of NOTTO Registry and Website (2013 onward); Invited to be member of Technical Expert Committee for National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Disease and Stroke (NPCDCS), (2017 onward); Core committee member for National List of Essential Medicine revision committee, (2021); Member of ISN-India subcommittee of International Society of Nephrology (2011 Onwards); Advisory Board member of National organ Transplant Program, Govt. Of India (2014 onward); Advisory Board member of CKD program Govt. Of India (2018 onward); Member of South Asian Regional Board of International Society of Nephrology (2015 onward); Principal Investigator for Bio-repository Facility, Department of Nephrology at AIIMS; Secretary Indian Academy of Nephrology (2005 onward); Member of International Society of Nephrology Advancing Clinical Trials (ISN-ACT) Network (2017-onward).

**Professor Dipankar Madhusudhan Bhowmik** is Visiting Professor of Nephrology, AIIMS Rishikesh; the Deputy Editor of Indian Journal of Nephrology; Nodal Officer for Infection Control (including COVID); CPIO, Department of Nephrology; Department Stores; Website in-charge of content provider for department; National Coordinator for National Board DNB (Nephrology) Practical Examination; Treasurer of Institute Kidney Foundation of Delhi, External expert for faculty selection in AIIMS Rishikesh, ILBS, New Delhi, IGIMS Patna; DM examiner for various national institutes, PGI Chandigarh, AIIMS Jodhpur; Trustee of Guru Kripa Trust; Appeared in Doordarshan and AIR to increase public awareness on kidney diseases;

Member of National Committee List of Essential Medicines (Devices); Organised World Kidney Day Celebrations in March 2020 in AIIMS, RML in association with ISNNZ and IFKD; Reviewer of several national and international journals.

**Professor Sandeep Mahajan** was Expert Committee member for Grant-in-Aid (GIA) Scheme of Department of Health Research (DHR) (2021); Editorial board member of Indian Journal of Nephrology (2021); Member of Committee to Develop Guidelines to Identify Individuals with Co-morbidities that Enhance Risk of Mortality in COVID-19 Disease for Possible Priority Vaccination. Constituted by the National Expert Group on Vaccine Administration for COVID-19 (NEGVAC); Working Group member- 3 “Clinical Practice” constituted by NITI Aayoga, Government of India for developing a integrative protocol incorporating conventional medical system and AYUSH (2021); Specialist for the Annual Expedition to Antarctica conducted by National Centre for Polar and Ocean Research (NCPOR)(2021); Awarded SRNM oration by the Society of Renal Nutrition & metabolism at the Annual conference SRNMCON-2020; National Expert Panel Member of the Certificate Course in Management of Hypertension by Public Health Foundation of India (2016-continue); Scientific Committee Member of Peritoneal Dialysis Society of India (2019-continue); Program Chair for the Post Graduate Medical Program (Nephrology) for the Texila American University (2017-continue); Expert member of the reconstituted Task Force of Metabolic Disorders and Auto-Immune Diseases, by Department of Biotechnology, Ministry of Science & Technology (2017-continue); Committee member for roll-out of Peritoneal Dialysis under the National Health Mission (2017-continue); Co-chairperson for the ICMR Expert Group for preparation of standard treatment workflows (STWs) for Nephrology (2018-continue); Member of South Asian Guidelines for Travel and endemic infections in solid organ recipients (2019-continue); Drug Selection Committee Member of AIIMS (2018-continue); Committee member on Extra Budgetary Resources and Corporate Social Responsibility (2018-continue); AIIMS Public Awareness Committee member (2018-continue); AIIMS Project Management Committee member for New Paid Ward Block (2018-continue); Committee member to review plans for expansion of AIIMS, New Delhi (2018-continue).

**Dr RK Yadav** received “The Galaxy – Shining Nephrostars” award organized by Times of India in Goa on 13 March 2021.

**Dr Arunkumar Subbiah** is the recipient of the Indian Society of Nephrology’s La-Renon Research grant for the year 2020; Member of AIIMS Bill Verification Committee.

## 9.22. Nuclear Magnetic Resonance (NMR)

### Professor and Head

Rama Jayasundar

### Professor

S Senthil Kumaran

### Additional Professors

Uma Sharma

Virendra Kumar

### Scientists

Sujeet Kumar Mewar

Pawan Kumar

### HIGHLIGHTS

The MRI Facility was operational from the beginning of the COVID-19 crisis. It is the only MRI facility functional during this crisis. Using the 1.5 Tesla Aera MR scanner, an express scanning protocol for Thalassemia patients was carried out in 22 patients in 12 hours, to demonstrate the use of iron quantitative imaging by Department of Cardiovascular Radiology and Endovascular Interventions in collaboration with Department of NMR in March 2021.

### EDUCATION

The Faculties and Scientists delivered lectures and participated in the demonstration of MR techniques in the following courses in the Institute: (i) M Biotech Programme of the Department of Biotechnology – (i) Course 10 (Structural Biology and NMR Technology), Course 11 (Bioinformatics and Molecular Medicine); (ii) 3rd Semester, MBBS Course; (iii) MD Physiology Course, Department of Physiology

### Short/Long Term Training

Due to the pandemic, external candidates could not be trained this year.

### Lectures delivered

**Rama Jayasundar: 25**

**S Senthil Kumaran: 2**

**Virendra Kumar: 1**

### Rama Jayasundar

1. Allopathy and ayurveda: How they differ and why it matters, Science Lecture Series, Vigyan Bharati, New Delhi, 9 May 2020, online
2. Evolution of science and medicine in India, Science Lecture Series, Vigyan Bharati, New Delhi, 10 May 2020, online
3. Ayurveda and conventional medicine: Why should we know why, how and where they differ? Conference on Traditional knowledge and formal medicine, CSIR-National Institute of Science Communication and Information Resources (NISCAIR), Ministry of Science and Technology, Government of India, 14 May 2020, online
4. The Indian Knowledge System that straddles many disciplines Induction Program for improving Technical Education, All India Council for Technical Education (AICTE), Ministry of Human Resource Development (MHRD), Government of India, 11 June 2020, online
5. How can research in Indian knowledge systems be leveraged for COVID-19? Conference on 'Decoding the Lockdown Stress Through Mindfulness Practice', Sri Ramachandra Institute of Higher Education and Research, Chennai, 13 June 2020, online
6. Women scholars of India, keynote address, Women Scholars of Pre-Independent India, Indian National Young Academy of Sciences, Indian National Science Academy (INSA), New Delhi, 1 August 2020, online
7. Proton NMR metabolomics guided prediction of anti-obesity properties of medicinal plants, 28th Annual Meeting of International Society for Magnetic Resonance in Medicine, USA (International Conference), 12 August 2020, online
8. Physiotherapy-induced changes in brain in post-stroke rehabilitation: A longitudinal MRI study, 28th Annual Meeting of International Society for Magnetic Resonance in Medicine, USA (International Conference), 13 August 2020, online
9. MRI for studying yoga-induced cortical structural changes in stroke patients, 28th Annual Meeting of International Society for Magnetic Resonance in Medicine, USA (International Conference), 13 August 2020, online



10. Collective intelligence policy decisions, Panel discussion, Webinar series on Collective Intelligence Policy Session, CSIR-NISTADS (National Institute of Science, Technology and Development Studies), Ministry of Science and Technology, Government of India, 28 August 2020, online
11. NMR based scientific research in ayurveda, Science lecture series, Vigyan Bharati, 6 September 2020, online
12. Can ayurveda be leveraged for COVID-19? A critical cross-sectional analysis, Conference on 'COVID-19 lessons and emerging strategies in ayurveda', Council for Ayurveda Research, USA, 18 September 2020, online
13. Principles of MRI, First Virtual Chemistry Symposium, Indian Institute of Technology (IIT), Jodhpur, 17 October 2020, online
14. Science and ayurveda, National Ayurveda Day, Indian Consulate at Nairobi, Ministry of External Affairs, Government of India, 13 November 2020, online
15. Scientificity of ayurveda science India Forum, Indian Consulate United Arab Emirates, Ministry of External Affairs, Government of India, 13 November 2020, online
16. Rethinking the future of healthcare in post COVID-19 era - what role can ayurveda play? Conference on 'Future for Health and Humanity: Impact on Humans and Societies', Boston Centre of Excellence for Health and Human Development, USA, 21 November 2020, online
17. Lifestyle disorders and ayurveda, Quality Improvement Program, Pune College of Pharmacy, Pune, 23 November 2020, online
18. Research in ayurvedic pharmacology, Quality Improvement Program, Pune College of Pharmacy, Pune, 23 November 2020, online
19. Ode to science and spirituality, Driving the New Normal, Flagship event of the IIT Madras Alumni Association, IIT Madras, 2 December 2020, online
20. Mental health and ayurveda, Medical Webinar, Srajan Education Society, 4 December 2020, online
21. Ayurveda - then, now and later, Congress of the History of Science in India: From Zero to Mangalyan, India International Science Festival, 23 December 2020, online
22. My journey in science: Physics to medicine, Face To Face With new frontiers in science, Congress of the History of Science in India, India International Science Festival, 23 December 2020, online
23. Physics and medicine, Institute lecture Series, Department of Physics, Gurukul Kangri Vishwavidyalaya, Haridwar, 29 December 2020, online
24. Integration of the molecular-scale understanding of modern medicine and systems-level understanding of ayurveda, Integrative Health System, Niti Aayog, Government of India 30 December 2020, online
25. NMR based research in ayurveda, India Science Month Online, India Science Fest, 16 January 2021, online
26. NMR chemometrics based chemosensory differentiation of anti-obesity phytochemicals and medicinal plants, 62nd Experimental NMR Conference (International Conference), 30 March 2021, online

### **S Senthil Kumaran**

1. Identification of drug metabolites in urine matrix by NMR, First course on analysis of drugs and explosive by LC, NMR and FT-IR, 13 October 2020, Online
2. Functional MRI – Clinical Applications, Advances in Medical Imaging, 18 March 2021, Online

### **Virendra Kumar**

1. Artificial intelligence in medical imaging, International Symposium on Bioinformatics and Artificial Intelligence in COVID-19 Era and Beyond, 24-25 November 2020, Online

### **List of oral papers/posters presented: 15**

1. Ankeeta, Chaudhary S, Bhat P, Kumaran SS, Goyal V. Multi-modality evaluation of Hyposmia in patients with Parkinson's disease and atypical Parkinsonism, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
2. Ankeeta, Kumaran SS, Saxena R. Functional connectivity changes in ventral and dorsal stream during phonological and haptic language perception in early and late blind (MAGMA CUM LAUDE AWARD - Best paper) award, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
3. Jayasundar R, Kumar D, Mishra R, Maurya G, Bhagat P, Kaura S, Kumaran SS, Srivastava MV. Physiotherapy-induced changes in brain in post-stroke rehabilitation: A longitudinal MRI study, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online

4. Jayasundar R, Singh A, Kumar D, Proton NMR metabolomics guided prediction of anti-obesity properties of medicinal plants, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
5. Kumar D, Mishra R, Chahat, Bhagat P, Srivastava MV, Jayasundar R. MRI for studying yoga-induced cortical structural changes in stroke patients 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
6. Kumar P, Kumar R, Sharma S, Thulkar S, Datta Gupta S, Kumaran SS, Jayasundar R, Jagannathan NR, Kumar V. Metabolic profiles of blood plasma in prostate cancer patients having different dietary patterns, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
7. Kumar V, Kumar P, Kumar R, Sharma S, Thulkar S, Dattagupta S, Kumaran SS, Jayasundar R, Jagannathan NR. Metabolic Differences in Blood Plasma of Type 2 Diabetic and Non-diabetic Prostate Cancer Patients using NMR Spectroscopy, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
8. Kumari S, Kumaran SS, Goyal V, Dwivedi SN, Srivastava A, Jagannathan NR. Identification of potential saliva biomarkers in early and advanced Parkinson's disease using high resolution NMR, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
9. Malagi AV, Lokesh A, Kayal EB, Khare K, Kumar V, Das C J, Mehndiratta A. IVIM-DKI analysis using Hybrid model with parameter reconstruction method in prostate cancer at 1.5 T vs 3 T MRI, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
10. Mewar SK, Sharma S, Thulkar S, Dhamijia E, Kumar P, Panaiyadiyan S, Jayasundar R, Kumaran SS, Datta Gupta S, Jagannathan NR, Kumar Rajeev, Kumar V. Prebiopsy mp MRI to Increase the Detection Rate and Reduce the Overdiagnosis of Prostate Cancer, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
11. Pankaj, Kumaran SS, Agrawal S, Srivastava AK, Agrawal R K. Structural and resting state network alterations in Spinocerebellar Ataxia Type 2 in comparison with healthy controls, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
12. Singh A, Singh A, Kumar D, Jayasundar R. NMR chemometrics based chemosensory differentiation of anti-obesity phytochemicals and medicinal plants, 62nd Experimental NMR Conference (International), 30 March 2021, online
13. Singh D, Kumar V, Das CJ, Singh A, Mehndiratta A. Prostate Tumor Characterization using Texture Analysis of Diffusion MRI, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, online
14. Singh D, Diwan S, Kumar V, Das CJ, Singh A, Mehndiratta A. Tumor Estimation for PI-RADS v2 Assessment of Prostate Cancer using Multiparametric MRI, 28th Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), USA, 8-14 August 2020, Online
15. Wasan H, Singh D, Joshi B, Sharma U, Reeta KH. Safinamide Ameliorates Cerebral Ischemia Reperfusion Mediated Injury In Rats By Attenuating Oxidative Stress And Inflammation, Joint European Stroke Organisation and World Stroke Organization Conference (ESO-WSO 2020), 7-9 November 2020, online

## RESEARCH

### Funded projects

#### Ongoing

1. Effects of environmental and occupational noise on cognition, S Senthil Kumaran, Life Sciences Research Board (LSRB), DRDO, 3 years 10 months, 2018- 2021, Rs 59.25 lakhs
2. Elucidating pathophysiology of rheumatoid arthritis and identification of biomarkers of response using metabolomics and proteomics, Uma Sharma, ICMR, Government of India., 3 years, 2021-2024, Rs 44.23 lakhs
3. Elucidating the structural, neurobiological changes and identification of non-invasive biomarkers using magnetic resonance imaging and spectroscopy in major depressive disorder. Uma Sharma, Science and Engineering Research Board (SERB), DST, Government of India, 3 years, 2020-2023, Rs 33.08 lakhs
4. Exploring auditory perception in house crows using functional magnetic resonance imaging and neuroanatomical techniques, S Senthil Kumaran, DST, 3 years, 2020-2022, Rs 36.42 lakhs
5. Immunomodulatory effects, protease inhibitory activity and spectroscopic characterisation of select ayurvedic prophylactics and formulations: *In vitro* studies for novel SARS Cov infection, Rama Jayasundar, Ministry of AYUSH Government of India, 1 year, 2020-2021, Rs 67.69 lakhs
6. Morphological and neurobiological changes in Spinocerebellar Ataxia affected patients (SCA) through MRI techniques using computer vision based analysis, S Senthil Kumaran, SERB, Department of Science and Technology (DST), 3 years, 2018-2021, Rs 21.01 lakhs

7. MR spectroscopy for identification of non-invasive biomarkers in patients with gluten ataxia and celiac disease, Uma Sharma, AIIMS, 2 years, 2019-2021, Rs 4.5 lakhs

### **Completed**

1. Elucidating the pathobiology of classical ayurvedic interventions in post stroke recovery using Magnetic Resonance and other techniques based structural, functional and chemical biomarkers, Rama Jayasundar (PI-2), Science and Engineering Research Board (SERB), Government of India, 4 years, 2017-2021, Rs 79.00 lakhs
2. NMR phytometabolomics and studies of chemosensory signature, Rama Jayasundar, Science and Engineering Research Board (SERB), Government of India, 4 years, 2017-2021, Rs 74.76 lakhs

### **Departmental projects**

#### **Ongoing**

1. Evaluation of brain behavior relationship associated with cognitive deficit in early-onset Schizophrenia (EOS) using multi-modal MRI
2. Evaluation of fumaric acid esters (FAEs) in experimental model of stroke in rats.
3. Magnetic resonance in phenotyping healthy volunteers
4. Metabolomic NMR fingerprinting blood to identify metastases prostate cancer
5. Metabolomics of patients with gluten ataxia
6. Neuroprotective study of nano carrier based Berberine chloride in middle cerebral artery occlusion model of transient focal cerebral ischemia in rats
7. NMR phytometabolomics for chemosensory and pharmacological evaluation for functional signatures of select medicinal plants
8. Quantitative imaging biomarkers in prostate carcinoma
9. Role of magnetic resonance in assessing therapeutic efficacy of ayurveda interventions in stroke patients
10. Role of magnetic resonance in assessing therapeutic efficacy of physiotherapy interventions in stroke patients
11. Role of magnetic resonance in assessing therapeutic efficacy of yoga interventions in stroke patients
12. Understanding pathophysiology of patients with major depressive disorder by MRI and MRS

#### **Completed**

1. Evaluation of dihydromyricetin in experimental model of stroke and post stroke seizure susceptibility in rats
2. Evaluation of fumaric acid esters (FAEs) in experimental model of stroke in rats
3. In-bore MR guided targeted prostate biopsy in patients suffering from prostate cancer
4. Metabolomic profile of healthy neonates
5. Metabonomics study of celiac disease by NMR spectroscopy
6. MRI and MRS of prostate cancer
7. NMR metabolomics study blood and urine in prostate cancer patients
8. Role of advanced ultrasound and advanced MRI in evaluation of prostate cancer
9. Spectroscopic studies on anti-HIV medicinal plants

### **Collaborative projects**

#### **Ongoing**

1. A comparative study of neurochemical alteration on 1H MRS in Schizophrenia, obsessive compulsive disorder and schizophrenia with obsessive compulsive symptoms, Department of Psychiatry, AIIMS
2. Add-on effect of yoga and physical activity in persons with epilepsy on antiepileptic drugs: Assessment of seizure control status, neurobehavioral adverse effects and neurotransmitter level, Pharmacology, AIIMS
3. Analysis of anti-neurotoxicity of amyloid beta in Alzheimers (AD) disease pathology targeting Lipooxygenases, Department of Biophysics, AIIMS
4. Biomarkers for bacteremia, antimicrobial resistance and hospital acquired infections by NMR and Mass spectrometry among febrile neutropenic patients, Microbiology, AIIMS
5. EEG cortical sources and connectivity of working memory and language processing in attention deficit hyperactivity disorder, Department of Physiology, AIIMS
6. Elucidating the pathobiology of classical ayurvedic interventions in post stroke recovery using Magnetic Resonance and other technique based structural, functional and chemical, biomarkers, Dept. of Neurology, Department of Neuroradiology, AIIMS

7. Immunomodulatory effects, protease inhibitory activity and spectroscopic characterisation of select ayurvedic prophylactics and formulations: *In vitro* studies for novel SARS CoV infection, Department of Biochemistry, AIIMS
8. NMR phytometabolomics and studies of chemosensory signature of ayurvedic medicinal plants, Department of ocular pharmacology and pharmacy, AIIMS
9. Role of multiparametric MRI in detection and localization of prostate cancer, Centre for Biomedical Engineering, IIT-Delhi
10. Small molecule Bio-signatures in diagnosis of Tuberculosis, Department of Microbiology, AIIMS
11. Spectroscopic analysis of medicinal plants for standardization and quality assessment, Department of ocular pharmacology and pharmacy, AIIMS
12. Study of vaginal microbiome and metabolome in women with Bacterial Vaginosis (BV) and healthy controls, Department of Dermatology, AIIMS
13. Understanding and facilitation of neural plasticity for enhancing post stroke recovery using low-cost non-Invasive brain stimulation techniques, Neurology, AIIMS

### **Completed**

1. Elucidating the science of yoga as a therapeutic intervention in post stroke recovery study of brain using the technique of magnetic Resonance, Departments of Neurology and Neuroradiology, AIIMS
2. Metabolomics of serum in sepsis patients using proton nuclear magnetic resonance spectroscopy, Department of Medicine, AIIMS
3. Neuroprotective study of lercanidipine and citalopram in experimental model of stroke in rats, Dept. of Pharmacology, AIIMS

### **PUBLICATIONS**

**Journals: 18**

**Abstract: 1**

### **PATIENT CARE**

The department has three MRI scanners (two 3.0 Tesla and one 1.5 Tesla scanners) for patient care and research. The department provides continuous patient care MRI (24 × 7) services. The details of the number of patients scanned during the period April 2020 to March, 2021 are:

Clinical Diagnostic MRI Scan: 3657 patients

Research: 198 patients and subjects

Preclinical fMRI: 22 patients (including tumour, epilepsy); rTMS planning >3

Throughout the COVID-19 pandemic last year, clinical MRI facility was available round the clock (24 × 7 × 365), following the protocol for MRI scans.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Rama Jayasundar** was Member of the Working Group on Integrative Health System (Research), NITI Aayog, Government of India; Nominated Member of Government of India's Interdisciplinary AYUSH Research and Development Task Force for initiating, coordinating and monitoring the R&D activities in the AYUSH sector related to SARS-Cov-2 virus and the COVID-19 disease, 2020; Conferred with the IASTAM Dr C Dwarakanath award for Contribution to Contemporary research in ayurveda, 2020, India; Honourable President of India's nominee for Nagaland University; Vice Chancellor, Jawaharlal University (JNU)'s nominee as a member of the Academic Council for Annual Refresher Program in Teaching Course in History of Indian Science and Technology; Honourable President of India's nominee as a member of the Executive Council of Delhi University; Honourable President of India's nominee (Visitor's nominee) for Indian Institute of Technology (IIT), Mumbai; Member of Advisory Committee of CSIR-Traditional Knowledge Digital Library (CSIR-TKDL), Council of Scientific and Industrial Research, Government of India; Honourable President of India's nominee (Visitor's nominee) for Indian Institute of Technology (IIT), Hyderabad; Member of the Scientific Advisory Committee, Centre of Excellence, Interdisciplinary School of Health Sciences, Savitribhai Phule Pune University; Ministry of Human Resource Development (MHRD), Government of India's nominee for the Board of Governors of Indian Institute of Science Education and Research (IISER), Kolkata; Ministry of Human Resource Development (MHRD), Government of India's nominee as a Council's Nominee on the selection committee for appointment of Professors in the Indian Institute of Science Education & Research (IISER), Mohali, 2018; Reviewer for (i) J Medical Physics, (ii) J Bio Sciences, (iii) Current Science, (iv) Food Biophysics, (v) Biomed J, (vi) J AyuInteg Med, (vii) AdvNutr Food Sci, (viii) Annals Ay Med, (ix) Anc Sci Life, (x) Evidence based CAM, (xi) Ind J Med Ethics, (xii) J Comp Med Res, (xiii) Plos one; Editorial Board member- J AyuIntegr Med, Elsevier Publications.

**Professor S Senthil Kumaran** was Reviewer for (i) Journal Magnetic Resonance Imaging, (ii) Journal of Parkinson's Disease, (iii) Journal of Medical Physics, (iv) Journal of Bio Sciences, (v) Brain Research and (vi) Plos one; Reviewer for Department of Biotechnology, Department of Science and Technology, SERB and ICMR grant projects in the field of Magnetic Resonance.

**Dr Uma Sharma** was Associate Editor for Frontiers in Oncology, Editorial Board panel of Current Metabolomics and Systems Biology, Bentham Science and World Journal of Gastroenterology; Reviewer for Journals: Scientific Reports, Springer Nature, Journal for Magn. Reson Imaging, Frontiers in Neurosciences, Biochemistry and Biophysics Report, NMR in Biomedicine, Plos One; Thesis examiner for Delhi University.

**Dr Virendra Kumar** was Member, Annual Meeting Program Committee (AMPC), International Society for Magnetic Resonance in Medicine (ISMRM), CA, USA; External Expert, Board of Studies (BoS) for three years, Manipal University, Jaipur; Program Committee Member, 4th Mediterranean Conference on Pattern Recognition and Artificial Intelligence (MedPRAI-2020), Hammamet, Tunisia, December 20-22, 2020; conferred with the E. K. Zavoisky Award 2020, ISMRM, CA, USA; Editorial Board panel of Current Metabolomics and Systems Biology, Bentham Science; Reviewer for Journals: (i) Scientific Reports, Springer Nature, (ii) Cancer Imaging, Springer Nature, (iii) World Journal of Surgical Oncology, Springer Nature, (iv) Cancer Medicine, John Wiley, (v) Magnetic Resonance in Medicine, John Wiley, Medicine, Wolters Kluwer, (vi) Analytical Science Advances, Wiley, (vii) Plos One, Plos, (viii) BMC Neuroscience, Springer Nature, (ix) Current Pharmaceutical Design, Bentham, (x) IEEE Access, IEEE.



## 9.23. Nuclear Medicine

### Professor and Head

CS Bal

### Professors

Rakesh Kumar

Chetan D Patel (CNC)

### Additional Professors

Madhavi Tripathi

Anil K Pandey (Medical Physics)

### Associate Professors

Nishikant A Damle

Shamim A Shamim

### Assistant Professor

Khangemam Bangkim Chandra

## HIGHLIGHTS

This, once in century pandemic, is a trying time for whole world, particularly for India with limited recourses and sparse health-care infrastructures. As department of AIIMS, New Delhi we could not escape the claws of bad time. However, we continued to provide routine services which were about one-third compared to previous years. We had continued online education of our students and published 112 peer-reviewed scientific research papers. Professor CS Bal got duly elected as Fellow (FASc) of prestigious Indian Academy of Sciences, Bengaluru. Two students awarded PhDs, and department received several intra- and extramural research grants.

Nuclear Medicine in Cardiothoracic Centre (CTC) performs diagnostic nuclear cardiology procedures, this year the number of elective diagnostic procedures performed were less due to lockdown during the COVID pandemic. Recently, we have started imaging for cardiac amyloidosis using Tc99 m Pyrophosphate (PYP) and are participating in a project titled “*Establishing International Amyloidosis Centers of Excellence in India, Kuwait and South Africa*” conducted by Brigham and Women’s Hospital/Harvard Medical School, USA.

## EDUCATION

Postgraduate students undergoing training: 53 (5 DM in Therapeutic Nuclear Medicine, 30 MD Nuclear Medicine students and 18 MSc Nuclear Medicine Technology). Journal Club/Seminars/Intra-department lectures/Case discussions held ‘On site’ teaching of MD students while reporting clinical studies.

### Lectures delivered:

**CS Bal: 5**

**Rakesh Kumar: 3**

**Chetan Patel: 2**

**Anil K Pandey: 1**

**Madhavi Tripathi: 1**

**Nishikant Damle: 4**

**Shamim A Shamim: 3**

**Khangemam Bangkim Chandra: 1**

### CS Bal

1. “Practical Radiopharmaceutical Dosimetry”, Indian College of Nuclear Medicine Webinar, 10 July 2020, Online
2. Plenary Lecture “Lenvatinib- The Molecule of Hope for Radioiodine Refractory DTC”, Association of Nuclear Medicine Physicians of India 20th Annual Conference, 2 October 2020, Online
3. Management of Postoperative DTC by Radioiodine, Indian Academy of ENT and Head and Neck Surgeons, 28 November 2020, Online
4. Challenges in the management of Radioiodine refractory differentiated thyroid cancer, Society of Nuclear Medicine, India 52nd Annual Meeting AIIMS, Raipur, 11 December 2020, Online
5. “Fibroblast Activating Protein inhibitor (FAPI) PET/CT imaging in Oncology- Current Scenario in India”, 19th Evidence Based Medicine at Tata Memorial Centre, Parel, Mumbai, 27 February 2021, Online

### Rakesh Kumar

1. Head and neck cancer, 3rd Annual Review Head and Neck Cancers Conference, 20 June 2020, Online

2. PET/CT: Case based discussion, SNM Annual Meeting, AIIMS, Raipur, 12-15 December 2020, Online
3. Nuclear Medicine in Peds Surgery, 13th Peds Surg Update MAMC, Delhi, 12 March 2021, Online

#### **Chetan Patel**

1. Inflammatory and Infiltrative Cardiomyopathies, Webinar conducted by Indian College of Nuclear Medicine and Society of Nuclear Medicine, India, 8 July 2020, Online
2. Moderator in a talk titled “Perspectives of Nuclear Cardiology in 2020”, Annual conference of Association of Nuclear Medicine Physicians of India (ANMPI), 2-3 October 2020, Online

#### **Anil K Pandey**

1. Image denoising using deep learning nuclear medicine, Virtual NMPAICON 2021, 13-14 February 2021, Online

#### **Madhavi Tripathi**

1. PET and SPECT in localisation and Epilepsy Networks, ‘Comprehensive Epilepsy Surgery Online Series Course’ Series VIII, 24 January 2021, Online

#### **Nishikant Damle**

1. Nuclear Medicine in Endocrinology, Online Lectures for DM Endocrinology students at Govt. Medical College, Thiruvananthapuram, 21, 28 August - 4 September 2020, Online
2. PSMA therapy in non-prostatic malignancies, Theranostics Symposium, organized by TMH, Mumbai, 18 December 2020, Online
3. Nuclear Medicine Investigations- What a Radiologist should know, Online Webinar organized by the Delhi State Chapter of IRIA on recent advances in imaging, 12 August 2020, Online
4. Nuclear imaging for neuro-endocrine tumors, EnSPIRE program by Endocrine Society of India, 27 March 2021, Online

#### **Shamim A Shamim**

1. Role of PET CT (Present and Future) in Sarcoma, Live National Webinar- Sarcoma & GIST Symposium 2020, 30-31 July 2020, Online
2. Head and Neck Cancer, 8th Chapter of CRAB-E-CON & 2nd Chapter of TELE-ONCOTHON, 3 October 2020, Online  
PET-CT in Prostate Cancer, Prostate Cancer Master class in Horizon Conference, 11-12 September 2020, Online
3. Radio-nuclide imaging-Newly available Options, Foundation for Head-Neck Oncology (FHNO) Annual Meeting-FHNO2020, 12-13 December 2020, Online

#### **Khangemam Bangkim Chandra**

1. PET Perfusion Tracers, Online lecture series for all India MD/DNB students under the aegis of ANMPI, 17 November 2020, Online

#### **List of oral papers/posters presented: 37**

1. A Kumar, ST Arun Raj, MP Yadav, S Ballal, R Kumar, D. Khan, A Hemrom, KP Hareesh, S Gupta, NA Damle, A. Garg, M. Singh, M Tripathi, C Bal, Evaluation of PSMA expression in high grade gliomas using 68Ga-PSMA PET/CT. OP-362., EANM’2020, October 2020, Vienna Austria
2. Arora G, Tyagi A, Damle AN, Tiwari V, In-House Standardisation of synthesis and quality control of Tc-99 m Labelled Ubiquitin, SNMMI, 20 November 2020, NA
3. Arun Raj S, Damle NK, Gupta Y, Pal S, Sharma M, Tripathi M, Kumar R, Ballal S, Yadav M and Bal CK. A head-to-head comparison study of 68Ga-DOTA-Exendin-4 and 68Ga-DOTA-NOC PET/CT in insulinomas, SNMMI 2020 Annual Meeting, USA - Virtual Edition, June 2020, New Orleans, Louisiana
4. Bal CS, Ballal and Madhav Yadav, Prospective Long-term outcome of Radioiodine Therapy in Brain Metastases from Differentiated Thyroid Cancer- Single Centre Cohort Study. SNMMI 2020 Annual Meeting, USA - Virtual Edition, June 2020, New Orleans, Louisiana
5. Bal CS, Frank Roesch, Ballal S, Yadav M, Tripathi M, Yadav D and Sagar S, 68Ga-DOTA-FAPi-05: Biodistribution and Comparison with 18F-FDG PET/CT in Various Cancers, SNMMI 2020 Annual Meeting, USA - Virtual Edition, June 2020, New Orleans, Louisiana
6. Bal CS, Yadav M, Ballal S, Tripathi M. Safety and Therapeutic Efficacy of 225Ac-DOTATATE Targeted Alpha Therapy in Metastatic Gastroenteropancreatic Neuroendocrine Tumors Stable or Refractory to 177Lu-DOTATATE PRRT, SNMMI 2020 Annual Meeting, USA - Virtual Edition, June 2020, New Orleans, Louisiana

7. Ballal S, Yadav M and Bal C. Early results of <sup>225</sup>Ac-DOTATATE Targeted Alpha Therapy in Metastatic Gastroenteropancreatic Neuroendocrine Tumors: First Clinical Experience on Safety and Efficacy, SNMMI 2020 Annual Meeting, USA - Virtual Edition, June 2020, New Orleans, Louisiana
8. Ballal S, Yadav M, Bal C. Efficacy of <sup>225</sup>Ac-DOTATATE Targeted Alpha Therapy in Metastatic Gastroenteropancreatic Neuroendocrine Tumors Stable or Refractory to <sup>177</sup>Lu-DOTATATE PRRT, EANM'2020, October 2020, Vienna Austria
9. Chandra KB, Singhal A, Sarin SK, Predictors of macrovascular invasion and extrahepatic metastasis in treatment naïve hepatocellular carcinoma: when is FDG PET/CT relevant? Society of Nuclear Medicine Conference 2020 (Virtual) (SNMICON 2020), 11-13 December 2020, Virtual
10. Datta Gupta S, Arora G, Shamim S, Singh TP, Kaushik P, Kumar R, <sup>18</sup>F-FDG PET/CT in Synovial Sarcoma: Staging, Response And Surveillance, Virtual SNMICON 2020, 11-13 December 2020, Virtual
11. Datta Gupta S, Arora G, Shamim SA, Hussain J, Rastogi S, Kumar R, Bal CS. Role of F-18 FDG PET/CT in guiding Immuno-Therapy in GIST: An Indian Experience, Virtual SNMICON 2020, 11-13 December 2020, Virtual
12. Datta Gupta S, Gupta P, Shamim SA, Hussain J, Shalimar, Gamanagatti S, Mallia MB, Chirayil V, Dash AK, CS Bal. Re-188 N-DEDC Lipiodol for trans-arterial therapy in HCC: labelling efficiency and biodistribution, EANM CONGRESS 2020 VIRTUAL, 22-30 October 2020, Vienna, Austria
13. Datta Gupta S, Shamim SA, Shalimar, Gamanagatti S, Gupta P, Mallia MB, Chirayil V, Dash AK, Bal CS. Trans-arterial Rhenium (Re)-188 lipiodol therapy in inoperable hepatocellular carcinoma: HDD vs. DEDC, EANM CONGRESS 2020 VIRTUAL, 22-30 October 2020, Vienna, Austria
14. Dhiman S, Pandey A, Tripathi M, Kumar P, Baghel V, Jaleel J, Arun Raj ST, Damle NK, Kumar R, Bal CS. Evaluation of standardized uptake value ratios (SUVr) on F-18 Tau Positron emission tomography, 52nd Annual Conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual, 11-13 December 2020, Virtual
15. Dhiman S, Pandey A, Tripathi M, Kumar P, Baghel V, Jaleel J, Arun Raj ST, Damle NK, Kumar R, Bal CS. Evaluation of Standardized uptake value ratios (SUVr) on F-18 Tau Positron Emission Tomography \*(Best oral presentation award- 2nd Prize), SNMICON 2020, 12 December 2020, Virtual
16. Hemrom A, Tupalli A, Reddy KS, Agarwala S, Seth R, Bakshi S, Prabhu M, Kumar A, Damle NA, Bal C. Evaluating Neuroblastoma- Role of <sup>18</sup>F-DOPA PET/CT Compared with <sup>131</sup>I-MIBG Scintigraphy, EANM, 22 October 2020, Vienna, Austria
17. Kaushik P, Shamim S, Hussain J, Arora G, Datta Gupta S, Kumar R, Bal C. Role of <sup>18</sup>F-FDG PET/CT in assessment of treatment response in transitional cell carcinoma: SNMMI 2020 Annual Meeting-Virtual Edition, 11-14 July 2020, New Orleans, Louisiana
18. Km Ranu, Arora G, Poonam, Naveen, Ballal S, Tripathi M, CS Bal. Quantification of Striatal Binding Ratios in <sup>99m</sup>Tc- TRODAT SPECT/CT, SNMICON 2020, December 12th 2020, Virtual
19. Kumar A, ST AR, Tripathi M, Hareesh KP, Damle NA. Prospective evaluation of the role of <sup>68</sup>Ga-PSMA PET/CT in recurrent high grade gliomas, SNMMI 2020 Annual Conference, 15 June 2020, New Orleans, Louisiana
20. Kumar D, Pandey A, Kumar R and Patel C. Image enhancement using Stochastic Resonance in <sup>99m</sup>Tc-MDP bone scan images, SNMMI 2020 Annual Meeting, USA, 11-14 July 2020, New Orleans, Louisiana
21. Kumar N, Pandey AK, Arora G, Bhagel V, Jaleel J, Sharma A, Kumar R, Patel C, Bal CS. Role of boundary tracing technique in identification of renal scars in Tc-99m-DMSA images, 52nd Annual Conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual), 11-13 December 2020, Virtual
22. Pandey A, Yadav D, Sharma A, Sonker D, Patel C, Bal C and Kumar R, Evaluation of Perception based Image Quality Evaluator (PIQE) no-reference image quality score for <sup>99m</sup>Tc-MDP bone scan images, SNMMI 2020 Annual Meeting, USA, 11-14 July 2020, New Orleans, Louisiana
23. Pandey AK, Dhiman S, Arun Raj ST, Patel C, Bal CS, Kumar R. Designing and comparing performances of image processing pipeline for enhancement of I-131-mIBG images. 52nd Annual Conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual, 11-13 December 2020, Virtual
24. Pandey AK, Kumar N, Sharma A, Jasim V, Madhavi, Patel C, Bal CS and Kumar Rakesh. Scintigraphic image denoising using pre-trained deep neural network. 52nd Annual Conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual, 11-13 December 2020, Virtual
25. Pandey AK, Sharma SA, Kumar S, Patel C, Bal CS, Kumar R. ML network for co-registration of whole body PET/CT images and to extract a part of co-registered PET and CT images, 52nd Annual Conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual), 11-13 December 2020, Virtual
26. Prakash S, Bal CS, Seth A, Tripathi M, Ballal S, Yadav MP; A, Prospective Study to Compare the Role of <sup>68</sup>GaPSMA-11 PET-CT and <sup>68</sup>Ga-GUL-NOTA-PSMA PET-CT in the Evaluation of Prostate Cancer, EANM'2020, October 2020, Vienna Austria

27. S AR, Damle NA, Gupta Y, Pal S, Sharma M, Tripathi M, Kumar R, Ballal S, Yadav M, Bal C, A Head-to-Head comparison study of Ga-68-DOTA-Exendin-4 And Ga-68-DOTA-NOC PET/CT In Insulinomas, SNMMI, 1 May 2020, New Orleans, Louisiana
28. Sagar S, Damle N, Sharma R, Reddy K, Subudhi T, Jain V, Bal C, Tripathi M, Jana M, Correlation Between F-18-DOPA PET/CT Findings And Genetic Mutation Analysis In Patients With Persistent Hyperinsulinemic Hypoglycemia, EANM, 18 October 2020, Vienna, Austria
29. Shamim A Shamim, Shreya Datta Gupta, Geetanjali Arora, Jhangir Hussain, Vikas Garg, Sameer Rastogi, Role of F-18 FDG PET/CT in rare Anorectal Malignant Melanoma, Virtual SNMICON 2020, 11-13 December 2020, Virtual
30. Shamim SA, Arunraj ST, Arora G, Shankar K, Majeed AK, Kumar S, Hussain J, Bal CS. Findings of aseptic lymphocyte-dominated vasculitis-associated lesions on three phase <sup>99m</sup>Tc-MDP bone scintigraphy with SPECT/CT, Virtual SNMICON 2020, 11-13 December 2020, Virtual
31. Sonker D, Pandey AK, Baghel V, Jaleel J, Kumar R, Patel C, Bal CS. Restoration of Tc-99m MDP Whole body Bone scan images using Richardson-Lucy algorithm in order to enhance clinical confidence, 52nd Annual Conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual), 11-13 December 2020, Raipur
32. Subudhi TK, Damle N, Arora G, Bal C, Tripathi M, Kumar C, Agarwal S, Kumar R, Kumar R, Ranjan P, Madan K, Role Of Ga-68-PSMA-HBED-CC PET/CT In Patients With Anaplastic Thyroid Carcinoma, SNMMI 2020, 1 May 2020, New Orleans, Louisiana
33. Swarnaditya Roy, Ahitagni Biswas, Ashish Binjola, Madhavi Tripathi, Rajeev Kumar, Samer Bakhshi, Ranjit Sahoo, Ajay Gogia, Atul Sharma, Suman Bhasker, Chandrasekhar Bal, Subhash Chander. Early Clinical Outcome, Acute Toxicity Profile and Health Related Quality of Life after Chemo-Immunotherapy and Involved Site Radiotherapy (ISRT) In Early Nodal DLBCL Results of a Single Arm Phase II Trial, ASTRO, Annual Meeting, 25-28 October 2020, Miami Beach, Florida
34. Thayumanavan T, Patel C, Bal C, Seth S, Roy A, Pandey A, Kumar R, Kumar P and Sharma A. Flourine-18 Fluoro L-Dihydroxyphenylalanine (F-18 FDOPA) PET-CT in evaluation of cardiac sympathetic innervation in Heart Failure patients, SNMMI 2020 Annual Meeting, USA, 11-14 July, 2020, Virtual
35. Tyagi A, Arora G, Damle N, Kumar P, Kumar R, Dharmashaktu Y, Jaleel J, Sachani H, Sagar S. Clinical Significance Of Alteration In Ph During In-House Labelling On Tc-99m Ubiqutidin Scan, SNMMI, 20 November 2020, Virtual
36. Yadav M, Ballal S, Bal C. Efficacy and Safety of 225Ac-PSMA-617 Targeted Alpha Therapy in Metastatic Castration-Resistant Prostate Cancer Patients. European, EANM'2020, October 2020, Vienna Austria
37. Yadav M, Ballal S, Bal CS and Tripathi M. Clinical Experience on 225Ac-PSMA-617 Targeted Alpha Therapy in Metastatic Castration Resistant Prostate Cancer Patients: Safety and Efficacy Results, SNMMI 2020 Annual Meeting, USA - Virtual Edition, June 2020, New Orleans, Louisiana

## RESEARCH

### Funded projects

#### Ongoing:

1. <sup>68</sup>Ga-PSMA PET/CT for evaluation of Hepatocellular carcinoma, Shamim A Shamim, Intramural Funding, 1+1 years, 2019-2021, 5,00,000/-
2. Comparison of Alpha Emitting 225Ac-DOTATATE Versus Beta Emitting 177Lu-DOTATATE Therapy in Advanced End-stage Gastroenteropancreatic Neuroendocrine Tumor (GEP-NET) Patients, Chandrasekhar Bal, ICMR, 5 years, 2019-2024, Rs 1.5 crores
3. Comparison of Re-188-HDD Lipiodol Transarterial Radionuclide Therapy (TART) with Re-188-DEDC Lipiodol TART in the Management of advanced Hepatocellular Carcinoma: A Randomized control trail", Shamim A Shamim, ICMR, 3 years, 2019-2022, Rs 47,56,910
4. Comparison of targeted 225Ac-PSMA-617 alpha particle therapy versus 177Lu-PSMA-617 beta particle therapy in metastatic castration resistant prostate cancer patients: An open-label, two-arm, phase II RCT, Chandrasekhar Bal, ICMR, 3 years, 2019-2020, Only manpower salary Research associate Rs 6.96 lakhs per year
5. Diagnostic accuracy of antifungal scintigraphy in diagnosing invasive fungal disease (IFD) in febrile neutropenia in pediatric hematologic malignancies, Nishikant A Damle, Intramural, 2 years, 2019-2021, 5 lakhs/ year
6. Establishing international amyloidosis centers of excellence in India, Kuwait and South Africa, Chetan D, Patel, Brigham and Women's Hospital/Harvard Medical School, USA, 2 years, 2021- 2022, US \$ 20000
7. Evaluation of long acting octreotide therapy in steroid resistant Graves ophthalmopathy with somatostatin receptor expression on 68Ga-DOTANOC PET/CT, Dr. Nishikant A Damle, Intramural, 3 years, 2019-2022, Rs 5 lakhs/ year

8. Gastric emptying scintigraphy using a standard vegetarian meal: Establishment of Reference Values in Post-Sleeve Gastrectomy Patients on Mid-Term Follow-Up, Khangemam Bangkim Chandra, Intramural, AIIMS, New Delhi, 1 year, 2021-2022, Rs 2 lakhs
9. International study on imaging in Cardio-Oncology Study (iCOS), Chetan D Patel, International Atomic Energy Agency (IAEA), 5 years, September 2019 -ongoing, 1st year 2000 Euros
10. Mutation spectrum of BRAF gene among patients with Papillary Thyroid Carcinoma: A patho-genetic study in Indian population, Chandrasekhar Bal, ICMR, 3 years, 2018-2021, Rs 25 lakhs per year
11. Prospective single arm post marketing Phase IV study to assess the safety and efficacy of Lenvatinib in subjects with locally recurrent or Metastatic, Progressive, Radioiodine Refractory Differentiated Thyroid Cancer". PHASE IV FDA TRIAL, Chandrasekhar Bal, CLIANTHA RESEARCH LTD, until all patient attain an event, August 2018-ongoing, No funds for manpower, Funds directly to patients
12. Use of PET-CT with Gallium-68 Labeled Prostate Specific Membrane Antigen in the diagnosis and follow-up of Patients with Prostate Cancer, Dr. Rakesh Kr, Atomic Energy Agency (IAEA), 5 years, 2017-2021, Rs 18000/- Euro
13. Utility of radiolabelled antibiotics as imaging agents in establishment of a decision support algorithm in patients with Pyrexia of Unknown Origin (PUO) caused by infection and its impact on short term and long term clinical outcomes, Nishikant A Damle, ICMR, 3 years, 2019-2022, Rs 36 lakhs

### **Completed**

1. Dosimetry Of <sup>177</sup>Lu -Labelled PSMA-617 In Castration-Resistant Prostate Cancer Patients, Chandrasekhar Bal, ICMR, 3 years, 2017-2020, Completed
2. Evaluation of Multimodality Imaging in the Assessment and Diagnosis of early Stage Alzheimers Disease with and without co-morbidities, Madhavi Tripathi, IAEA, 5 years, 2015-2020, 24,000 Euro

### **Departmental projects**

#### **Ongoing**

1. <sup>68</sup>Ga-PSMA PET/CT in Metastatic Renal Cell Carcinoma
2. A Phase II Study of Gemcitabine Docetaxel Combination in Metastatic Relapsed Synovial Sarcoma.
3. A study to evaluate the heterogeneity of estrogen receptor (ER) expression in breast cancer using F-18 Fluoroestradiol (FES) & F-18 FDG PET/CT
4. Assessment of labelling efficiency, dosimetry and safety profile of <sup>188</sup>Re-N-DEDC/lipiodol Trans-arterial radionuclide therapy in hepatocellular carcinoma
5. Clinical profile and outcome of patients with suspected OR confirmed granulomatous myocarditis
6. Design and methods of the YOGICAD study- A probe trial to evaluate the efficacy of yoga based cardiac rehabilitation in Post PCI patients
7. Detection of oncogenic viruses HPV and EBV by immunohistochemistry in secondary cervical lymph nodes from primary of oropharynx, nasopharynx, and unknown primary
8. Diagnostic performance of CRH stimulated BIPSS in patients with ACTH dependent Cushing's syndrome"
9. Evaluating the spectrum of cardiac involvement in sarcoidosis
10. Evaluating tumor heterogeneity in mCRPC with Ga-68 PSMA & F-18 FDG PET/CT: A prospective study
11. Evaluation of Function and Viability of the Medial Gastrocnemius Flap in Proximal Tibial Endoprosthesis for Bone Tumors
12. Genetic changes of TP53 and its role in treatment management of patients with advanced soft tissue sarcoma
13. Immune microenvironment of Anaplastic Thyroid Carcinoma
14. Non- invasive tissue diagnosis – A comparison of the accuracy of parametric mapping on MRI with cardiac PET scan in determining the response to therapy in cardiac sarcoidosis
15. Prospective comparison between <sup>18</sup>F-FDG PET/CT and conventional modalities for Ewing's family of tumors
16. Prospective study evaluating the role of F-18 Fluorodeoxyglucose Positron Emission Tomography in Autoimmune Encephalitis
17. Role of <sup>18</sup>F-Fluorocholine PET/4DCT in the localization of culprit lesions in patients with persistent/recurrent primary hyperparathyroidism
18. Role of <sup>99m</sup>Tc-Pyrophosphate Imaging in detection of transthyretin cardiac amyloidosis (ATTR-cardiac amyloidosis) in high risk population
19. Role of F-18 FDG in mapping Covid-19 functional sequelae in Covid COVID-19 survivors



20. Role of F-18 FDG PET-CT in assessment of initial chemotherapy response in Pediatric Langerhan's cell histiocytosis.
21. Role of Integrated <sup>18</sup>F-Fluorocholine PET/4DCT in the localization of culprit lesions in patients with primary hyperparathyroidism
22. Role of PET-CT in assessment of treatment response to neo adjuvant chemotherapy in primary extraocular retinoblastoma
23. Role of PET-CT in initial staging of small cell lung cancer
24. Role of whole body MRI with diffusion weighted Imaging in the evaluation of lung cancer.
25. To evaluate the efficacy of Lu-177 Tin colloid radiosynovectomy in small and medium sized joints with chronic inflammatory arthritis

### **Completed**

1. A prospective study to evaluate in-vivo PSMA expression in recurrent Anaplastic gliomas (grade III) and Glioblastoma multiforme using Ga-68 PSMA PET/CT.
2. A retrospective cohort study to analyse the diagnostic accuracy of SISCOS in drug refractory epilepsy.
3. Dosimetric study in children and young adults with Differentiated Thyroid Cancer undergoing radioiodine (<sup>131</sup>I-Na) therapy
4. Evaluation of standardized uptake value ratios on 18F-tau positron emission tomography.
5. Evaluation of Striatal Binding Ratios on Tc-99m TRODAT SPECT/CT.
6. Gastric emptying scintigraphy using standard vegan meal: Establishment of control values
7. Pattern of recovery of serum TSH levels in patients with TSH suppression 3 months after radioiodine ablation
8. Role of <sup>68</sup>Ga-PSMA-HBED-CC PET/CT in Adenoid Cystic Carcinoma
9. Role of F-DOPA PET-CT in pediatric and adult patients with hyperinsulinemic hypoglycemia.
10. Role of Texture analysis in 18F-FDG PET/CT in response assessment in soft tissue sarcoma
11. Scintigraphic Image Restoration using Constrained least square filtering
12. Scintigraphic images Restoration using Richardson Lucy Algorithm
13. Serum thyrotropin receptor antibodies in prediction of therapy outcome of Graves' disease patients undergoing I-131 RAI therapy
14. To assess the feasibility of Flourine-18 Fluoro L-Dihydroxyphenylalanine (F-18 FDOPA) PET-CT for evaluation of cardiac sympathetic innervation in Heart Failure
15. To Study the Clinical Profile, Investigations and Outcome of Patients Undergoing Parathyroidectomy: A Retrospective and Prospective Experience
16. To study the concordance of thyroid imaging and data reporting system (TIRADS) and the Bethesda system for reporting thyroid cystopathology (TBSRTC) with final histopathology in solitary thyroid nodule (STN)
17. To study the role of vascular function and pain sensitivity in microvascular angina
18. Utility of 99m-Tc Ubiquicidin in differentiation of infective and non-infective lesions

### **Collaborative projects**

#### **Ongoing**

1. A phase II study to evaluate the efficacy of cisplatin and gemcitabine based neo-adjuvant chemotherapy followed by dysphagia optimized intensity modulated radiotherapy with concomitant cisplatin and correlation of clinical outcome with serial plasma epstein barr virus dna titre in patients with locally advanced nasopharyngeal carcinoma, RT-IRCH
2. Aortic and lung inflammation following COVID: A marker of cardiac event an Indo-Australian joint project funded by Department of Science and Technology (DST), New Delhi (2021-2022). Chief Investigator Dr Ambuj Roy, Cardiology, AIIMS, New Delhi
3. Aortic and lung inflammation following COVID: a marker of cardiac event an Indo-Australian joint project- funded by Department of Science & Technology, Cardiology
4. Biodistribution and radiation dosimetry of [<sup>68</sup>Ga]-DOTA.SA.FAPi & [<sup>68</sup>Ga]-DATA.SA.FAPi in patients diagnosed with various cancers, Department of chemistry, Johannes Gutenberg University Mainz, Germany
5. Biodistribution, radiation dosimetry of [<sup>177</sup>Lu]Lu-DOTA.SA.FAPi monomer and [<sup>177</sup>Lu]Lu-DOTAGA.(SA.FAPi)<sub>2</sub> dimer in cancer patients, Department of chemistry, Johannes Gutenberg University Mainz, Germany
6. Efficacy of yoga based cardiac rehabilitation in Post-PCI patients: A prospective randomized, open-label, blinded end-point trial- funded by Ministry of AYUSH, CIMR, Cardiology

7. Establishing International Amyloidosis Centers of Excellence in India, Kuwait and South Africa, Brigham and Women's Hospital, Harvard Medical School, USA
8. Role of [<sup>68</sup>Ga]-DOTA/DATA.SA.FAPi in the staging of breast cancer, Department of chemistry, Johannes Gutenberg University Mainz, Germany.
9. Study of biomarkers in subjects with Subjective cognitive decline, Geriatrics
10. The role 68Ga PSMA PET/CT scan as a single staging modality in prostate cancer Funded by the 'ICMR, Delhi (2019-2021). Chief Investigator Sanjay Kumar, Urology
11. Treatment response evaluation in extraspinal musculoskeletal tuberculosis using molecular imaging (PET/CT). Funded by the 'ICMR, Delhi (2018-2021). Chief Investigator Dr Shah Alam Khan, Orthopedics
12. Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culprit vessels in STEMI Patients with Multivessel Disease after primary PCI- funded by International Atomic Energy Agency, Cardiology

### Completed

1. Evaluation of clinical features and treatment outcomes in patients with skullbase osteomyelitis, ENT

### PUBLICATIONS:

**Journals: 97**

**Abstracts: 21**

**Chapters in books: 2**

### PATIENT CARE

This year the number of elective diagnostic procedures performed were less due to lockdown during the COVID pandemic. The department was functional during the entire period and provided services to in-patients in the cardiology department and to cancer patients from IRCH awaiting chemotherapy. When the pandemic conditions eased and the OPDs reopened, services were provided to patients referred from OPDs. The department performed myocardial perfusion SPECT imaging which is an integral investigation in the diagnosis and management of patients with coronary artery disease. We also performed cardiac PET imaging with F-18 FDG for assessment of myocardial viability and Gallium-68 DOTANOC for inflammatory cardiomyopathies. The department performed radionuclide ventriculography for assessment of left ventricular function in patients referred from the center and from IRCH for cardiac evaluation in patients receiving chemotherapy.

Total Number of patients investigated in Nuclear Cardiology from 1/4/20 to 31/3/2021

Myocardial perfusion study:	377
RNV study:	215
Cardiac PET	69
Misc.(V/Q scan, 1 <sup>st</sup> pass):	25
Total number of studies performed	686

### The number of Diagnostic Scans and Radionuclide Therapies Administered 2020-2021

PATIENT CARE	2020-2021
<sup>177</sup> Lu – DOTA TATE	32
<sup>177</sup> Lu- PSMA-617	22
<sup>177</sup> Lu-DOTAGA-FAPI	25
<sup>225</sup> Ac-DOTA-TATE	22
<sup>225</sup> Ac- PSMA-617	19
<sup>225</sup> Ac-DOTA-GA-FAPI	01
F-18 FDG-PET	3711
F-18 FCH	43
F-18 FDOPA	5
Ga-68 DOTANOC	463
Ga-68 PSMA	210
Ga-68 Exendin	9
Ga-68 FAPI	75
Plain CT-SCANS	247

<b>PATIENT CARE</b>	<b>2020-2021</b>
RAI therapy for thyroid cancer	328
RIT for TOXIC thyroid disease	64
GFR	770
RAIU	360
BONE SCAN	865
RENAL SCAN	1970
DMSA SCAN	728
THYROID SCAN	273
HIDA SCAN	176
PARA THYROID SCAN	153
GER SCAN	162
DRCG SCAN	79
TRODAT SCAN	2451
ECD	164
G.I. BLEED	13
MECKEL	26
G.E.T. SCAN	106
LIVER SCAN	7
GHA BRAIN SCAN	5
MIBG SCAN	149
LYMPHO SCAN	94

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor CS Bal** was Elected as Fellow of Indian Academy Science, Bangalore (FASc); British Nuclear Medicine Society's Journal Nuclear Medicine Communication awarded "Top Reviewer Certificate"; Under my Supervision a PhD student awarded degree this year where I was the Chief Guide. (Till date 7 students have awarded PhD under my guidance); ICMR-ICRC cancer consortium award.

**Professor Rakesh Kumar** was Editor, Indian Journal of Nuclear Medicine (Official Journal of Society of Nuclear Medicine, India); Reviewer for national and international academic journals.

**Professor Chetan D Patel** was Vice President, Nuclear Cardiological Society of India; External examiner for MD Nuclear Medicine, Sri Venkateswara Institute of Medical Sciences, Tirupati on 26 June 2020; Subject expert for faculty interview at AIIMS, Jodhpur on 31 October 2020; External examiner for MD Nuclear Medicine, Jawaharlal Institute of Post Graduate Medical Education & Research (JIPMER), Puducherry on 24 March 2021; Reviewed thesis of MD Nuclear Medicine students, Sri Venkateswara Institute of Medical Sciences, Tirupati; Expert for evaluation/assessment of Department of Nuclear Medicine, AIIMS, Bhubaneswar for starting of MD Course; Member Store Purchase Committee of Center for Integrative Medicine & Research (CIMR); Chairman, Selection Committee for recruitments in research projects at CIMR; Training: DM Cardiology students: Dr Shakeel Ahamad Khan and Dr Utpal Kumar, NEIGRIHMS, Shillong- One month experience in Nuclear cardiology, AIIMS; Delivered the Homi Bhabha Oration at the 52nd Annual Conference of the Society of Nuclear Medicine – India (SNMICON-2020) held at AIIMS, Raipur (11-13 December 2020).

**Dr Khangemam Bangkim Chandra** received the 2nd best paper award for "Krishnamurthy Nuclear Hepatology Award" at the Society of Nuclear Medicine Conference 2020 (Virtual) (SNMICON 2020), 11-13 December 2020 ; Member, EHS Screening COVID-19 Management Team (June–August 2020); was overseas reviewer of Nuclear Medicine Communications, the official journal of British Nuclear Medicine Society; an investigator for the international project, "Establishing International Amyloidosis Centers of Excellence in India, Kuwait and South Africa" in collaboration with Brigham and Women's Hospital, Harvard Medical School, USA.

## 9.24. Obstetrics and Gynaecology

### Professor and Head

Sunesh Kumar

### Professors

Dipika Deka  
Neena Malhotra

Neerja Bhatla  
Vatsla Dadhwal  
Neeta Singh

KK Roy  
JB Sharma

### Additional Professors

K Garima  
Reeta Mahey

Garima Kachhawa  
P Vanamail

### Associate Professors

Vidushi Kulshrestha  
Rajesh Kumari

Seema Singhal  
Jyoti Meena

### Assistant Professors

Juhi Bharti  
Richa Vatsa  
Kusum Lata  
Neha Varun

Nilanchali Singh  
Deepali Garg  
Archana Kumari  
Soniya Dhiman  
Nimisha Agrawal

Monica Gupta  
Rinchen Zangmo  
Anju Singh  
Anubhuti Rana

### Scientists

Rohini Sehgal (G.IV)

Arun Kumar (G. I)

## HIGHLIGHTS

The Department of Obstetrics and Gynaecology is committed to achieving and maintaining excellence in all areas, like education, research, and healthcare services. It continued to provide obstetrics and emergency gynaecology services even in the era of COVID-19 pandemic and proudly delivered the first Covid-positive pregnant woman of India in the newly restructured Covid facility prepared in the department, supported by customised mobile applications and teleconsultations services. The department contributed to national guidelines of AIIMS-ICMR, Ministry of Health & Family Welfare, Federation of Obstetrics and Gynaecologic Societies of India (FOGSI). A series of webinars on maintaining essential reproductive health services during COVID-19 emergency was conducted in collaboration with our WHO Collaborating Centre for Research (CCR) in Human Reproduction. It also took the lead and contributed to the development of a comprehensive abortion care module for the undergraduate curriculum as a part of WHO-SEAR activity.

The department is running multiple quality improvement (QI) projects and conducted QI foundation course for all the residents. In collaboration with Government of India (GOI), department has mentored various medical colleges across the country and trained them in principles of quality improvement for implementation of LaQshya labor room transformation program.

The first-ever endowment of a Distinguished Chair at AIIMS has been made in the field of Gynae Oncology, namely the Shobha Seth Wenger Distinguished Chair in Gynae Oncology which was awarded to Prof. Neerja Bhatla. The department was also actively involved in the launch of the WHO Global Strategy for Elimination of Cervical Cancer in collaboration with WHO Country Office.

## EDUCATION

### Departmental teaching (Undergraduates and Postgraduates)

In keeping with the new norms, teaching activities shifted to online mode for undergraduate and postgraduate teaching sessions including case presentations, seminars, journal clubs and tutorials including the ward leaving assessments covering more than 9 undergraduate batches and three semesters of postgraduates. As bedside rounds were also not possible, case discussions were continued through online mode. The department continued to offer high-quality education by running MD, MCh (Gynaecologic Oncology), and DM (Reproductive Medicine) courses along with fellowship programmes in Maternal Fetal Medicine, Urogynaecology and Minimally Invasive Gynaecologic Surgery.

### Short Term Training

The Department offers short-term training in various subspecialty subjects like Gynae Endoscopic Surgery, High-Risk Pregnancy, Gynae Oncology, Ultrasonography and Infertility. Following Doctors were trained in different disciplines:

- |                 |                       |             |
|-----------------|-----------------------|-------------|
| 1. Kanika Kumar | 1 April-30 June 2020  | Infertility |
| 2. Preeti Singh | 25 March-8 April 2020 | Obs & Gynae |

### Long Term Training

- |                            |                                   |   |
|----------------------------|-----------------------------------|---|
| 1. Wg.Cdr. N Mohana Priya  | 7 October 2019-7 October 2021     | Minimally Invasive Gynaecological Surgery |
| 2. Neha Sahay              | 16 March 2021-14 March 2023       | Maternal Fetal Medicine                   |
| 3. Lt. Col. Abhijeet Kumar | 11 October 2019-30 September 2020 | Maternal Fetal Medicine                   |
| 4. Col. Ismat Ara          | 17 June 2019-16 December 2020     | Maternal Fetal Medicine                   |

### CMEs/Workshops/Symposia/National and International Conferences organized in the Department

1. Webinar on “Female urinary incontinence” under Urogynecology committee of FOGSI, 30 April 2020, Virtual
2. WHO-AIIMS Webinar series on “Maintaining essential reproductive health services during COVID-19 emergency”, May-July 2020, Virtual
3. IFS pre-congress workshop on “Managing ART pregnancies”, 28 June 2020, Virtual
4. PG awareness programs of Society of Fetal Medicine, July-August 2020, Virtual
5. Comprehensive COVID training for health care workers through Safe Motherhood Committee, WHO CO, India and AIIMS, 17 -19 August 2020, Virtual
6. Workshop on Fetal Medicine –“Care of fetus across all trimesters”, in 42nd Annual AOGD Conference, 2 November 2020, New Delhi
7. National Workshop marking the launch of “Global Strategy to Accelerate Cervical Cancer Elimination”, 17 November 2020, New Delhi
8. FOGSI Screening Camps and Awareness Drive on Preventable Cervical & Breast Cancers on the occasion of International Women’s Day, 5, 6, 8 March 2021, New Delhi

### Lectures delivered:

**Sunesh Kumar: 2**

**Neerja Bhatla: 64**

**Kallol Kumar Roy: 11**

**Neena Malhotra: 35**

**Vatsla Dadhwal: 35**

**JB Sharma: 8**

**Neeta Singh: 2**

**K Aparna Sharma: 59**

**Garima Kachhawa: 2**

**Reeta Mahey: 5**

**Vanamail Perumal: 2**

**Vidushi Kulshrestha: 10**

**Seema Singhal: 8**

**Jyoti Meena: 7**

**Juhi Bharti: 1**

**Nilanchali Singh: 3**

**Neha Varun: 1**

**Anubhuti Rana: 3**

**Nimisha Agrawal: 1**

### Sunesh Kumar

1. Antepartum and Intrapartum Management at Primary and Secondary level facility during COVID-19 infection, Webinar Series on Obstetric Care during COVID-19, 9 September 2020, New Delhi
2. Forceps and Vacuum FORCE RAJDHANI, a PG Academic Programme, 27 April 2020, New Delhi

### Neerja Bhatla

1. HPV vaccines – New strategies offer new hope, ISCCP Webinar Series, 24 April 2020, Online Meeting
2. Panel Discussion: Obs & Gynae Practice and Challenges in Post COVID-19 Lockdown 3.0, TOG Webinar – FOGSI Medical Disorders in Pregnancy Committee, 17 May 2020, Online Meeting
3. Why are the elderly so vulnerable to COVID? Webinar: Self Care of Elderly during COVID-19 by NITI Aayog, 19 May 2020, Online Meeting
4. Prevention of Cancer in midlife, Webinar CME of Midlife Management Committee conducted by Raipur OBGY Society, 27 May 2020, Online Meeting
5. Panel Discussion: Cervical Cancer Screening – The way forward Web CME on Midlife unresolved issues, Indian Menopause Society & SMLM. 6 June 2020 Online Meeting
6. Optimizing antenatal care during the COVID Pandemic, Webinar series on Obstetric care during COVID-19 by Deptt. of Obst. & Gynae, AIIMS, 8 June 2020, Zoom Meeting



7. WHO GDG Meeting for Cervical Cancer Prevention, Virtual Guideline Development Group Meeting, 9-10 June 2020, Zoom Meeting
8. Cervical Cancer Screening: FOGSI GCPR, Webinar on ICOG Certificate Course in Gynaecology Oncology, 18-20 June 2020, Online Meeting
9. Scale Up for Cervical Cancer Elimination Strategy Success in the Indo-Pacific Success ECHO, Project Meeting, VCS Foundation, 23 June 2020, Zoom Meeting
10. Ablation for CIN – Technique of thermal ablation (Video), ISCCP Webinar Series, 28 June 2020, Online Meeting
11. Planning the Material & Methodology, Digital Webinar – CME on Writing the Ph.D Synopsis conducted by Srimanta Sankaradeva University of Health Sciences (SSUHS), Guwahati, 29 July 2020, Online Meeting
12. Antenatal care during COVID-19 Pandemic, Comprehensive COVID training for Health Care Workers conducted by FOGSI Safe Motherhood Committee, 18 August 2020, Online Meeting
13. Panel discussion: Safety modifications and Adaptions to perform MIS during COVID pandemic MIS in Gynaec Oncology CME Series, conducted by Association of Gynaecologic Oncologist of India, 19 August 2020, Online Meeting
14. HPV Vaccine: All that we should know & how to use it effectively in pandemic period?, Web CME on Carcinoma Cervix: What has changed with COVID-19 Pandemic? Conducted by U.P. State Chapter of Association of Gynaecological Oncologists of India (UP-AGOI), 22 August 2020, Online Meeting
15. Moderator in Case Presentation on Carcinoma Ovary. FOGSI Force, PG Academic Program, 22 August 2020, Online Meeting
16. Panel discussion: Sexually Transmitted Diseases in Adolescents, FOGSI International Adolescent Health E-Conference, 30 August 2020, Online Meeting
17. Convener: Inauguration ICOG Journal Club, Conducted by ICOG, 9 September 2020, Online Meeting
18. Expert in Impact of treatment duration in fertility-preserving management of endometrial cancer or atypical endometrial hyperplasia, Presenter: Dr Seema Singhal, Journal: International Journal of Gynaecological Cancer, ICOG Journal Club, conducted by ICOG, 9 September 2020, Online Meeting
19. Use of the HPV test in Primary Screening, AOGIN India Academics, 12 September 2020, Online Meeting
20. Part of Scientific Committee, Webinar on “Masterclass in Ovarian & Endometrial Cancer”, 17-18 September 2020, Online Meeting
21. Debater – Early stage Carcinoma Endometrium - Role of Nodal Dissection (Against), Webinar on “Masterclass in Ovarian & Endometrial Cancer”, 18 September 2020, Online Meeting
22. Expert in Case Based Discussion on Case scenarios around HPV vaccination, AOGIN India Academics, 19 September 2020, Online Meeting
23. Panel discussion: Vaccines – Everything you need to know, Delhi Gynaecology Federation (DGF) Central Webinar, 24 September 2020, Online Meeting
24. HPV Testing for Cervical Screening. ISCCP Webinar on Concepts & Case discussions, Indian Society of Colposcopy and Pathology in association with FOGSI Gynae Oncology Committee, 27 September 2020, Online Meeting
25. Confirm or Rule out Breast Cancer with Investigations. E-CONCLAVE FOGSI on Breast Cancer with Breast Committee, Oncology Committee, Public Awareness Committee, 17 October 2020, Online Meeting
26. Panel discussion: High risk pregnancy: Do we know the management well, Indravadan Ambalal Modi Innovation Conclave (IAMICON 2020), 17 October 2020, Online Meeting
27. Surgical Anatomy of Pelvis, Pre-conference E-Workshop: Updating Surgical Skills in Gynaecologic Oncology - A Video Workshop, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 26 October 2020, Online Meeting
28. Moderator in the Research Methodology Workshop, Research Methodology Workshop by AIIMS, 27 October 2020, Online Meeting
29. Screening & Prevention of Cancer Cervix with Vaccine Oncology, P.G. Seminar, Berhampur Obst & Gynae Society, 28 October 2020, Online Meeting
30. Moderator in Management of Preinvasive Lesions of the Cervix: Case-Based Discussion, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 1 November 2020, Online Meeting
31. Chief Guest and Moderator: Webinar in Gynecological Malignancies, Varanasi Obstetrics and Gynaecology Society, 2 November 2020, Online Meeting
32. The revised FIGO Staging of Cervical Cancer (2018): Implications for Clinicians 2020, Annual Convention and 74th Anniversary Celebration, Philippine Obstetrical and Gynecological Society, 12 November 2020, Philippine, Online Meeting

33. Using newer technology to reach last mile facilities, National Workshop marking the launch of “Global Strategy to Accelerate Cervical Cancer Elimination”, AIIMS, 17 November 2020, Online Meeting
34. Moderator the New Paradigm in Screening for Cervical Cancer. FOGSI – FIGO Cervical Cancer Elimination Initiative in support of WHO Launch of Cervical Cancer Elimination Initiative, AIIMS, New Delhi, 17 November 2020, Online Meeting
35. Cervical Cancer Elimination – a woman’s perspective, Rotary Club of Coimbatore Metropolis, 17 November 2020, Online Meeting
36. WHO Video – Cervical Cancer Elimination, Launch of the Global Strategy to Accelerate the Elimination of Cervical Cancer, 17 November 2020, Geneva, Online Meeting
37. The global effort for eliminating cervical cancer – Every gynaecologist counts! The Mega Virtual Conference “Origyn – East Meets West”, 21 November 2020, Online Meeting
38. Strategies for Elimination of Cervical Cancer – Nationally and internationally, 2nd International Webinar Scientific Conference, Gynaecological Oncology Society of Bangladesh, 5 December 2020, Bangladesh, Online Meeting
39. Fireside Chat. Evidence 2 Policy, Lecture The George Institute of Global Health, India, 10 December 2020, Online Meeting
40. Eliminating Cervical Cancer in India – Challenges and opportunities, 16th Annual Surgical Oncology Virtual Workshop – ONCOSURG 2020, 12 December 2020, Online Meeting
41. Discussant for Session: Cervical Cancer 16th Annual Surgical Oncology, Virtual Workshop – ONCOSURG 2020, 12 December 2020, Online Meeting
42. New FIGO staging - changes and update & Impact on management, FOGSI - POGS International Virtual Conference – “JUST TUMORS”, Pune, 13 December 2020, Online Meeting
43. Practice in gynaecologic oncology during COVID-19 pandemics, 6th International Workshop on Gynecologic Oncology (ASGO 2020), 19 December 2020, Taiwan, (R.O.C.), Online Meeting
44. Recent Advances in Cervical Cancer, e-CME on “Cervical Cancer”, AOGD, 23 January 2021, Online Meeting
45. Panel discussion: Interventions to improve uptake of Cervical Cancer Screening – Rethinking Cervical Cancer Prevention, Live Webinar, We Hope to stop Cervical Cancer, Liquid based Cytology (LBC) Masterclass, 27 January 2021, Online Meeting
46. Elimination of Cervical Cancer and the Role of HPV Vaccination, E-Symposium on “HPV vaccination in India: Current status and Challenges in Implementation, ICMR – National Institute for Research in Reproductive Health (NIRRH), Mumbai, 29 January 2021, Online Meeting
47. Cancer cervix screening from basics to TRAILBLAZING, SMDHM in association with Rajshree Medical Research Institute, 31 January 2021, Online Meeting
48. Appraisals on screening modalities for cancer cervix, SMDHM in association with Rajshree Medical Research Institute, 31 January 2021, Online Meeting
49. Kaun Kahata hai maut ko tal nahi sakte, Public Forum on FOGSI-ICOG National Conference on NCD, 4 February 2021, Online Meeting
50. Newer methods of cervical cancer screening, FOGSI-ICOG Pre Congress Workshop on Gynaecologic Oncology, 5 February 2021, Online Meeting
51. Hereditary ovarian cancer FOGSI-ICOG National Conference on NCD, Mumbai, 6 February 2021, Online Meeting
52. Case Discussion – Post Menopausal Bleeding, 23rd Practical Course & CME in Obstetrics and Gynaecology, Maulana Azad Medical College and Lok Nayak Hospital, 13 February 2021, Online Meeting
53. Master Trainer for Hybrid Screening for common cancers under NHM, The Association of Madhya Pradesh Obstetrics & Gynaecological Societies, 15-18 February 2021, Online Meeting
54. Case Based Panel Discussion, Live Webinar, Ovarian Cancer – Quest for a Better Tomorrow by Cancer Research & Statistic Foundation & Max Hospital, 20 February 2021, Online Meeting
55. Prevent the Preventable: enhancing screening / Vaccination for cancer International Congress – Abhigyaan 2021, by FOGSI, FIGO, SAFOG & BSOG, Bengaluru, 28 February 2021, Online Meeting
56. Master Trainer for Hybrid Screening for common cancers under NHM, The Association of Madhya Pradesh Obstetrics & Gynaecological Societies, 1-4 March 2021, 8-11 March 2021, Online Meeting
57. Moderator in Management of Cancer Cervix, National Webinar on Cancer Cervix conducted by Saveetha Medical College & Hospital and The Obstetrics and Gynaecological Society of Southern India (OGSSI), 5 March 2021, Online Meeting
58. Cancer Cervix Introduction, FOGSI E-Conclave, Live Webinar Cervical & Breast Cancer, 6 March 2021, Online Meeting

59. Special Guest for Inauguration of Women Passport Seva Kendra, International Women's Day, Ministry of External Affairs, Passport Seva Kendra, 8 March 2021, Online Meeting
60. Global Strategy for Elimination of Cervical Cancer, Virtual CME for Cervical Cancer Screening & Prevention by Christian Medical College & Hospital, Ludhiana and Ludhiana Obstetrics and Gynaecology Society, 13 March 2021, Online Meeting
61. HIPEC treatment in Ovarian Cancer, FIGO Global Webinar: Ovarian Cancer, 17 March 2021, London, UK, Online Meeting
62. Keynote Speaker in Panel Discussion on "Cervical cancer screening program-transition from Cytomorphology to HPV DNA screening", 29th International Scientific Conference of OGSB, Bangladesh, 20 March 2021, Bangladesh, Online Meeting
63. Moderator in Minimally Invasive GynaecOncology Surgery, Online Webinar by Senadhipan Education Foundation, 21 March 2021, Online Meeting
64. Case – Ca Cervix, Webinar on PG Teaching Programme "FOGSI FORCE 2021" by Calicut Obstetrics and Gynaecology Society, Kerala, 27 March 2021, Online Meeting

### **Kallol Kumar Roy**

1. APH National Association for reproductive and child health of India (NARCHI), 18 October 2020, webinar
2. PROM National Association for reproductive and child health of India (NARCHI), 18 October 2020, webinar
3. Prenatal diagnosis in pregnancy National Association for reproductive and child health of India (NARCHI), 18 October 2020, webinar
4. Coagulation failure National Association for reproductive and child health of India (NARCHI), 18 October 2020, webinar
5. Amenorrhoea National Association for reproductive and child health of India (NARCHI), 18 October 2020, webinar
6. Genital fistula, National Association for reproductive and child health of India (NARCHI), 18 October 2020, webinar
7. Genital tb, National Association for reproductive and child health of India (NARCHI), 18 October 2020, webinar
8. Genital prolapse (POP-Q), National Association for reproductive and child health of India (NARCHI), 18 October 2020, webinar
9. Common infection in gynaecology, National Association for reproductive and child health of India (NARCHI) do webinar
10. Abortion National Association for reproductive and child health of India (NARCHI), 18 Octob 2020, Webinar
11. Super ovulation inducer – Letrozole, Nabha Obstetrics and Gynaecological Society, 1 November 2020, Webinar

### **Neena Malhotra**

1. "COVID-19 and pregnancy know, prepare and protect" Kerala OGS Society, 5 April 2020, Virtual
2. "Challenges in Reproductive Medicine Practice during COVID-19 Pandemic and How can we restart" Indian Fertility society (IFS) South Zone, 3 May 2020, Virtual
3. "How to overcome hurdles and get the best results in IUI in Current Scenario", IFS Telangana Chapter, 13 June 2020, Virtual
4. "Surrogacy Bill 2020", Annual CME Puducherry Chapter of IFS, 14 June 2020, Virtual
5. "An evidence-based approach to vaginal progesterone us in Luteal phase defect" CME organised by Jaipur Obs and Gyn society, FOGSI, 20 June 2020, Virtual
6. "Pregnancy Early pregnancy consideration after assisted conception: knowing the correct follow-through" IFS-SIG Early Pregnancy, 28 June 2020, Virtual
7. "Handling challenges of Covid safe infertility practice" IFS Tamil Nadu Chapter, 3 July 2020, Virtual
8. "Recurrent Implantation failure: Clinical Aspect". Expert IFS Rajasthan Chapter, 11 July 2020, Virtual
9. "Tackling India's Infertility Epidemic" as Guest Speaker for the panel discussion session, India IVF Summit on World IVF Day, 25 July 2020, Virtual
10. "What are the Aims and Objectives", CME on Writing PhD synopsis, conducted by the Srimanta Sankaradeva University of Health Sciences Guwahati, Assam, 29 July 2020, Virtual
11. "Trouble shooting in IUI", webinar on Optimizing IUI outcomes by Karnataka chapter of IFS, 31 July 2020. Virtual
12. "Genital Tuberculosis and Infertility", VIBRATE series of webinars for IFS 11 August 2020, Virtual
13. Understanding of genetics- Diagnostic value for clinicians and patients undergoing IVF- webinar series-Fertility and Genomics-Hope or Hype, conducted by SIG applied Genetics, 14 August 2020, Virtual

14. "Fertility Preservation in young cancer patients", at IFS Uttarakhand Chapter, 27 August 2020, Virtual
15. "Ovarian Reserve Tests- Relevance in Fertility Practice" as Speaker, UP- East Chapter IFS, 29 August 2020, Virtual
16. "Managing refractory Endometrium Evidence & Experience", Moderator IFS Gujarat Chapter, 30 August 2020, Virtual
17. "SIG Research & Methodology Focus on Basic Clinical Research", Moderator IFS, 3 September 2020, Virtual
18. "Clinical evidence-based approach to Luteal phase defect", CME organized by Ludhiana Obst and Gyn society, FOGSI, 16 September 2020. Virtual
19. "IVF pregnancies-Dilemmas in management, webinar on ovarian infertility by Western UP chapter of IFS, 20 September 2020, Virtual
20. "Ovulation Trigger", WEBINAR organized by Rewari Obs/Gyne Society, 29 September 2020, Virtual
21. "What's new in ovulation induction in IUI", webinar by East UP chapter of IFS, 4 October 2020, Virtual
22. Myo-inositol the new player for treatment of PCOS. What's the evidence? At Webinar by SIG PCOS, 16 October 2020, Virtual
23. "An evidence-based approach: Role of vaginal progesterone in Luteal phase defects", organised by Nabha Obs and Gyne society, GMC, Patiala, 1 November 2020. Virtual
24. "ART- Medicolegal Aspects" as Panelist at The Association of Obstetricians and Gynaecologists of Delhi (AOGD), the 42nd Annual Conference of AOGD, The theme of Conference is "Women's Health Care In The Current Challenging Scenario", 1 November 2020, Virtual
25. "IVF in a Covid climate: Guidelines for patients and practice management", CME WEBINAR organized by Madras Medical Mission, 17 November 2020 Virtual
26. "Newer Concepts in Folliculogenesis and Advances in COH", Moderator Fertilvision 2020, 6 December 2020, Virtual
27. Prescription practices for Luteal support - Evidence vs Practice", Workshop for 16th Annual conference of IFS, FERTIVISION 2020, 29 December 2020, Virtual
28. "Progesterone primed ovarian stimulation", webinar Series on Progesterone in Reproduction by IFS north zone, 9 January 2021, Virtual
29. "Progesterone primed ovarian stimulation-What is the evidence?", webinar Series on Progesterone in Reproduction by IFS west zone, 23 January 2021, Virtual
30. "The risk of birth defects in Conception by ART" as Expert Genetic Defects in IVF Babies, 30 January 2021, Virtual
31. "Pain and Endometriosis", CONVERGANCE- Webinar series on Endometriosis Awareness by IFS, 11 March 2021, Virtual
32. Role of Genetics in ART at Controversies and Solutions in IVF. organized by Tamil Nadu chapter of ISAR (TAPISAR), 21-22 March 2021, Virtual
33. "ANC complications and Role of ART specialists in prevention". CME on "Managing ART Pregnancies", organized by the Chhattisgarh Chapter of Indian Fertility Society and FOGSI, 26 March 2021, Virtual
34. "Legal, ethical and psychological issues in giving care to a surrogate" CME on "Managing ART Pregnancies", organized by the Chhattisgarh Chapter of Indian Fertility Society and FOGSI, 26 March 2021, Virtual
35. "What a gynaecologist needs to ask an IVF Specialist; Prescription practices - Evidence vs Practice" CME on "Managing ART Pregnancies", organized by the Chhattisgarh Chapter of Indian Fertility Society and FOGSI, 26 March 2021, Virtual

#### **Vatsla Dadhwal**

1. Family Planning services for women with suspected or Confirmed COVID infection at tertiary level, Webinar Series on maintaining essential reproductive health services during COVID emergency, 1 June 2020, Telemedicine Facility, AIIMS, New Delhi
2. Effect of Pollution on womens Health and Reproduction, Webinar, 6 June 2020, AIIMS, New Delhi
3. Case presentation on Heart Disease in Pregnancy, FOGSI-FORCE, PG academic programme, 7 June 2020, Online
4. Case Based Panel Discussion on Imaging Based Genetic Testing in the First Trimester, SFM First Virtual Meeting, 12 July 2020, Online
5. Discussion preventive oncology, Menstrual disorders and issues pertaining to Safe Menstrual Practices. Youth connect Jamboree (Organized by Rajshree Group of Institutions, Bareilly and Rajshree Medical Research Institute and Hospital, Society of Menstrual Disorders and Hygiene Management, 11 August 2020, Online
6. Antenatal care during COVID 19 Pandemic Intrapartum care during COVID-19 Pandemic Course Module: Comprehensive COVID training for HealthCare Workers FOGSI, Safe Motherhood committee FOGSI in collaboration with the WHO - collaborating centre, AIIMS, New Delhi, 18 August 2020, Online



7. Cancer Cervix Vaccine Why Are We Scared Know About Menstrual Disorders In Youth FGR- comprehensive Management Fetal Medicine, webinar on (Organized by Department of Obstetrics and Gynaecology, Saveetha Medical College, SiMATS, Chennai, 21 August 2020, Online
8. Monitoring for fetal anemia and IUT, Alloimmunization - Anticipate and Act in association with AMOGS and Jharkhand 4 Societies (Bokaro, Jamshedpur, Ranchi and Dhanbad Societies), 26 August 2020, Online
9. APLA: Timely Interventions, Optimal Outcome, Theme is Medical Disorders in Pregnancy, First Quarterly E meet of SFM Delhi organised under the aegis of SFM and AOGD with Safdarjung Hospital, 16 September 2020, Online
10. Preparedness for COVID-19 pandemic, Facility level COVID-19 preparedness (conducted by WHO and UNICEF), 18 September 2020, Online
11. Antenatal Management of Pregnant women with GDM, “Gestational Diabetes Mellitus – Current Perspectives and Challenges” organized by Department of Food and Nutrition, Lady Irwin College.19 September 2020, Online
12. Heart disease in pregnancy, Heart disease in pregnancy, Organized by ABVIMS and Dr. RML Hospital, 26 September 2020, Online
13. Case based discussion on pregnancy and breast cancer Pregnancy with Ovarian malignancy, AOGIN India Clinical Practice Lecture Series organized by AOGIN, 26 September 2020, Online
14. Web pearls in diabetic talk unexplained losses on 7 October 2020, organised by Safe Motherhood Committee FOGSI, 7 October 2020, Online
15. Planning Pregnancy: Preconception care Fetus Day, organized by FOGSI Genetics and Fetal Medicine Committee and Clinical Research Committee, 31 October 2020, Online
16. Fetal Medicine – care of fetus across all trimesters Case based panel discussion on fetal growth Post-conference, E-Workshop Women’s Health care in the current challenging scenario organised by AOGD, 2 November 2020, Online
17. Fetal Medicine – care bundle for Multiple Pregnancies – Ensuring Quality Care Panel discussion: Management Tight Spots (Case Based Discussion), Post-conference E- Workshop Women’s Health care in the current challenging scenario organized by AOGD, 5 November 2020, Online
18. Rh Isoimmunisation – Best Practices Prevention & Management Classic for Clinician, Webinar Series -2 on organised by Department of Obstetrics and Gynaecology, Jeevan Jyoti Hospital & Medical Research Centre, Jeevan Jyoti Test Tube Baby Centre, Gorakhpur, UP-273001, 25 November 2020, Online
19. “Monitoring for Fetal Anaemia and Intrauterine Transfusion, TOG webinar organized by AMOGS (The Association of Maharashtra Obstetrics and Gynaecology Societies, 5 December 2020, Online
20. Rh Immunised Pregnancy – Management Protocols, Virtual CME organized by Indian Society of Perinatology and Reproductive Biology (ISOPARB), 10 December 2020, Online
21. Fetal Therapy: Current Scenario FOGSI’s digital initiative – FOGSI’s Webinars - organized by Federation of Obstetric and Gynaecological Societies of India (FOGSI), 11 December 2020, Online
22. Emerging concepts in IUGR DIAGNOSIS, 12th Annual Conference - MAATRIKA 2020 – “A Journey through Pregnancy and Beyond” PREVENTIVE PERINATOLOGY, organized by The Indian Society of Perinatology and Reproductive Biology – ISOPARB, Hyderabad Chapter, 12 December 2020, Online
23. PAS- let’s Dwell Deeper and unravel the mysteries Placenta Accreta spectrum (PAS) is it still a nightmare? Lets deliberate, Second Quarterly meet 20-21 (SFM Delhi Chapter), Organised by Society of Fetal Medicine (SFM), 22 December 2020, Online
24. Development of phone app for detection of anemia in pregnant women & Comprehensive anemia program and personalized therapies, 8th Anemia Research Consortium (ARC), Organized by National Centre of Excellence and Advanced research on Anemia Control (NCEAR-A), Centre for Community Medicine (CCM), AIIMS, New Delhi, 24 December 2020, Online
25. Panel discussion on clinical cases of cardio-obstetrics, FOGSI’s 1st Web-Conference on Cardio-Obstetrics, Organized by FOGSI (Federation of Obstetric and Gynaecological Societies of India). 17 January 2021, Online
26. The What, Why and When of Genetics: Basics concepts, SFM’s 1st Genetics web series, Organized by SFM (Society of Fetal Medicine), 21st January 2021, Online
27. ART, Pregnancy Complications and Birth Defects, IFS (Indian Fertility Society), Webinar
28. Organised by IFS, 30 January 2021, Online
29. Acute Renal Failure in Obstetrics, Critical Care in Obstetrics workshop –ABHIGYAAN – Virtual Platform, Organized by Abhigyaan 2021, FOGSI, FIGO, SAFOG, and BSOG, 26 February 2021, Online
30. FGR “FOGSI FORCE –PG ACADEMIC WEBINAR”, 28 February 2021, Online
31. Fetal Growth Restriction (Case Discussion), 23rd Practical Course and CME in Obstetrics and Gynaecology, 13 March 2021, Online



32. Participant Health System Strengthening for responding to Gender Based violence (GBV) organized by MOHFW and WHO. 15 March 2021, Online
33. Impact of pre implantation genetic screening (PGS) for prenatal diagnosis, 29th International Scientific Conference of OGSB, Organized by Obstetrical and Gynaecological Society of Bangladesh (OGSB), 20 March 2021, Online
34. Rh Isoimmunisation & Intrauterine Transfusion 'Tips and Tricks' of Prenatal Invasive Procedures
35. Organised by Department of Obs. and Gynae, AIIMS, Jodhpur, 26 March 2021, Online

#### **JB Sharma**

1. Female Genital tuberculosis, Webinar on Infertility update, 18 June 2020, New Delhi
2. What if there is concomitant prolapse, International webinar on incontinence, 21 June 2020, Online
3. Management of UTI, Senora Summit Jaipur, 1 August 2020, Online
4. Female Genital Tuberculosis, The X files on challenging cases in obgyn, 16 August 2020, Online
5. Stress urinary incontinence, FOGSI FORCE PG academic program, 19 September 2020, Online
6. Role of probiotics in obstetrics and gynecology, Webinar organised by FOGS Inutrifest, 20 September 2020, Online
7. Urinary incontinence, Medical College Mullana, Haryana, 13 February 2021, Online
8. Non descent vaginal hysterectomy, Medical College Mullana, Haryana, 29 May 2021, Online

#### **Neeta Singh**

1. "Optimizing IVF treatments and outcomes during COVID-19 pandemic", 31st Annual meeting of the Indian Society for the study of Reproduction and Fertility (ISSRF), 19-21 February 2021, Virtual
2. Infertility (Case Discussion), 23rd practical course and CME in Obstetrics and Gynaecology, 12-14 March 2021, MAMC, New Delhi

#### **K Aparna Sharma**

1. Intrapartum Care in COVID-19, Webinar by Telemedicine AIIMS, Online
2. Real time management of COVID-19 - A 1st hand experience of clinicians and Obstetricians, TOG webinar by Medical disorder committee of FOGSI, 9 April 2020, Online
3. Physicians Webinars on COVID-19 and Pregnancy AIIMS, New Delhi Labour management for pregnant women with suspected or confirmed COVID-19 infection, 9 April 2020, Online
4. India Oriented SFM guidelines for USG in Obs and Gyn, Webinar by SFM, 12 April 2020, Online
5. COVID-19 and pregnancy Webinar by Medical Disorder committee of FOGSI, Online
6. Antenatal, Intranatal and Postnatal Care For Pregnant Women With COVID-19 and Pregnancy Government of Andhra Pradesh & UNICEF, Online
7. Five Important Aspects of Pregnancy, Webinar by iMUMZ, Online
8. Myths and Facts related to COVID in pregnancy, Webinar by AOGD, 20 April 2020, Online
9. Management of Rh negative Pregnancy, Webinar By Ghaziabad Obs and Gyn Society, 24 April 2020, Online
10. Ensuring respectful pregnancy care during COVID-19, COVID-19 Academy (NDMA, WHO, UNICEF, HCLF and Sphere India), 25 April 2020, Online
11. ANC, INC and PNC Care for pregnant women during COVID-19, Directorate of Health and Family Welfare Services, Government of Karnataka, 11 May 2020, Online
12. Early Vs Late FGR, FOGSI webinar By Doc Mode, 19 May 2020, Online
13. Antenatal and Intranatal Care in COVID-19 and pregnancy, AIIMS-WHO-CC Webinars on COVID-19 in pregnancy, 22 May 2020, Online
14. Facility preparedness against COVID infection at tertiary level AIIMS-WHO-CC Webinars on COVID-19, 28 May 2020, Online
15. Webinar on Perspectives in COVID and Pregnancy, National Mentoring group for laqshya, 30 May 2020, Online
16. Intrapartum Care in COVID-19, AIIMS-WHO-CC Webinars on COVID-19 in pregnancy, 6 June 2020, Online
17. Present Practices in COVID Pregnancy DGF and Manipal Hospitals, 13 June 2020, Online
18. First and Second Trimester Screening, SFM webinar by VOGS and SFM Varanasi Chapter, 21 June 2020, Online
19. Early Pregnancy Considerations After Assisted Conception *Case-Based Discussions*, Webinar by Early Pregnancy SIG, IFS, 28 June 2020, Online

20. Counselling Following a Prenatal Diagnosis of Congenital Heart Disease, SFM webinar: Three Sundays with Rabih Chaoui, 19 July 2020, Online
21. Session 2: Challenges in Breast Feeding COVID positive mother, Breast Feeding- The Divine Nourishment Conclave, 8 August 2020, Online
22. Advanced maternal age: Better inputs for better outcome, SFM webinar, 12 August 2020, Online
23. Clinical Guidance on COVID-19 Case Management, CLINICAL EXCELLENCE PROGRAM Interactive Webinar Series, MOHFW, GOI, Online
24. A Fetal Heart Touching Story, AOGD monthly meeting, 31 August 2020, Online
25. Maternal Sepsis, CME by DGF and Manipal Hospitals, 5 September 2020, Online
26. Pregnancy with Thyroid Disorder: Challenges and Solution, First quarterly Meeting (2020-21) SFM Delhi Chapter, 16 September 2020, Online
27. Twin pregnancy Situations requiring fetal interventions, AOGD pre-congress Workshop: Care Bundle for Multiple Pregnancy - Ensuring qualitycare, 5 November 2020, Online
28. Local experience with women presenting with symptoms of preeclampsia in OPD: Challenges in OPD. How could technology help? Pre-Eclampsia: Approach, Challenges and Point of Care, 22 November 2020, Online
29. Weekly Webinar Series on “Web Pearls in Obstetric Ultrasound” Topic- Biochemical screening FOGSI, Safe Motherhood Committee, Imaging Science Committee and SONO SCHOOL, 11 October 2020, Online
30. Quiz on Common Fetal Anomalies, AOGD pre-congress Workshop, 2 November 2020, Online
31. Case Based Panel Discussion on Fetal Infections, First quarterly Meeting (2020-21), SFM Mumbai Chapter 5 November 2020, Online
32. Doppler in Obstetrics, FOGSI’s Web Conference on Advance Imaging in Obstetrics, 7 November 2020, Online
33. Management of COVID-19 in Pregnancy, AIIMS National Grand Round, 11 November 2020, Online
34. Approach to common Fetal Malformations, SIAMG-ORDI web Series, 21 November 2020, Online
35. Preventing still births in Diabetic Pregnancy, Virtual CME on Diabetes in Pregnancy: Providing Optimum Care, 28 November 2020, Online
36. Aneuploidy Screening in an ART Pregnancy- Is it different? 16th Annual Conference Fertilisation & 1st Virtual Global Congress of Indian Fertility Society, 4 December 2020, Online
37. Role of Invasive procedure in the era of NIPT, UPGOG 2020: Fetal Medicine Workshop, 11 December 2020, Online
38. Autoimmune Disorders in RPL, Safe Motherhood Committee, 25 November 2020, Online
39. Case based discussions on First trimester aneuploidy detection, SFM Chhattisgarh, 2 December 2020, Online
40. Pregnancy and Epilepsy, Department of Neurology, LHMC, 7 December 2020, Online
41. Case Scenarios in Day to Day Practice, SFM J and K, 12 December 2020, Online
42. Interpreting a hemogram: Hemoglobin and beyond?, Webinar Delhi Gynae South Forum, 16 December 2020, Online
43. Aneuploidy Screening Confusion to Clarity: Case scenarios in day to day Practice, Symposia on Aneuploidy Screening, 18 December 2020, Online
44. 11-14 weeks scan aneuploidy screening, NT, NB, DV & TR (Techniques & Interpretation), Webinar on 11-14 weeks (Screening Strategies), 26 December 2020, Online
45. Preterm Labour- How do Progesterone help? Webinar by Indian Fertility Society, 9 December 2020, Online
46. Iron Deficiency Anaemia, Thalassemia, Megaloblastic Anemia, Management of Iron Deficiency Anaemia, Webinar: Interpretation of Haemogram, 19 January 2021, Online
47. Thick NT, Gestational Genetics, 21 January 2021, Online
48. Late FGR, Classic for Clinician Webinar series 4, 28 January 2021, Online
49. Disseminated Intravascular coagulation (DIC), DGF Live Webinar, 5 February 2021, Online
50. Monozygotic Twins with Discordant Aneuploidy, North East Fetal Medicine Academic Showcase, 9 February 2021, Online
51. Antenatal Counseling Birth Preparedness & Complication readiness- Need of the hour, Webinar Series on Respectful Maternity Care in Covid/ Non-Covid era, 13 February 2021, Online
52. Treatment of Anemia FOGSI VISTRIT - Project (Jharkhand) Technical Engagement For Accelerating Safe Motherhood which is an Initiative by - FOGSI, Safe Motherhood Committee FOGSI, in collaboration with USAID, IPE Global Vriddhi, 20 February 2021, Online

53. E-Mentoring session on Quality Improvement for state co-ordinators:
  1. Objectives of the Workshop
  2. Step 1 Identification of a problem, prioritizing a problem, forming a team & writing aim Statement
  3. Step 3 Developing & testing changes Launching of FOGSI-UNICEF Partnership for LaQshya Capacity Building, 21 February 2021, Online
54. Can we prevent intergenerational transmission of diabetes? Abhigyaan 2021, Practices and Protocols for achieving SDG, 26-28 February 2021, Online
55. Multiple pregnancy, FOGSI FORCE- PG Academic Program, 28 February 2021, Online
56. Care around delivery: What the Obstetrician must know. AOGD Webinar: Providing quality care in abdominal malformations: Before, during and after birth. 6 March 2021, Online
57. Quality Improvement Initiatives, E-CME on A maternal health quality Improvement initiative convergence of Govt. & Private Health Sector in Delhi, 18 March 2021, Online
58. Topic 1: Aneuploidy Screening in ART pregnancies: Is it different?  
Topic 2: Foetal reduction-Early vs Late  
Moderate panel on ANC complications and Role of ART specialists in prevention, CME on Managing ART Pregnancies, 26 March 2021, Online
59. Health starts in utero –USG markers of fetal anemia, Webinar on Journey of Anemia- Beginning from in Utero Origin- New & Practical Perspectives, 30 March 2021, Online

#### **Garima Kachhawa**

1. Optimizing antenatal care during COVID-19 pandemic (Panel), Webinar organized by WHO and AIIMS, ND, 8 April 2020, New Delhi
2. Role of Cabergoline in Endometriosis, Online CME of Ludhiana Obstetrics and Gynecological of Society, 25 August 2020, Ludhiana, Virtual

#### **Reeta Mahey**

1. Ovulation induction in PCOS (Panelist), Management of PCOS, 27 August 2020, Online
2. Fertility enhancing endoscopic surgeries (Moderator), Panel on fertility and Endoscopy, 25 September 2020, Online
3. Nuances of IVF in PCOS (Panelist), IFS- PCOS meeting, 17 October 2020, Online
4. Tackling high LH in PCOS patients (Lecture), “VIBRATE”- E bridging IFS intellectual platform, 18 December 2020, Online
5. Management of Hirsutism, Indian Fertility Society Meeting- online teaching module, 22 February 2021, Online

#### **Vanamail Perumal**

1. Bio-statistical aspects, JOGI-AOGD-E-PICSEP Workshop on Research Methodology, 26 November 2020, New Delhi, Online
2. Regression analysis: methods and issues, 38th Annual Conference of the Indian Society for Medical Statistics (ISMCON -2020), 10-12 December 2020, Online

#### **Vidushi Kulshrestha**

1. Postnatal care during COVID-19 pandemic (Panelist), Webinar series developed by WHO collaborating centre in Human Reproduction at AIIMS, New Delhi, 25 May 2020, New Delhi
2. Case based panel on Adenomyosis (panelist), X Files, Organised by Dehradun Obs Gyn Society, 16 July 2020, Webinar.
3. EMTCT and role of obstetricians, Public private partnership models, HIV Pulse
4. Webinar on TOT Program on HIV and AIDS organised by HIV Committee FOGSI, 26 August, 2020
5. Menopause UMAR: Understanding Menopause and Ageing Right, Online activity organized by SCORA (Standing Committee of Sexual and Reproductive Health and Rights including HIV & AIDS, and MSAI (Medical Students’ Association of India), 18 September 2020, Webinar
6. Screening of GDM-Whom, How, When, webinar on “Gestational diabetes mellitus-current perspectives and challenges” organized by Department of Food and Nutrition, Lady Irwin College, Delhi, 19 September 2020, Webinar
7. Recent updates in Medical Management of Uterine Fibroids, Webinar organized by Patiala Obs Gynae Society, 21 November 2020

8. Management of fibroids in Adolescents, Webinar organized by Karnal Obs Gynae Society, 19 December 2020, Webinar
9. Updates in Placenta Accreta Spectrum (Panelist), Virtual 1st Annual Conference of Greater Noida Obstetric and Gynaecological Society (GNOGS), 17 January 2021, Webinar
10. Threatened Abortion (Co-Moderator), Webinar organized under aegis of Gynaecological Endocrine Society of India (GESI), 6 March 2021, Webinar

#### **Seema Singhal**

1. Facility preparedness at tertiary level during COVID-19 pandemic, Webinar Series on Obstetric care during COVID-19 by WHO collaborating Centre, Department of Obstetrics and Gynecology, 28 May 2020, AIIMS, New Delhi
2. Colposcopic features of premalignant and malignant lesions of cervix' Advanced Cancer Screening Training Program for Gynecologists (ACSTP-G4) on a virtual platform, organized by NICPO NOIDA, 10 July 2020, Online
3. Moderated Panel discussion on Adjuvant treatment in carcinoma endometrium, MIS Gynae Oncology CME series, 19 August 2020, Online
4. Panelist for panel discussion on "Premalignant lesions of cervix" 42nd Annual and 1st E Conference of AOGD, 30 October 2020, Online
5. Co-moderated Panel Discussion on New Paradigms in screening for cervical cancer: Reaching the Elimination Targets "FOGSI-FIGO Cervical Cancer awareness, 17 November 2020, Online
6. Panelist for Discussion 'Preinvasive and Invasive cervical cancers, CME on Cervical Cancer AOGD and Oncology Sub-committee of AOGD, 23 January 2021, Online
7. Case Discussion Cancer Cervix & Cancer Endometrium UP PG AGOI CME, 27 February 2021, Online
8. Case Discussion on Lump abdomen/ Case Ovarian cancer, 23rd Practical Course & CME in Obstetrics and Gynaecology, Department of Obs and Gynae MAMC and LNJP New Delhi, 13 March 2021, MAMC and LNJP New Delhi

#### **Jyoti Meena**

1. Panel discussion on Optimizing Antenatal Care during COVID-19 pandemic, Webinar series developed by WHO collaborating centre in Human Reproduction, 9 April 2020, Online Platform
2. Postnatal care during COVID-19 pandemic, Webinar series developed by WHO collaborating centre in Human Reproduction, 25 May 2020, Online Platform
3. Spontaneous pregnancy in case of Sheehan's Syndrome, Clinical combined Round, 27 October 2020
4. First trimester bleeding, E-CME organized by Chettinad Academy of Research and Education, Tamil Nadu, 27 November 2020, Online platform
5. Hereditary Breast and ovarian Cancer, FOGSI POGS virtual conference Just Tumors Benign and Malignant, 11 December 2020, Online platform
6. Cervical cancer screening, Master trainers for national level online cervical cancer screening during hybrid training programme organized by WISH foundation, 1-3 March 2021, 8-10 March 2021, Online platform
7. Co-moderator for Panel discussion on management of cancer cancers, Virtual conference organized by Obstetrics and Gynecological society of southern India (OGSSI) Chennai, 5 March 2021, Online Platform

#### **Juhi Bharti**

1. Recent advancement in Obstetrics Maternal and newborn care in current era" organized by the Department of Obstetrics and Gynaecology Nursing, Community Health Nursing and Paediatric Nursing, Sri Ramachandra Faculty of Nursing, Sri Ramachandra Institute of Higher Education and Research, 18 January 2021, Chennai, Online

#### **Nilanchali Singh**

1. Ovarian masses- A case Based Discussion, CME on Suspected Ovarian Masses: From Confusion to
2. Consensus, 2020, 22 July 2020, Delhi
3. Pregnancy at previous scar, North Zone YUVA FOGSI, 2020, 4 March 2021, Online
4. Case Discussion on Post Menopausal Bleeding, 23rd Practical Course & CME, Maulana Azad Medical College, 13 March 2021, Delhi

#### **Neha Varun**

1. PCOD Ensuring physical and mental wellbeing during COVID, organised by Department of Electrical Engineering, Veermata Jijabai Technological Institute, Mumbai, India, 11 March 2021, Delhi



### **Anubhuti Rana**

1. Facility preparedness during COVID-19 pandemic, Telemedicine Webinar Series on Obstetric Care during COVID-19, 28 May 2020, New Delhi
2. Treatment of Anemia (Case Discussions Anemia) FOGSI VISTRIT - Project (Jharkhand) Technical Engagement for Accelerating Safe Motherhood which is an Initiative by - FOGSI, Safe Motherhood Committee FOGSI, in collaboration with USAID, IPE Global Vriddhi, 20 February 2021, New Delhi
3. Universal screening of SCD: Step Towards SCD free India', National SCD Symposium, 8 March 2021, New Delhi

### **Nimisha Agrawal**

1. Facility preparedness during COVID-19 pandemic, Telemedicine Webinar Series on Obstetric Care during COVID-19, 28 May 2020, New Delhi

### **List of oral papers/posters presented: 53**

1. Arora B, Kumari R, Kachhawa G, Mahey R, Sharma JB, Bhatla N. Lower Urinary Tract Symptoms in Postpartum Females and Its Relation to Mode of Delivery, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi
2. Balani S, Kulshrestha V, Kachhawa G, Bhatla N, Sharma J B, To evaluate the efficacy of myoinositol in treatment of gestational diabetes mellitus in Asian Indian women: A pilot study. 42nd Annual Conference (1st E-Conference) of AOGD, 24 October 2020, Virtual Conference
3. Berwa S, Zangmo R, Roy KK. Vaginal rhabdomyosarcoma in a patient with advanced cervical cancer Annual AOGD Virtual Conference, October 2020, Online
4. Bharti J, Sharma KA, Kaur R, Mansoor S, Soni S, Kumar S. Simulation based teaching of Obstetrics and Gynaecology skills in undergraduate medical trainees: Our experience, Virtual AOGD Conference October 2020, 24 October 2020, New Delhi
5. Deka D, Dadhwal V, Sharma KA, Shende U, Agarwal S, Agarwal R, Vanamail P. Perinatal survival and procedure-related complications after intrauterine transfusion for red cell alloimmunization, Fetal Medicine Foundation, India – Research Webinars Organized by Fetal Medicine Foundation, India (FMFI), 25 September 2020, Delhi
6. Deshwali A, Singh N, Kulshrestha V, Dhiman S, Meena J, Kumar S. Spontaneous Uterine Rupture in Early Gestation Due to Placenta Percreta. (Poster), 42nd Annual Conference (1st E-Conference) of AOGD, 24 October 2020, New Delhi
7. Garg D, Sharma KA, Zangmo R, Kumari A, Shainy P, DVR during pregnancy: A challenge for optimal outcome, Annual AOGD virtual conference, 24 October 2020, New Delhi
8. Garg D, Sharma KA, Kumari A, Zangmo R, Shainy P. A rare case of double heart valve replacement in pregnancy, Annual AOGD virtual conference, 24 October 20, New Delhi
9. Gupta A, Kaur T, Singhal S, Meena J, Kumar S. Spontaneous uterine rupture in a postmenopausal female-A rare entity, 42nd Annual and 1st E- Conference of AOGD, 24 October 2020, New Delhi
10. Gupta T, Raj P, Kachhawa G, Jaryal AK, Kulshrestha V, MaheyR, Vanamail P, Sharma JB, Bhatla N, Differential Expression of SFLT-1 and PLGF Levels in During Pregnancy: A prospective cohort study, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi
11. Jain A, Sharma KA, Dadhwal V, Vanamail P. A prospective study of fetal cardiac profiling in appropriately Grown, small for gestational age and growth restricted fetuses and its association with perinatal outcome, Annual AOGD Virtual Conference, 31 October 2020
12. Jaiswal P, Ali A, Singh A, Kachhawa G, Aggarwal M, Gupta M, Singh N, Varun N, Kumari R, Mahey R, Sharma JB, Bhatla N, Glanzmann Thrombasthenia in Pregnancy: Every obstetrician's nightmare, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi
13. Jindal M, Yadav R, Mahey R, Gupta M, Bhatla N, Beckwith Weidmann Syndrome, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 25 October 2020, New Delhi
14. Kachhawa G, Raj P, Gupta T, Kulshrestha V, Kumari R Mahey M, Jaryal AK, Vanamail P, Sharma JB, Bhatla N, Evaluation of Oxidative Stress Markers and Endothelial Function Assessment During Pregnancy and Correlate with Development of Hypertension in Pregnancy: A prospective cohort study, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi
15. Kousar S, Singh N, Suyesha S, Keerthana R, Gupta N, Gupta M, Varun N, Singh A, Kumari R, Kachhawa G Mahey R, Kachhawa G, Bhatia N. Can Teleconsultation in Obstetrics Overcome Deficiencies Due to Decreased Physical Visits in Terms of Maternal and Fetal Outcome?, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi



16. Krithika VS, Kachhawa G, Kulshrestha V, Kumari R, Mahey R, Vanamail P, Khadgawat R, Sharma JB, Bhatla N. Myo-Inositol and D-Chiro-Inositol Combination on Menstrual Cycle Regulation in Young Girls with PCOS – A randomised open-label study, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi
17. Kulshreshtha S, Sharma KA, Rana A, Introducing clinical debriefing session in COVID positive obstetric patients admitted in trauma centre-A quality improvement initiative, Virtual AOGD conference October 2020, 24 October 2020, New Delhi
18. Kulshrestha V, Balani S, Kachhawa G, Bhatla N, Mahey R, Kumari R, Sharma JB, Vanamail P, To evaluate the efficacy of myoinositol in treatment of gestational diabetes mellitus in Asian Indian Women: A pilot study. The 19th World Congress of, organized by ISGE (International Society of Gynecological Endocrinology, 3-5 December 2020, Virtual Conference
19. Kulshrestha V, Dadwal V, Sood M, Meena J, Dhiman S, Perumal V, Kumar S. Assessment for depression among pregnant women visiting tertiary care facility during COVID-19 pandemic. (Poster), 42nd Annual Conference (1st E-Conference) of AOGD, 24 October 2020, New Delhi
20. Kulshrestha V, Kachhawa G, Manchanda S, Sinha S, Bhatla N. Letrozole for successful medical management of sciatica due to extrapelvic endometriosis (E-Poster), The 19th World Congress of, organized by ISGE (International Society of Gynecological Endocrinology, 3-5 December 2020, Virtual Conference
21. Kulshrestha V, Rana A, Kachhawa G, Singh A, Meena J, Dadhwal V, Use of 'Printed Investigation Sheet' in admitted antenatal patients, International Forum on Quality and Safety in Healthcare, July 2020, Online
22. Kumari A, Sharma KA, Zangmo R, Garg D, Rohilla P. Von Willebrand Disease complicating pregnancy: Obstetrician's Challenge, Virtual AOGD conference October 2020, 24 October 2020, New Delhi
23. Kumari A. Intrahepatic cholestasis of pregnancy, DGF West Webinar, 6 November 2020, New Delhi
24. Kumari A. Pregnancy with Chronic Kidney Disease in Pregnancy and Renal Transplant, DGFS in collaboration with NARCHI, 2 December 2020, New Delhi
25. Kumari A. Von Willebrand's disease complicating pregnancy: Obstetrician's challenge, AOGD, October 2020, New Delhi
26. Kumari S, Kumari R, Kachhawa G Mahey R, Sharma JB, Bhatla N, A Spectrum of Liver Diseases in Pregnancy and Their Management – A retrospective study in a tertiary care centre in northern India, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi
27. Kushwana S, Meena J, Shivhare S, Dadhwal V, Kulshrestha V, Singhal S, Kumar S, Angiographic Embolization of Recurrent Postpartum Vulvovaginal Hematoma, 42nd Annual Conference (1st E-Conference) of AOGD, 24 October 2020, New Delhi
28. Lata K, Singh N, Hysteroscopic Mechanical Morcellation of Submucous Fibroid: an Alternative to electrosurgical approach- e poster Fertilisation: Virtual Conference, 6 December 2020, India
29. Meena S, Dadhwal V, Sharma A, Vanamail P. Role of cerebroplacental ratio in prediction of adverse perinatal outcome in term pregnancies. ISGE (International Society of Gynecological Endocrinology) The 19th World Congress, 2-5 December 2020, Virtual Conference
30. Poojitha, Sharma KA, Zangmo R, Spontaneous Ovarian Hyper stimulation - Mimicking Malignancy, Annual AOGD virtual conference, 24 October 2020, New Delhi
31. Prasad D, Sharma KA, Pulmonary aspergilloma during pregnancy. A case report Annual AOGD virtual conference, 24 October 2020, New Delhi
32. Rai R, Roy KK, Zangmo R, Nair V, Kachhawa G, Garg D, Vanamail P. Feasibility and Efficacy of Modern Minilaparoscopy with 2.9mm Laparoscope for Diagnostic and Level II Gynaecological Procedures, North Zone Yuva FOGSI 2020, 2020, Online
33. Raj A, Sharma KA. A rare placental cause of fetal growth restriction and abnormal dopplers. Annual AOGD Virtual Conference, 24 October 2020, New Delhi
34. Rana A, Sharma KA, Dadhwal V. Restructuring fetal medicine services in a low-resource setting during the COVID-19 pandemic: Experience from a tertiary care fetal medicine center, 42nd Annual Conference Association of Obstetricians and Gynaecologists of Delhi, 30-31 October, 1 November 2020, New Delhi
35. Roy KK, Anusha SM, Rai R, Das A, Zangmo R, Singhal S. A prospective randomised comparative clinical trial of hysteroscopic septal resection using conventional resectoscope versus mini-resectoscope. AOGD Virtual Conference, 24 October 2020, New Delhi, Online
36. Sahoo I, Kumari A, Mittal D, RAS, Gupta M, Kumari R, Kachhawag, Sharma Ka, Mahey R, Dadhwal V, Bhatla N, Kumar S. Evaluating the Efficacy of COVID-19 Screening Questionnaire for Labour Room and Ward Admissions in the Pandemic Era, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi

37. Sharma KA, Soni S, Rana A, Sharma D, Singhal S, Perumal V. Improving care of pregnant women during COVID-19 pandemic using telemedicine services, Annual AOGD Virtual Conference, 24 October 2020, New Delhi
38. Sharma S, Roy KK, Zangmo R, Nair VG, Malhotra N, Kachhawa G, Sharma A, Kulshrestha V, Bharti J, Perumal V, Comparison of Warm vs Room Temperature Normal Saline as Distension Medium for Pain Relief in Office Hysteroscopy: A randomized controlled trial, 42nd Annual Conference (1st E-Conference) of AOGD, 24 October 2020, New Delhi
39. Shivangi S, Sharma K A, Garg D. Multidisciplinary team management in a pregnancy with takayasu arteritis complicated by COVID-19 infection, Annual AOGD virtual conference, 24 October 2020, New Delhi
40. Shivhare S, Dadhwal V, Meena J, Kulshrestha V, Singh N, Kumar S, Gamanagatti S. Outcome in women undergoing uterine artery embolization for arterio-venous malformation following pregnancy, The 19th World Congress of, organized by ISGE (International Society of Gynecological Endocrinology, 3-5 December 2020, Virtual Conference
41. Singh A, Kachhawa G, Gupta T, Suyesha S, Dutta P, Yadav R, Kumari R, Kulshrestha V, Mahey R, Vanamail P, Sharma JB, Bhatla N. Distinct pro-inflammatory markers in gestational hypertension and preeclampsia: A prospective study, 42th Annual Virtual AOGD Conference, 30 October-1 November 2020, New Delhi
42. Singh A, Kachhawa G, Gupta T, Suyesha S, Dutta P, Yadav R, Kumari R, Kulshrestha V, Mahey R Vanamail P, Sharma JB, Bhatla N. Distinct Pro-Inflammatory Markers in Gestational Hypertension and Preeclampsia: A prospective study, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi
43. Singh N, Tripathi R, Kumari D, Tyagi S, Mala YM, Metabolic Markers in 936 Pregnant Women and Their Effect on Perinatal Outcomes, North Zone YUVA FOGSI, 2020, 4 March 2021, Online
44. Soma S. Systemic Pro-inflammatory Markers In Hypertensive disorders of pregnancy, PG online Web Conference of FOGSI'S pg, Forum Webinar, 5 October 2020, Virtual Conference
45. Soni S, Noor N, Garg D, Kumari A, Zangmo R, Sharma KA, Improving compliance for ERAS-CD at a tertiary care centre in India- A quality improvement initiative, Virtual AOGD conference October 2020, 25 October 2020
46. Suresh G, Roy KK, Zangmo T. Incidental diagnosis of Gonadoblastoma in Swyer Syndrome, Annual AOGD Virtual Conference, October 2020, Online
47. Tiwari A, Rana A, Dadhwal V, Sharma KA. Fetus as our patient: pattern of referral of antenatally diagnosed fetal malformations, Gynecological Endocrinology), The 19th World Congress, 2-5 December 2020, Virtual
48. Varun N, Yadav R, Jain S, Singh A, Gupta M, Sahoo I, Kumari A, Kumari R, Kachhawa G, Mahey R, Sharma JB, Bhatla N, An observational study of cesarean delivery on maternal request in urban settings". (online presentation), AOGD 2020, 24 October 2020, Delhi
49. Varun N, Yadav R, Jain S, Singh A, Gupta M, Sahoo I, Kumari A, Kumari R, Kachhawa G, Mahey R, Sharma JB, Bhatla N, An Observational Study of Caesarean Delivery on Maternal Request in Urban Settings, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi
50. Vatsa R, Kaur J, Bhansal A, Walia R. "Differential loss of fat in polycystic ovary syndrome: welcome or warning sign" 42nd Annual AOGD Conference, 30 October-1 November 2020, New Delhi
51. Yadav R, Mahey R, Gupta M, Bhatla N, The Phenotypic Diversity in Insulin Resistance, Body Mass Index, Serum Anti-Mullerian Hormone and Per Follicle Anti-Mullerian Hormone Among Infertile Polycystic Ovary Syndrome Patients – An observational study, 42nd Annual Conference of AOGD and 1st Annual E-Conference, 24 October 2020, New Delhi
52. Zangmo R, Roy KK, Sharma KA, Kumari A, Garg D. Role of roller gauze abdominopelvic packing in intractable haemorrhage after caesarean hysterectomy for morbidly adherent placenta, AOGD Virtual Conference, October 2020, Online
53. Zangmo R, Roy KK, Sharma KA, Kumari A, Garg D. Role of roller gauze abdominopelvic packing in intractable hemorrhage after caesarean hysterectomy for morbidly adherent placenta, Virtual AOGD Conference October 2020, 24 October 2020, New Delhi

#### **List of awards (At 42nd Annual Conference of AOGD, 2020)**

1. Dr. Suneeta Mittal's Medal for the best paper. Myo-Inositol and D-Chiro-Inositol Combination on Menstrual Cycle Regulation in Young Girls with PCOS- A randomized open-label study, Krithika VS, Kachhawa G, Kulshrestha V, Kumari R, Mahey R, Vanamail P, Khadgawat R, Sharma JB, Bhatla N, 30 October-1 November 2020
2. Mr S Bhattacharya and Dr Indrani Ganguly Medal for best paper on theme topic: Miscellaneous Evaluating the Efficacy of COVID-19 Screening Questionnaire for Labour Room and Ward Admissions in the Pandemic Era.
  - a. Sahoo I, Kumari A, Mittal D, R A S, Gupta M, Kumari R, Kachhawa G, Sharma Ka, Mahey R Dadhwal V, Bhatla N, Kumar S, 30 October-1 November 2020

3. Silver medal for the best poster presentation Assessment for depression among pregnant women visiting tertiary care facility during COVID-19 pandemic. (Poster). Kulshrestha V, Dadhwal V, Sood M, Meena J, Dhiman S, Perumal V, Kumar S, 30 October-1 November 2020
  - b. Appreciation award Glanzmann Thrombasthenia in Pregnancy: Every obstetrician's nightmare. Jaiswal P, Ali A, Singh A, Kachhawa G, Aggarwal M, Gupta M, Singh N, Varun N, Kumari R, Mahey R, Sharma JB, Bhatla N, 30 October-1 November 2020
4. Appreciation award Evaluation of Oxidative Stress Markers and Endothelial Function Assessment During Pregnancy and Correlate with Development of Hypertension in Pregnancy: A prospective cohort study.
5. Kachhawa G, Raj P, Gupta T, Kulshrestha V, Kumari R Mahey M, Jaryal AK, Vanamail P, Sharma JB, Bhatla N, 30 October-1 November 2020

## RESEARCH

### Funded projects

#### Ongoing

1. 35 Developing a low-cost training model for teaching the skills of screening and treatment of pre invasive lesions of cervix to healthcare professionals, Seema Singhal, AIIMS Intramural research grant, 2 years, 2019-2021, Rs 3.55 lakhs
2. A feasibility study to assess the usability, usefulness and adherence to Standard Treatment Guidelines in Indian Healthcare Settings with the use of Elsevier's "Arezzo®" - a Declarative Artificial Intelligence based Clinical Decision Support System and pathway technology, K Aparna Sharma, NITI Aayog-UK-DIT 1, 2019-2020, Rs 37.83 lakhs
3. A phase IV, double blind, comparative, prospective, multicentric study to assess safety and efficacy of fixed dose combination of Clindamycin 100 mg and Clotrimazole 100 mg vaginal suppositories Vs Clotrimazole 100 mg vaginal suppositories in patients with mixed vaginal infection, Sunesh Kumar, Anazeal Analyticals & Research Pvt. Ltd. Navi Mumbai, 2 years, 2019-2021, Rs 3.5 Lakhs
4. A Phase-II/III, Partially Double-blind, Randomised, Active-controlled, Multicentric Study to Assess the Immunogenicity and Safety of SIIPL's qHPV Vaccine Administered Intramuscularly in Healthy Volunteers According to a Two-dose Schedule to Cohort 1 (Girls and Boys Aged 9-14 years) and a Three-dose Schedule to Cohort 2 (Women and Men Aged 15-26 years) as Compared to Merck's HPV6/11/16/18 vaccine (Gardasil®), Neerja Bhatla, Serum Institute of India Pvt. Ltd, Pune, 5 years, 2018-2023, Rs 40.55 lakhs
5. A prospective study to develop a preeclampsia prediction model for the Indian Population based on contingent utilisation of historical factors and biophysical and biochemical parameters, K Aparna Sharma, AIIMS, 3 years, 2018-2021, Rs 3.5 lakhs
6. A prospective, open- label, single – centre, single arm, post-marketing study to evaluate the efficacy and safety of D- chiro inositol and myo- inositol combination on ovarian function and metabolic factors in women with polycystic ovarian syndrome (PCOS), Garima Kachhawa, Ambrosia Life Science Pvt. Ltd., 2 years, 2019-2021, Rs 12.97 lakhs
7. A randomised controlled trial to study the outcome of 'Routine episiotomy' versus 'No episiotomy' on perineal injury and pelvic floor dysfunction during normal vaginal delivery among primigravida women: A Pilot study, Archana Kumari, AIIMS Intramural research grant, 2 years, 2021-2023, Rs 8.8 lakhs
8. A randomised, open label, assessor-blind, parallel group, multi-centre Phase III study to compare the efficacy and safety of r-hMG and HP-hMG in subjects undergoing controlled ovarian stimulation for ART, Dr Reeta Mahey, Bharat Serum Limited, 4 years, 2017– 2021, Rs 5 lakhs
9. A randomised controlled trial of a study comparing autologous rectus fascia pubovaginal sling versus mid-urethral sling versus Burch colposuspension procedure in women with stress urinary incontinence, J B Sharma, ICMR, 3 years, 2019-2022, Rs 65 lakhs
10. Age specific nomograms of Anti-Mullerian Hormone (AMH) and Antral Follicle Counts in infertile and fertile Indian women, Neena Malhotra, CSR funded by RECPDCL, Govt of India, 3 years, 2016-2020, Rs 50.00 lakhs
11. Circulatory exosomal microRNA as marker of endometriosis- A Pilot study, Juhi Bharti AIIMS Intramural research grant, 2 years, 2019-21, Rs 5 lakhs
12. Detection of SARS-COV-2 using RT-PCR in semen and seminal plasma from men with COVID-19– A pilot study, Neena Malhotra, AIIMS Intramural project, 2 years, 2020-2022, Rs 4.26 lakhs
13. Development and pilot testing of smart phone-based app for non-invasive detection of anaemia in pregnant women, Vatsla Dadhwal, AIIMS-UCL collaborative projects, 10 months, 2020-2021, Rs 4.85 lakhs

14. Development of an informative tool for early detection of placenta iron status and risk of malaria: a cost-effective approach to reduce adverse pregnancy outcomes, K Aparna Sharma, ICMR (DHR), 3 years, 2020 – 2022, Rs 101.66 lakhs
15. “Development of Augmented Reality (AR)-enabled tool for guidance in Cervical Cancer screening by Visual Inspection method in Single Visit Approach”, Seema Singhal, (IIT-D) DST SERB under Core Research Grant Scheme, 3 years, 2020-2023, Rs 38 lakhs
16. Effect of Yoga on maternal and perinatal outcome on Pregnancy. J B Sharma, DST, 3 years, 2020-2022, Rs 35 lakhs
17. Effectiveness and safety of 2 vs 3 doses of HPV vaccine in preventing cervical cancer: An Indian Multi-centre randomized trial, Neerja Bhatla, WHO-IARC, 17 years, 2009-2026, Rs 219.21 lakhs
18. Effects of Non- ionic electro Magnetic Field (EMF) on Human Health, JB Sharma, ICMR, 5 years, 2019-2024, Rs 47 lakhs
19. Enhanced, tailored antenatal care to reduce anaemia in pregnancy – the Comprehensive Anaemia Programme and Personalized Therapies (CAPPT) project, Vatsla Dadhwal, DBT, 3 years, 2018-2021, Rs 117 lakhs
20. Evaluation of newer molecular methods and antigen based diagnostic modalities against RNTCP recommended methods in early diagnosis of female Genital Tuberculosis, JB Sharma, MOHFW, Government of India, 3 years, 2021-2024, Rs 67 lakhs
21. Evaluation of paternal RhD zygosity and fetal RhD genotype using circulating cell-free fetal DNA from maternal plasma in the antenatal monitoring of alloimmunized pregnant women, Anubhuti Rana, AIIMS, Intramural research grant, 2 years, 2021-2023, Rs 9.85 lakhs
22. Evaluation of prevalence, regional phenotypic variation, co-morbidities, risk factors and the variation in response to different therapeutic modalities among Indian women with PCOS: A multicentre study across India, Neena Malhotra, ICMR, 4 years, 2018-2021, Rs 37.59 lakhs
23. Evaluation of stress biomarkers in pregnancy and correlation with maternal-fetal outcomes, Anju Singh, AIIMS Intramural research grant, 1 year, 2021-2022, Rs 5 lakhs
24. Expression of erbB receptor family and estrogen receptors (ER) in endometrium and ectopic lesion during ovarian endometriosis, Deepali Garg, AIIMS Intramural research grant, 2 years, 2021-2023, Rs 10 lakhs
25. First trimester quadruple test and its correlation with fetomaternal outcome, Dr Rinchen Zangmo, AIIMS Intramural research grant, 2 years, 2021-2023, Rs 10 lakhs
26. Implementation of non-invasive pre-implantation genetic testing for aneuploidies using next-generation sequencing (NGS) on spent culture media, Neeta Singh, ICMR (DHR), 3 years, 2020-2023, Rs 30 lakhs
27. Implementation of WHO ANC Model using web based application in primary, secondary and tertiary health care levels by trained health care providers, semi-skilled healthcare providers and community health workers, K Aparna Sharma, DST, 2 years, 2019-2021, Rs 19.75 lakhs
28. Longitudinal follow up of pregnant women and their infants after COVID-19 exposure in pregnancy, K Aparna Sharma, AIIMS-UCL, 1 year, 2021-2022, Rs 5 lakhs
29. National Registry on COVID-19 infection among pregnant women and their neonates, Sunesh Kumar, ICMR, 3 years, 2020-2023, Rs 1 Lakh
30. On Ovarian Tissue Cryopreservation (OTC) for fertility preservation in young cancer survivors – comparison of freezing and vitrification techniques, Neena Malhotra, ICMR, 3 years, 2020-2022, Rs 56.20 lakhs
31. Phase I-II Clinical Trial on safety, immunogenicity and probing efficacy of the Revived Recombinant Vaccine against Human Chorionic Gonadotropin (hCG), Sunesh Kumar, ICMR, 3.5 years, December 2017-June 2021, Rs 26.48 lakhs
32. Rapid point of Care Detection of HPV-Associated Malignancies, Neerja Bhatla, NCI, USA through Arizona State University, USA, 5 years, 2017-2022, Rs 190 lakhs
33. Role of Endocrine Disrupting Chemicals (EDC’S) in Maternal and Child Health”, Dr Garima Kachhawa, ICMR, 3 years, 2018-2021, Rs 35.72 lakhs
34. Serum Visfatin and Serum Adiponectin levels in patients with Carcinoma Endometrium, Jyoti Meena AIIMS, Intramural research grant, 2 years, December 2020-2022, Rs 2 lakhs
35. Study of psycho-social and behavioral responses and concerns of peripartum women during COVID-19 pandemic and developing Comprehensive Counselling Module for Obstetricians and General Practitioners for enhancing their holistic well being, Archana Kumari, AIIM Intramural research grant, 2 years, 2021-2023, Rs 5 lakhs
36. Surveillance on COVID and Pregnancy (SCOPE) Project (WHO-SCOPE), Sunesh Kumar, WHO-CO India, 1 year, 2020-2021, Rs 35 Lakhs



37. To create and assess the feasibility and usability of smartphone application for streamlining Training, Assessment of Risk (Contact tracing), Screening and awareness of Employees, and Infection Control activities of the Nodal Team of various areas of the hospital for COVID-19 activities (TASC App), K Aparna Sharma, AIIMS Intramural research grant, 2 years, 2020-2021, Rs 5 lakhs
38. To evaluate combination of biochemical endothelial markers and arterial stiffness in prediction of preeclampsia”, Garima Kachhawa, ICMR (DHR), 4 years, 2018-2022, Rs 83.9 lakhs
39. To investigate the role of natural Killer cells in implantation failure and to study immunomodulatory effect of Intralipids in women with elevated uterine natural Killer (uNK) cells in fresh non donor IVF cycles- A randomised Controlled trial, Neeta Singh, ICMR, 3 years, 2019-2022, Rs 40 lakhs
40. To study the efficacy and safety of Diosma (900 mg) given along with Tranexamic acid (500 mg) and Mefenamic acid (250 mg) in reducing menstrual blood loss in patients of Abnormal Uterine bleeding, JB Sharma, Wallter Bushnel Pvt. Ltd., 5 years, 2016-2021, Rs 17 lakhs
41. To study the prevalence of FSH receptor gene polymorphisms in infertile and fertile Indian women and evaluate response to ovarian stimulation in the infertile subset undergoing IVF/ICSI, Reeta Mahey, SERB, 3 years, 2018-2022, Rs 24 lakhs
42. To study the sequential changes in maternal Corticotropin Releasing Hormone level during the course of pregnancy and correlate with outcome its role as an endocrine mediator of parturition, Neha Varun, AIIMS Intramural research grant, 1year, 2020-2021, Rs 5 lakhs
43. Use of pyruvate kinase M1 and M2 biomarker in predicting coexistent carcinoma endometrium, in cases of atypical endometrial hyperplasia, to facilitate choice of fertility sparing surgery, Richa Vatsa, AIIMS Intramural research grant, 2 years, 2020-2022, Rs 5 lakhs
44. Validation of Preeclampsia Congo Red Detection kit (Point-of-Care test): Multicentric trial, K Aparna Sharma, Perkin –Elmer, 2 years, 2019-2021, Rs 9.5 lakhs

### **Completed**

1. A side-by-side comparison of a transvaginal colposcope to standard of care visual inspection in a 100-patient pilot study on women undergoing cervical cancer screening, Dr Neerja Bhatla, Duke University, NCI, USA, 3 years, 2017-2020, Rs 10.53 lakhs
2. To evaluate the role of Autologous Bone Marrow derived Stem Cells transplantation for premature ovarian ageing, Dr Neeta Singh, Institute Research Grant, 2 years, 2019-2020, Rs 10 lakhs
3. A Double-blind, Randomized, Adaptive Design, Controlled Clinical Trial to Evaluate the Efficacy and Safety of Saroglitazar 2 mg and 4 mg Tablets Versus Placebo for Treating Women with Polycystic Ovary Syndrome (PCOS), Dr Garima Kachhawa Cadila Health Care Ltd., 1.5 years, 2019-2021, Rs 1 lakh

### **Departmental projects**

#### **Ongoing**

1. A Comparative Study of Anxiety and Depression in Low-Risk vs High-Risk Pregnant Women in Indian Settings
2. A comparison of efficacy of trans rectal ultrasonography (TRUS) with magnetic resonance imaging (MRI) in assessing tumor characteristics and metastatic disease in women with cervical malignancy
3. A prospective randomised controlled trial to study the effect of prenatal yoga on maternal weight gain and psychological stress in pregnancy and its association with pregnancy outcomes
4. A prospective study to develop nomograms of fetal brain structures in the north Indian population and assess these fetal brain structures in growth restricted fetuses using the developed nomograms
5. Assessment of pain score after administration of 1% injection lignocaine versus emla cream in patients undergoing prenatal invasive testing
6. Assessment of Response to Neoadjuvant Chemotherapy in Women with Advanced Stage Epithelial Ovarian Cancer by F18-Fluorodeoxyglucose Positron Emission Tomography
7. Association of placental volume and vascularization indices in pregnancy following in vitro fertilisation and adverse pregnancy outcome
8. Cardiac function of monochorionic diamniotic twins complicated by selective fetal growth restriction.
9. Comparison of a dual trigger versus a single trigger in antagonist cycles in non-donor in vitro fertilisation A randomised controlled trial
10. Comparison of Insulin Resistance as Marker of Psychological Morbidity and Quality of Life (QoL) in PCOS and non-PCOS Infertile women- a case control study



11. Correlation of serum inflammatory biomarkers with the fetomaternal outcome in intrahepatic cholestasis of pregnancy
12. Correlation of Visceral Adiposity Index (VAI) and Lipid Accumulation Products (LAP) with metabolic and endocrine markers in women with Polycystic Ovary Syndrome (PCOS)
13. Effect of integrated yoga on ART outcomes and psychological stress in patients undergoing in- vitro fertilization (IVF) cycles: a prospective randomized controlled trial
14. Efficacy and feasibility of Enhanced Recovery After Surgery (ERAS) protocol on functional recovery in women undergoing elective caesarean delivery: A randomized clinical trial
15. Evaluation of 18F FDG PET specific quantitative tumour parameters and Sentinel lymph node mapping by radionuclide injection of Tc99m sulphur colloid in management of Endometrial cancer
16. Evaluation of an Artificial Intelligence based device for screening and management of Preinvasive Lesions of Cervix
17. Evaluation of changes in fetal myocardial performance index following intrauterine transfusion in singleton pregnancies with maternal Rh-D alloimmune disease and its correlation with adverse pregnancy outcome.
18. Evaluation of feasibility and perioperative outcome of HIPEC at the time of interval debulking surgery in Stage IIIC/IV epithelial ovarian, fallopian tube and primary peritoneal carcinoma: A Pilot Study
19. Evaluation of Hormonal and Metabolic Parameters in Adolescent and Young Indian Girls with Menstrual dysfunction.
20. Evaluation of leucocyte and platelet indices in preeclampsia compared to normotensive Asian Indian pregnant women
21. Evaluation of renal function parameters during pregnancy and its correlation with maternal and fetal outcome.
22. Evaluation of role of cardiotocography based short term variability in prediction of adverse perinatal outcome in late small for gestational age and appropriately grown fetuses.
23. Evaluation of surgical resectability of epithelial ovarian, fallopian tube and primary peritoneal carcinoma using CT based reporting system "PAUSE"
24. Evaluation of who and intergrowth-21 fetal growth charts in Indian population
25. Fetal Cardiac Profile in ICP and its association with perinatal outcome
26. Prediction of ovarian function in reproductive age women with breast cancer undergoing gonadotoxic chemotherapy using ovarian reserve bio-markers- A prospective cohort study
27. Profile of vaginal and placental microbial flora in antenatal women using gram stain and culture
28. Prospective study to develop the current nomogram of semen analysis parameters in fertile Indian males
29. Pulmonary vein pulsatility index cardiac remodelling (global sphericity index) and function (myocardial performance index) in growth restricted and normally grown fetuses
30. Randomized control trial comparing pregnancy outcome using Letrozole versus GnRH agonist HRT for endometrial Preparation during frozen embryo transfer cycles.
31. Role of Epigenetics in FGTB
32. Role of transvaginal 3D Power Doppler Ultrasound and Hysteroscopy for endometrial evaluation in patients with postmenopausal bleeding
33. Serum Visfatin and Serum Adiponectin levels in patients with Carcinoma Endometrium
34. Study of foetal cardiac remodelling and its postnatal persistence in pregnancies after assisted reproductive technologies
35. To assess the impact of systematic childbirth education through a birth planning visit on the outcome and experience of childbirth: A quality Improvement Project
36. To evaluate role of TB loop mediated isothermal amplification assay as compared to other conventional techniques in diagnosing female genital tuberculosis
37. To evaluate the IVF outcome in low prognosis women according to POSEIDON (Patient Oriented Strategies Encompassing Individualized Oocyte Number) stratification and to evaluate the possible etiologies of decreased ovarian reserve (DOR) in Indian Women
38. To evaluate the role of Serum D-dimer, Neutrophil/Lymphocyte Ratio, Platelet/Lymphocyte ratio and CA125 in assessment of Ovarian masses
39. To look for incidence of Urogynaecological problems in post-partum patients and its relation to mode of delivery
40. To study the psychological impact of COVID-19 among healthcare workers posted on COVID duty in a tertiary care centre
41. Trend of Aspartate Aminotransferase to Platelet Ratio Index (APRI) Score and Immature Platelet fraction (IPF) in preeclampsia: A Case-control Study.

## **Completed**

1. A Prospective Study of Fetal Cardiac Profiling in Appropriately Grown, Small for Gestational age and Growth Restricted Fetuses and its association with perinatal outcome
2. Analysis of molecular biomarkers in serum and tumour tissue of epithelial ovarian cancer
3. Assessment of BRCA and Non-BRCA mutations with multi gene panel testing in patients of ovarian cancer: A cross-sectional observational study
4. Association of placental volume and vascularisation indices in pregnancy following in vitro fertilisation & adverse pregnancy outcome
5. Comparison of Cervical Shear Wave Elastography, Bishop Score and Transvaginal Cervical Length Measurement for prediction of Successful Labor Induction: A Pilot Study.
6. Comparison of Direct Trocar and Veress Needle in establishing pneumoperitoneum during laparoscopy: A Clinical Trial
7. Comparison of letrozole and ovarian drilling by harmonic scalpel in infertile women with polycystic ovarian syndrome: A pilot prospective randomized controlled trial.
8. Comparison of Letrozole plus Gonadotropins versus Gonadotropins alone for controlled ovarian stimulation in PCOS women undergoing IVF–ICSI cycles-a randomized controlled trial
9. Comparison of Quality of antenatal care delivered based on a web-based application compared to the standard care protocol: A pilot study
10. Comparison of three closure techniques for skin closure in caesarean section (subcuticular sutures, non-absorbable nylon suture, surgical staplers): a randomised controlled trial.
11. Correlation of Barrel Index determined by MRI in early cervical cancer with operability, lymph node status and local extension of disease
12. Correlation of first trimester metabolic parameters and maternal body fat indices with development of gestational diabetes mellitus in Asian Indian women- a comparative study.
13. Efficacy and feasibility of Enhanced Recovery after Surgery (ERAS) protocol on functional recovery in women undergoing elective caesarean delivery: A Randomized clinical trial
14. Evaluation of efficacy and feasibility of implementation of Enhanced Recovery After Surgery (ERAS) protocol in women undergoing gynaecological surgery
15. Evaluation of Gene Xpert as Compared to conventional methods in diagnosis of Genital TB among infertile women
16. Evaluation of Leucocyte and Platelet Indices in Preeclampsia compared to Normotensive Asian Indian Pregnant Women
17. Evaluation of Placental Elastography and Placental Vascularisation Index in Fetal Growth Restricted Pregnancy: A Case Control Study
18. Evaluation of placental vascularisation index and placental elastography in fetal growth restricted pregnancy: A prospective comparative study
19. Finding Novel Diagnostic and Prognostic Biomarker in ovarian cancer
20. Gynaecological surgeries in the era of COVID-19 pandemic-A prospective study.
21. Prevalence of mental health problems (Anxiety, Depression and Stress Reaction) in mothers of pre- term infants admitted to NICU: A Cross Sectional Study
22. R2TP complex as a target of human papilloma virus oncoproteins E6 and E7
23. Randomised control trial comparing pregnancy outcome using Letrozole versus GnRH agonist HRT for endometrial Preparation during frozen embryo transfer cycles.
24. Relationship between middle cerebral artery peak systolic velocity and perinatal outcome in intrauterine growth restricted fetuses
25. Role of cancer testis antigen POTE-E in preoperative diagnosis of Epithelial Ovarian tumors: A pilot study
26. Role of IOTA Simple rules and 3D Ultrasound in evaluation of adnexal masses
27. Role of Lymphadenectomy in Ovarian Cancer at the time of Interval Cytoreductive Surgery
28. Role of Transvaginal 3D Power Doppler Ultrasound and Hysteroscopy for endometrial evaluation in patients with postmenopausal bleeding
29. Surgery following pre-operative chemo-radiotherapy versus definitive chemo radiotherapy for treatment of locally advanced carcinoma of vulva.
30. The role of Paracervical Block In Reducing Immediate Post Operative Pain After Laparoscopic Hysterectomy; A Prospective Randomised Placebo Controlled Trial

31. To evaluate exhaled air carbon monoxide level in pregnancy and correlate with maternal and fetal outcome: A Pilot Study
32. To evaluate the effect of intralipid supplementation on implantation rate in women with two or more failed in-vitro fertilization with elevated natural killer cell levels: A Pilot Randomized Controlled Trial
33. To evaluate the Role of Serum D-Dimer, Neutrophil/Lymphocyte Ratio, Platelet/Lymphocyte ratio and CA125 in assessment of Ovarian Masses
34. Trend of Aspartate Aminotransferase to Platelet Ratio Index (APRI) Score and Immature platelet fraction(IRF) in preeclampsia: A Case-control study.

## **Collaborative projects**

### ***Ongoing***

1. A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus. India, Bangladesh, Sri Lanka. Endocrinology & Metabolism
2. A quasi-experimental study to assess the effectiveness of low fidelity simulation on knowledge regarding selected midwifery skills among undergraduate nursing students. College of Nursing
3. Assessment of BRCA and non-BRCA mutations with multi gene panel testing in patients of ovarian cancer: A cross-sectional observational study. Department of Biochemistry
4. Association of HIPEC treatment with expression of T regulatory cells (FOXP3) in epithelial ovarian cancer and its clinical significance Surgical Oncology, IRCH
5. Bio-markers for prediction of successful pregnancy in women undergoing IVF: using the proteomics approach in a North Indian population: hospital-based prospective cohort study Clinical Epidemiology Unit
6. Comparing the vascularization potential of MSCs and MAPCs in monoculture and coculture systems with human OECs under normoxia and hypoxia Stem cell facility
7. Detection of HPV circulating tumour DNA in cervical cancer patients before and after chemoradiotherapy by droplet digital PCR Preventive Oncology, IRCH
8. Development and Validation of a questionnaire to assess violence against doctors. Department of Medicine
9. Development, Validation and Dissemination of Communication Skills Training Modules (CSTM) for MBBS students and Resident Doctors in India Department of Medicine
10. Efficacy and safety of ultrasound guided superior hypogastric plexus block in chronic pelvic pain: a randomized controlled study. Anaesthesiology and Pain Medicine
11. Endometrial neurotrophic factors and nerve fibres in endometriosis associated pain. Department of Physiology.
12. Evaluation of Gene Xpert as compared to conventional methods in diagnosis of Genital TB among infertile women, Department of Medicine
13. External delivery of Cisplatin using Human Papilloma Virus (HPV 16) based nanocarriers for treatment of cervical cancer”AIIMS-IIT-Delhi and Department of Anatomy.
14. Magnetic nanoparticles and quantum dots coupled visual confirmation of cervical cancer cells from cytology sample: a cost effect, quick and suitable test for rural Indian setup. Anatomy
15. Molecular characterization of endometrial cancer and correlation with clinicopathological features, Pathology
16. Psychological Trauma in Pregnancy Loss: Development of a Multidimensional Assessment Tool and a Group Intervention Module Department of Psychiatry.
17. Psychosocial dynamics of pregnancy loss: development of a multidimensional scale & development efficacy (a Randomized Control Trial) – ICMR. Psychiatry
18. R2TP complex as a target of human papilloma virus oncoproteins E6 and E7 Department of Lab Oncology, IRCH
19. Role of hydrogen sulphide as a pharmacological modulator in adverse pregnancy outcomes like pre-eclampsia Anatomy
20. STAT3 regulation via miRNAs in ovarian cancer stem cells: A therapeutic approach Reproductive Biology
21. Status of hydrogen sulphide producing enzymes, matrix metalloproteinases and miR-22 in preeclampsia and their role in modulating trophoblast invasion Anatomy
22. To develop a strategy for postpartum, follow up of woman with history of gestational diabetes mellitus by using the right test and frequency of testing and developing patient centric approach after incorporating their views. Endocrinology & Metabolism
23. To establish mother-offspring-spouse cohort of women with history of gestational diabetes mellitus to study the vertical and horizontal influence on cardiovascular risk factors. Endocrinology & Metabolism
24. To evaluate combination of biochemical and biophysical marker in prediction of preeclampsia Department of Physiology

25. To evaluate the effectiveness of lifestyle intervention program in overweight/obese women [within 2 years of last child birth] when delivered to them along with their spouse as compared to them alone: Two arm parallel Randomized Control Trial. Endocrinology & Metabolism
26. To evaluate the effectiveness of lifestyle intervention programme in women with history of gestational diabetes mellitus when delivered to them along with their spouse as compared to them alone: Two arm parallel randomized control trial Endocrinology & Metabolism

### Completed

1. Effect of human sperm vitrification on phospholipase C zeta expression. Department of Reproductive Biology
2. Molecular interaction of reactive oxygen species in mitochondrial dys function and NRF-2 gene expressions in polycystic ovary syndrome (PCOS). Department of Lab Medicine, AIIMS
3. Role of L-Carnitine in oocyte activation. Department of Reproductive Biology

### PUBLICATIONS:

**Journals: 90**

**Abstracts: 3**

**Chapters in books: 11**

**Books and Monographs: 7**

### PATIENT CARE

The department met the unprecedented challenges due to ongoing pandemic and left no stone unturned in continuing to provide uninterrupted emergency obstetric and gynaecological care to patients. A rapid restructuring created the facility for three separate areas for labour and delivery of Covid-positive, Covid-suspect and Covid-negative cases. Additionally, teleconsultation services were also provided to non-emergency gynaecological and obstetric patients throughout the pandemic. Care was provided to gynae cancer patients both by teleconsultations and also by physical consultations where needed. Gynaecological surgeries were conducted for semi-emergency and emergency cases as well. Cancer surgeries were given high priority as also emergency life-threatening cases with ectopic pregnancy, severe bleeding, etc. High risk obstetrics and fetal medicine services including diagnostic and invasive procedures like amniocentesis, cordocentesis, chorion villus sampling and intrauterine transfusions were continued. Apart from booked cases a large number of cases referred from other hospitals with serious complications were attended throughout the pandemic.

The department also provides round the clock obstetrics and gynaecological services to patients at CRHSP, Ballabgarh. Gynae Cancer Clinics are running at IRCH. Additionally, Gynaecological Oncology services including operative work has been initiated at NCI, Jhajjar.

During COVID-19 pandemic lockdown phase we continued patient care service through **Teleconsultation** and as a result, a total of 3575 patients were benefitted through this service.

### Details of procedures carried out in OPD/LR/OT during 2020-2021

Cancer Surgeries 207	
Endometrium	35
Ovary	153
Cervix	15
Vulva	4
Benign Gynecological Procedure	
Hysterectomy	<b>194</b>
• Laparoscopic	88
• Abdominal	80
• Vaginal	23
• NDVH/ LAVH	3
Ovarian Cystectomy/Oophorectomy	<b>91</b>
• Open	12
• Laparoscopic	57
Oophorectomy	22
• Ectopic pregnancy	27
• Pre IVF salpingectomy	37
Cerclage	
• Abdominal	5
• Vaginal	6

Myomectomy/Adenomyomectomy 40	
• Open	12
• Laparoscopic	16
• Hysteroscopic	12
Prolapse surgery	<b>3</b>
• Abdominal	1
• Vaginal	1
• Laparoscopy	1
Vaginoplasty	
• Mc Indoe	9
<b>Day care surgeries</b>	
Diagnostic Laparohysteroscopy for infertility	49
Laparoscopic Adhesiolysis	1
Diagnostic Hysteroscopy	90
Hysteroscopic metroplasty	1
Hysteroscopic Adhesiolysis	10
Hysteroscopic Cannulation	7
Hysteroscopic CuT removal	9
Hysteroscopic Polypectomy	24
Hysteroscopic septal resection	5
TVT	1
<b>Fetal Medicine</b>	
Amniocentesis	110
Chorionic Villous Sampling	148
Cordocentesis	5
IUT	59
RFA	8
Shunt Insertion	1
Selective Fetal Reduction	5
Pericardiocentesis	1
<b>Obstetric</b>	
Total Vaginal delivery	679
Total Cesarean sections	943
<b>Minor Procedures</b>	
Papsmear	2997
Cervical Biopsy	298
Colposcopy	112
Thermal ablation	8
LEEP	3

#### Details of Obstetric patients as per their Covid status

COVID Status	Vaginal delivery (number)	Caesarean (number)
Negative	661	892
Positive	18	51
Total number	679	943

#### Family planning services:

Family planning programme is one of the National programmes in India with the objectives of achieving population stabilization, promoting reproductive health and reducing maternal, infant and child mortality and morbidity



Except during the periods of lockdown, Obstetrics and Gynaecology department continued uninterrupted Family planning OPD for 6 days in a week with one empanelled senior resident and one junior resident to provide the following family planning services;

- Postpartum ligation
- Postabortion ligation
- Medical Termination
- IUCD insertion
- Follow-up of patients for monitoring/managing the complications due to IUCD and postpartum IUCD.

Various contraceptives available free of cost, with newly introduced contraceptives: Injectable Contraceptive, MPA (Medroxyprogesterone acetate) under Antara program and Chhaya (earlier marketed as Saheli) also available. Spacing methods like IUCD and postpartum IUCD (PPIUCD) were emphasised and following family planning services were provided during the COVID-19 pandemic.

Method	Number
MTP	159
Oral contraception	122
DMPA	24
Interval CU-T	47
PPIUCD	225
Post abortion IUCD	28
Mirena insertion	14
Tubal ligation	71

#### Community services/camps

1. AIIMS-GOI led national mentoring for the roll out of Laqshaya Labor room Transformation Program launched by the Government of India
2. Helpline Program on FM Rainbow Akashwani Delhi on “Early Pregnancy Complications” on 3 November 2020 (Tuesday) from 03:00 pm to 04:00 pm
3. Lecture in International Webinar Conversations Around Cervical Cancer, Indian Cancer Society, 10 November 2020.
4. Lecture on Cervical Cancer Elimination– a woman’s perspective, Rotary Club of Coimbatore Metropolis, 17 November 2020
5. Lecture on Confirm or Rule out Breast Cancer with Investigations. E CONCLAVE FOGSI on Breast Cancer, with Breast Committee, Oncology Committee, Public Awareness Committee, 17 October 2020
6. Live Facebook session organized by Amaze Welfare Foundation on 30 August 2020 (Sunday)
7. Organized FOGSI Screening Camps and Awareness Drive on Preventable Cervical & Breast Cancers organized by Association of Obstetrics and Gynaecologists of Delhi, Gynae OPD, AIIMS, 5, 6 and 8 March 2021, International Women’s Day
8. Talk on Bilingual live phone-in programme on #Covid\_19 Discussion on FM Gold, 14 February 2021
9. Talk on Live Phone in Program – Corona Jagrukta Series Broadcast, All India Radio News 100.1 FM GOLD, International Women’s Day, 8 March 2021

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Sunesh Kumar** was the member of Ethics Committee, AIIMS, New Delhi (2015-2020) and Technical Advisory Group-on Reproductive Health, GOVT OF INDIA and served as Technical Advisory Committee member of GOI, WHO-UNFPA-UNICEF programme on Human Reproduction, conducted WHO study on COVID infection in pregnancy, conducted WHO-SEARO study on technical guidelines for medical abortion in Undergraduate Curriculum. He was the Programme Director WHO-CC In Human Reproduction at Department of Obstetricians and Gynaecologists, AIIMS, NEW Delhi and member Policy and Coordination Committee -The UNFPA-UNDP-UNICEF-WHO-WORLD BANK special programme (HRP)

**Professor Neerja Bhatla** Awarded FRCOG ad eundem by Royal College of Obstetricians and Gynaecologists, UK for contributions to women’s health and development of the speciality; Awarded Shobha Seth Wenger Distinguished Chair in Gynaecologic Oncology, the first endowed Chair at AIIMS, New Delhi, 2021-23; was Keynote Speaker at 29th International Scientific Conference of Obstetrics and Gynaecological Society of Bangladesh (OGSB); was Chaired the session: Counselling

for HPV Vaccination International FOGSI Oncology Committee Webinar 17 October 2020 Online Meeting; was Advisory Committee and Expert Group Member: WHO DG's Technical Advisory Group, and Working Groups for Cervical Cancer Elimination; Scientific Advisory Committee, ICMR; NIRRH-ICMR Scientific Advisory Committee and Research Advisory Committee; Scientific Advisory Committee, KnIT program, BIRAC; ICMR Technical Advisory Group of India Cancer Research Consortium; Annual Monitoring-cum-Expert Committee meeting for the ICMR task force study on Indian women with Polycystic ovary syndrome (PCOS); Expert Group on multicentric project ICMR-Regional Medical Research Centre (ICMR-RMRC) at Dibrugarh; Technical Advisory group for disease severity of COVID-19 Infection among pregnant women and their neonates; Scientific Committee: Co-Chairperson, 17th World Congress of International Federation of Cervical Pathology and Colposcopy (IFCPC) India 2020; Programme Advisory Committee of XXIII FIGO World Congress 2021, Australia, for Gynecological Oncology Track; was Member, National Technical Advisory Group on Immunization (NTAGI); Influenza Working Group & Maternal Immunization Sub-Group (SWG-IVRCB); Strategic Advisory Group of Experts (SAGE) Working Group on HPV vaccines, WHO; was Member, Expert Committee to comprehensively review the National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS), Ministry of Health & Family Welfare. Member, Expert Technical Committee for screening of common cancers and treatment of pre-cancerous lesions of cervix, Govt. of Punjab, National Health Mission, Chandigarh; was Member, Standing National Committee on Medicines (SNCM) Core Committee for revision of National List of Essential Medicines (NLEM); Member, Health Insurance Advisory Committee in the field of Obstetrics & Gynaecology, Insurance Regulatory and Development Authority of India, IRDAI – 2021; was Council Member: Asian Society of Gynecologic Oncology (2019-22); National Academy of Medical Sciences, India - 2019-21. Secretary-General, International Federation of Cervical Pathology & Colposcopy (IFCPC); was Faculty Selections: Assessor for NBE Accreditation of (i) Gynaecologic Oncology, (ii) Obstetrics & Gynaecology; Search-cum-Selection Committee for the post of Director, ICMR-NIRRH, Mumbai; Selection Committee Expert for faculty selection Dr B.R. Ambedkar State Institute of Medical Sciences (AIMS), Mohali; Combined Medical Services Examination, UPSC; New teaching and service initiatives Gynae Oncology In-charge at AIIMS Jhajjar; National Coordinator, FOGSI Breast and Cervical Screening Camps for cancer screening of paramilitary forces by 225 member societies country-wide on International Women's Day; Development of several guidelines including WHO guideline for Screening and Treatment of cervical pre-cancer lesions for cervical cancer prevention, second edition; ICMR guidelines for management of Covid in pregnancy; NNF-FOGSI Clinical Practice Guidelines for Perinatal-Neonatal Management of Covid-19; Guidelines for management of cancer in Covid-19 pandemic; Master Trainer in Hybrid Programmed for Screening for common cancers under NHM & Association of Madhya Pradesh O&G Societies; Conducted inaugural journal club on Gynaecologic Oncology for Indian College of Obstetricians & Gynaecologists (ICOG).

**Professor Neena Malhotra** was involved actively with MCI in conducting PG assessment for increasing seats in medical colleges across the country including Medical college Kolkata, IMS BHU, Bangalore medical college and SRMSIMS, Bareilly. She was invited as subject expert for Faculty interviews at prestigious Institutes of the country including, JIPMER, AIIMS Bhubaneswar, Jodhpur, Raipur and expert for Combined medical exams at UPSC. She formulated guidelines on re-opening ART facilities during COVID-19 pandemic on behalf of IFS, jointly with national bodies as Indian Society of assisted reproduction (ISAR), Association of Clinical embryologists of India (ACE) (published in JHRS, 2020). These were very useful in guiding IVF units across the country on re-organizing services for fertility and ART during the pandemic and reviewed research proposals for ICMR, DST and DBT in the area of Reproduction, became associate Editor of Fertility Science and Research, the official journal of IFS and peer reviewed research articles for reputed journals in reproductive medicine including PLOS, JHRS. She was examiner in Reproductive Medicine exit exams for DM and Fellowship of National board.

**Professor Vatsla Dadhwal** was the member SEC (Reproductive & Urology, AEFI committee and became Assistant Editor Journal of Fetal Medicine (issue on Infections) Executive Member of AOGD (2020-2021) She was a member for the post of Senior Residents/ senior Demonstrators for Tenure period (3 years) as per Govt. of India's Residency Scheme for the session July 2020. Invited as a subject expert in the panel of standing selection committee constituted for recruitment of faculty in the Department of Obstetrics and Gynaecology at AIIMS Bhopal on 9 December 2020 (Wednesday). She was invited to assist the Commission in the Personality Test (PT) board for combined medical services examination 2020 from 1 to 5 February 2021 (Monday to Friday) in UPSC, Dholpur House, Shahjahan Road, New Delhi (Near India Gate) and Invited as subject expert for Standard Selection Committee Meeting of AIIMS, Kalyani on 26 July 2020 (Sunday) in Ramalingaswamy Board Room, AIIMS, New Delhi; She has been invited for several meetings including National AEFI Committee under the Chairmanship of Dr. S Aneja, Professor and Head, Department of Pediatrics, School of Medical Sciences and Research, Sharda University, Greater Noida; invited as a faculty to participate in the current series of validation/moderation workshops of MCQ Question Bank in the specialty of Obstetrics and Gynaecology at National Board of Examinations Office; invited as member for the Meeting of SEC (Reproductive & Urology); invitation as a faculty to participate in the current series of validation/moderation workshops of MCQ Question Bank in the specialty of Maternal and Foetal Medicine and invited to participate in a webinar on Health System Strengthening for responding to Gender Based violence (GBV), organized by MOHFW and WHO; She was Chairperson for the below mentioned sessions

- Post-Exposure Prophylaxis
- Updates on Syphilis Management

- Discussion Q&A Vote of Thanks “EMTCT (Elimination of Mother to Child Transmission) of HIV and Syphilis” conducted by FOGSI and AOGD in collaboration with NACO, UNICEF & SAATHII, 26 August 2020, Online

**Professor JB Sharma** was appointed as Chairperson of Urogynaecology Committee of FOGSI for the year 2020-2022. He was examiner for Part 3 MRCOG exam. Professor JB Sharma was appointed as convenor for NBE specialist board- Obs and Gynae in 2020. He is editor-in-chief of Indian Obstetrics and Gynaecology and editor of Journal of Paediatrics Obstetrics and Gynaecology(JPOG). He is on advisory board of Obstetrics and Gynaecological instruments and appliances sectional committee, MHD, Bureau of Indian Standards. He is an expert member of ICMR for research projects. He is acting as first appellate authority for the department under Right to information Act from 1 January 2021 onwards.

**Professor Neeta Singh** was visiting Professor as an External Expert for Board of Studies in Department of Obstetrics & Gynaecology in AIIMS Rishikesh, IGIMS Patna, as a subject expert for interview for the post of Assistant Professor (Deptt. of Obst. & Gynae) at Hamdard Institute of Medical Sciences, New Delhi; as an Expert for interview to promoting the faculties under Assessment Promotion Scheme at RIMS, Ranchi, Jharkhand. She has served as Guest Editor in Journal of Reproductive Healthcare and Medicine (JRHM), Special Issue on COVID-19 & ART in the year 2021, Volume: 2, Issue: Supplement 1 February.

**Dr K Aparna Sharma** was the nodal officer for COVID response and Departmental Infection Control Committee. She was involved in reorganisation of the facilities and creation of the obstetric suspect facility of the department to cater to the COVID patients and continued care in the pandemic. At the institute level involved in the training and mentoring of residents and nurses of the department and institute through the SET facility and the SARAL platform regarding the COVID protocols; development and dissemination of the app based teaching of the residents regarding COVID protocols; At the state level, coordination with various state governments to disseminate management protocols for COVID in pregnancy; Delhi, Andhra Pradesh, Karnataka, Centre of Excellence Program with MOHFW; at the National Level involved with ICMR, DHR, FOGSI and WHO formulate and disseminate guidelines for management of COVID in pregnancy; Connected with more than 12000 health care providers through telemedicine platforms to disseminate knowledge on maintaining essential reproductive health services during COVID pandemic in association with WHO-Collaborating Centre, AIIMS; instrumental in starting the WHO-SCOPE multicentre surveillance Project which looks at COVID and pregnancy outcome. Program Advisory Committee (Government); Chairperson, District Advisory Committee (South), PC&PNDT cell, South District, Govt of NCT, Delhi; Part of committee for framing the “Operational Guidelines on COVID-19 Infection during pregnancy by MOHFW; Part of the Maternal Immunization sub-group of SWG-IVRCB, NTAGI in Pregnancy; Part of advisory group for drafting ICMR guidelines for pregnant women during COVID 19 and DHR/ICMR guidelines for management of pregnancy and neonates during the pandemic; Subject Expert Committee (SEC) to examine project proposals received under WOS-B component and make suitable recommendation to DST proposed by KIRAN division of DST; Member secretary, Ethics Committee for SFM, India; Technical Advisory Group (TAG) on use of homogenous gas mixture of 50% Nitrous Oxide and 50% Oxygen as an effective labour analgesia, MOHFW; Part of SFM-Academic Societies Coordination Committee; SFM Invasive Fetal Therapy Program Committee; Technical Resource Group (TRG) for developing guidelines for rationalization and optimization of C-sections, MOHFW; Drafting Committee Members for Online POCQI Workshop implementation, NQOCN; Part of committee for Consensus on chronic pancreatitis in Pregnancy; Part of expert committee to formulate screening guidelines for a care pathway for Developmental Dysplasia of the Hip (DDH) screening in India. Scientific Advisory Committee Joint Secretary, Society of Fetal Medicine (SFM), India, 2020-2022; Chairperson, Quality Improvement Committee, AOGD, 2019-2021; North Zone Coordinator, Safe Motherhood Committee FOGSI, 2020-2022; Co-Convenor, Special Interest Group on Early Pregnancy, Indian Fertility Society, (IFS) 2020-2022; Expert Reviewer Group supporting the India-UK Healthcare Artificial Intelligence Catalyst (HAIC), to validate the version of Arezzo which is being adapted for the Indian public health system led by NITI Aayog (2019-2020); Member of Genetics and Fetal Medicine Committee of FOGSI 2019-21. Reviewer of Journals; National Medical Journal of India; Journal of Fetal Medicine; Journal of Obstetrics and Gynaecology research.

**Dr Garima Kachhawa** was awarded appreciation award for the presentation based on her intramural project titled, “Evaluation of oxidative stress markers and endothelial function assessment during pregnancy and correlate with development of hypertension in pregnancy: a prospective cohort study” at 42nd Annual Virtual AOGD Conference 2020, New Delhi. Her thesis candidate was awarded Dr Suneeta Mittal’s Medal for best paper on theme topic: Benign Gynecological conditions titled Myo-Inositol and D-Chiro-Inositol combination on Menstrual cycle Regulation in young girls with PCOS - a randomised open-label study. Her clinical work was presented by resident and was awarded appreciation award for best paper for “Glanzmann thrombasthenia in pregnancy: every obstetrician’s Nightmare.” She was awarded Mr S Bhattacharya and Ganguly Medal for best paper on theme topic: Miscellaneous Category on “Evaluating the effects of covid- 19 screening questionnaire on Labour room and ward admissions in the pandemic era ”. She is an active member of Nodal team for Departmental Covid Task force played an instrumental role in starting COVID 19 suspect area, old Gynae OPD 3rd Floor which allowed the very first cesarean section of covid positive pregnant women and also was Part of active team.

**Dr Vidushi Kulshrestha**, was awarded AOGD Silver medal in poster presentation on ‘Assessment for depression among pregnant women visiting tertiary care facility during COVID-19 pandemic’ (E-Poster) at 42nd Annual Conference (1st E-Conference) of AOGD, held in October 2020. She received Dr Suneeta Mittal’s medal for best paper on “Myoinositol and D Chiroinositol combination on menstrual cycle regulation in young girls with PCOS-A randomized open label study at 42nd Annual Conference of AOGD, in October 2020.

**Dr Seema Singhal**, completed her in- service three years M.Ch training program in Gynae Oncology. She was nominated as executive member AOGIN India and was nominated as member Oncology committee of AOGD.

**Dr Jyoti Meena**, was involved in making modules for online comprehensive COVID training of health care workers through Safe Motherhood Committee, WHO and AIIMS held from 17-19 August 2020. She was coordinator for the FOGSI FIGO cervical cancer awareness programme in support of WHO launch of cervical cancer elimination initiative held on 17 November 2020.

**Dr Juhi Bharti** contributed as faculty in formation of Abortion curriculum for undergraduates in association with the World health organization-SEAR, and was actively involved in conducting pilot training for interns for the same. She is working as “Central Public Information Officer” under Rights to Information Act for the department of Obstetrics and Gynaecology, AIIMS, New Delhi from 1 January 2021 onwards.

**Dr Nilanchali Singh** was awarded the “International Innovation Grant (IIG) Award, 2021” from the American Society of Clinical Oncology (ASCO), a renowned International Body in 2021. She was a member of Organizing Committee of International Conference IFCPC, 2021 (International Federation of Colposcopy and Cervical Cytopathology).

**Dr Kusum Lata** has participated in the Pilot training for Interns for the undergraduates in context of comprehensive abortion care as a part of the WHO – SEAR activity.

**Dr Archana Kumari** was awarded Dr Kamini Rao Oration award for North Zone.

**Dr Anubhuti Rana**, has contributed to drafting the ‘Teaching guide and Learners Guide for Abortion’ for undergraduates as a part of the medical curriculum to strengthen comprehensive abortion care as a part of the WHO – SEAR activity. She has participated in the Pilot training for Interns for the undergraduates in context of comprehensive abortion care as a part of the WHO – SEAR activity. She has contributed in organization of Comprehensive COVID training for health care workers through Safe Motherhood Committee, WHO and AIIMS.

## 9.25. Orthopaedics

### Professor and Head

Rajesh Malhotra

### Professors

Hira Lal Nag  
Shah Alam Khan

Ravi Mittal  
Vijay Kumar

### Additional Professors

Bhavuk Garg  
Mohd. Tahir Ansari

### Assistant Professors

Vijay Kumar Digge  
Vivek Shankar

Vikrant Manhas

Venkatesan Sampath Kumar

## EDUCATION

CMEs/Workshops/Symposia/National and International Conferences

1. Current Concepts in Arthroplasty, 2020 (virtual) at AIIMS, New Delhi on 31 October-1 November 2020.
2. Difficult case scenarios, Lumbar spine. Pune Orthopedic Society, 26 May 2020
3. Moderated webinar on Osteoporosis – How to become Atma – Nirbhar, organised by IFFN and Human Biologicals Institute, 14 August 2020
4. Faculty for webinar on Scoliosis, organised by National Board of Examinations, 3 February 2021

### Lectures delivered:

**Rajesh Malhotra: 43**

**Shah Alam Khan: 1**

**Vijay Kumar: 6**

**Bhavuk Garg: 23**

**Mohd. Tahir Ansari: 7**

**Vijay Kumar Digge: 1**

**Vikrant Manhas: 1**

**Venkatesan Sampath Kumar: 6**

### Rajesh Malhotra

1. Keynote Lecture on “Current scenario of PRP in Orthopedics” during 2nd Global Regenerative Medicine Summit (Virtual) at Dubai on 22 January 2021
2. Shifting focus is need of the hour-challenges of converting a Level 1 Trauma Centre to COVID-19 Hospital, Web CME, 4 April 2020, Online
3. Challenges of converting A Premium Trauma Center in The National Capital To Be An Exclusive COVID-19 Hospital, Webinar on novel challenges of Novel COVID-19 impacting orthopedic practice in India, 6 April 2020, Online
4. Evaluation and management of tubercular hip, Webinar of DOA PG teaching program, 15 April 2020, Online
5. Evaluation and Management of a case of non-union fracture neck femur in an elderly, Webinar of DOA PG Teaching Program, 15 April 2020, Online
6. Approach to the knee for the TKR What do and how does it matter?, Ortho TV original webinar series, 22 April 2020, Online
7. Total Knee Arthroplasty with implant in Situ: Tips and Tricks, Ortho TV Original Webinar Series, 25 April 2020, Online
8. Demystifying Periprosthetic Joint Infections, Demystifying Periprosthetic Joint Infections-Master Class Webinar, 27 April 2020, Online
9. Intercondylar Humerus Fractures, Best of Orthopaedic Techniques Web Academy, 28 April 2020, Online
10. Cup position-tips and tricks, basics of primary THA Webinar, 29 April 2020, Online
11. Getting stem right-tips and tricks, basics of primary THA Webinar, 29 April 2020, Online
12. TKR in flexion varus deformity, basics of primary THA Webinar, 29 April 2020, Online



13. Implant selection in total knee Arthroplasty, OrthoTV Original Webinar Series, 6 May 2020, Online
14. Primary arthroplasty with fragility fracture, ROSA Webinar, 9 May 2020, Online
15. Neurovascular complications in orthopaedics, PG Webinar, 14 May 2020, Online
16. Evolving global orthopedic practices with COVID-19 Pandemic and Beyond, Webinar organised by Geriatric Orthopedic Association of India, 16 May 2020, Online
17. Total knee replacement: the unhappy knee, PG Webinar on Arthroplasty Series, 20 May 2020, Online
18. Peri-Prosthetic Fractures and Osteoporosis, 4th Webinar Doctors Evening Teatime {IST} CME, 22 May 2020, Online
19. Healthy Bones, WEP Cares Webinar, 4 June 2020, Online
20. Total Hip Arthroplasty, Get it Right First Time (GIRFT) in total hip arthroplasty organised by the People's University & Faculty of International Hip Surgeons, 28 June 2020, Online
21. Basics of hip arthroplasty, DOA Online PG Class- Learn from the Masters, 8 August 2020, Online
22. How to decipher acetabular fractures: Making sense of imaging, Webinar OTA - Best of Orthopaedic Techniques 2020, 8–9 August 2020, Online
23. Arthroplasty for acetabular fractures, Webinar OTA - Best of Orthopaedic Techniques 2020, 8–9 August 2020, Online
24. Osteoporosis a silent epidemic, Webinar: Osteoporosis- How to become Atma-nirbhar organized by the Human Biological Institute (A division of Indian Immunologicals Limited), 14 August 2020, Online
25. Dialog: "COVID-19 Prevention is Cure", The Second Dialog Series on COVID-19, 24 August 2020, Online
26. Bone Donation (-----), celebration of Dadhichi's Jayanti organised by Dadhichi Deh Daan Samiti, 26 August 2020, Online
27. Complex Primary Total Hip Arthroplasty, PG Webinar series on Ortho TV, 8 September 2020, Online
28. Femoral Fractures in Porotic Extremity- Challenges and Strategies, AAOS-IOA Trauma Conclave, 12-13 September 2020, Online
29. Acetabular Reconstruction in Revision Hip Arthroplasty, PG Webinar Series on Ortho TV, 6 October 2020, Online
30. Geriatric/Fragility Fractures: Challenges & Solutions Ahead, GOAI Series of Interactive Evening {IST} Orthopedic Educational CME, 17 October 2020, Online
31. Osteoporosis: What Every Orthopedic Surgeon Should Know, Webinar on Fragility Fractures organised by AIIMS, Bhopal, 20 October 2020, Online
32. Osteoporosis and COVID-19, Medtalks with KK Aggarwal COVID edition, 22 October 2020, Online
33. Role of Short stems & tapered wedge stems with Direct Anterior Approach, Current Concepts in Arthroplasty, 2020 (Virtual Conference), 31 October – 1 November 2020, Online
34. Posterior to Anterior- How difficult is the Journey, Current Concepts in Arthroplasty, 2020 (Virtual Conference), 31 October – 1 November 2020, Online
35. Fracture Care in the elderly - Does one shoe fit all? , APOA/APTS Trauma Congress 2020, 7 November 2020, Online
36. Restarting Elective Surgeries: How to handle Backlogs and Ensure optimum care, DOACON 2020, 28–29 November 2020, Online
37. Pelvic Discontinuity: Internal Fixation? Distraction? Rings? Cup cage?, 16th Latin American Meeting of Hip and Knee Surgeons, 2–5 December 2020, Online
38. THA in healed disease & managing reactivation, ISHKS 2020, 12 December 2020, Online
39. Denosumab in Osteoporosis, IFFN Webinar on Osteoporosis, 19 December 2020, Online
40. Alternating layers of morcellised allograft and injectable ceramic bone graft substitute in acetabular reconstruction – a novel 'sandwich' technique, 19th Winter Meeting of the Ranawat Orthopaedic Conference (ROC) Virtual, 7-9 January 2021, Online
41. Femoral neck fractures: indications and technique for fixation, SICOT-FFN Hip Webinar: Femoral Neck Fracture, 29 January 2021, Online
42. Anaerobes in Bone and Joint Infections, AIIMS-ASM WEBINAR 2021 - Anaerobes: Microbes of the millennium, 5 March 2021, Online
43. Total knee arthroplasty for post traumatic arthritis with hardware around knee - Tips and tricks to overcome challenges, IOA-AAOS Session - Mini-IOACON, Jaipur, 5 March 2021, Online

#### **Shah Alam Khan**

1. Reconstruction following bone tumor resection in Children, 26th Annual Conference of the Paediatric Orthopaedic Society of India, 9–12 January 2020, Ganga Hospital, Coimbatore

### **Vijay Kumar**

1. Management of Acetabular Bone Deficiency, Hip Xperia, 16 May 2020, Online
2. 2 stage Revision THR - Case ppt, Hip Xperia, 16 May 2020, Online
3. Periprosthetic Fracture - Case ppt, GOAI, 4th Webinar Doctors Evening CME, 22 May 2020, Online
4. Hip Replacement - Case based Discussion, Mid Term ROSA, 12 July 2020, Online
5. Kinematic Alignment - Case Discussion, CCA 2020, 31October–1November 2020, Online
6. Unicompartmental knee replacement, 2nd Global Regenerative Medicine Summit, 22–24 January 2021, Online

### **Bhavuk Garg**

1. Striking a coiled Cobra, DSS meeting, 4 April 2020, Online
2. Spinal osteotomies in Kyphosis, AO spine advanced course, 7 May 2020, online
3. Ultrasonic Bone Scalpel in spine, Gujrat spine society meeting, 11 May 2020, Online
4. 3D printing in Orthopedics, Global Regenerative Medicine Summit 2020, 14 June 2020, Online
5. Haemostasis in spine surgery, DOA Basic Spine course, 30 August 2020, Online
6. Research papers that influenced my practice. VCR, ASSI journal club, 5 September 2020, Online
7. Sagittal balance restoration in complex ankylosing spondylitis, Dartmouth fellows group meeting, 6 September 2020, Online
8. Sacral insufficiency fractures, ASSICON virtual meeting 2020, 18–20 September 2020, Online
9. Pre and postoperative cervical sagittal alignment changes in Lenke 1 AIS patients, A multicentre study, ASSICON virtual meeting 2020, 18–20 September 2020, Online
10. Robotic Spine surgery, ASSICON 2020 virtual meeting 2020, 18-20 September 2020, Online
11. Classification of AIS, ASSI webinar, 4 October 2020, Online
12. Hidden face of a silent enemy, IFFN and AIIMS Nagpur joint webinar, World osteoporosis day, 20 October 2020, Online
13. Critical appraisal, ASSI research methodology course, 7 November 2020, Online
14. Congenital Scoliosis, Pune spine society international spine symposium, 7 November 2020, Online
15. Artificial Intelligence and Orthopedics, DOACON 2020, online, 29 November 2020, Online
16. EOS and Future of AIS classification, BOS spine online course, 3-5 December 2020, Online
17. PVCR for complex spine deformities, Advance spine course Mumbai, 5 December 2020, Online
18. Recent advances in spine surgery, North East Spine society online webinar, 12 December 2020, Online
19. 3D printing in spinal deformities, ISSICON 2020, 12-13 December 2020, Online
20. Nanotechnology and Orthopedics, 2nd Global Regenerative Medicine Summit 2021, 22–24 January 2021, online
21. Neurosurgical procedures with congenital Deformity, ASSICON 2021, 29–31 January 2021, Online
22. Systematic review, IJO-JCOT scientific writing course, 21 February 2021, Online
23. Degenerative scoliosis, DSS-Bangladesh spine society meeting, 7 March 2021, Online

### **Mohammed Tahir Ansari**

1. Faculty moderator for: Tips & Tricks and Avoiding Complications in Hand Surgery, 7th ISSH Mid-Term CME: Combined ISSH-BSSH Online Meeting, 27 February 2021, Online/Coimbatore
2. Faculty moderator for: Hand Injuries: Some wisdom some tricks, ISSH Master series, 2 February 2021, Delhi
3. Grand Round Elbow Fractures, DOA, 17 January 2021, Delhi
4. UCL injury of thumb, Complex Hand Fractures/Injuries symposium, 8 November 2020, Delhi
5. Wrist drop, IOA PG teaching, Hand and wrist webinar, 26 September 2020, Delhi
6. Changing trends in Treatment of distal radius fractures in elderly, DOA MIDCON2020, 12 July 2020, Delhi
7. Trigger Finger, DOA Webinar, Hand and wrist symposium, 19 April 2020, Delhi

### **Vijay Kumar Digge**

1. Bone harvesting and Bone banking, NOTTO; Training of Co-Ordinators, 15-19 March 2021, Delhi, Online

## Vikrant Manhas

1. Periprosthetic Joint Infection – cases presentation, Current Concepts in Arthroplasty, 1 November 2020, New Delhi

## Venkatesan Sampath Kumar

1. Recent advances in the management of bone sarcomas, Sarcoma Update 2020, 30 July 2020, Online/New Delhi
2. Case Presentation on Bone Tumours, DOA PG Teaching Webinar, Musculoskeletal Oncology Part 2 Short Case Series, 23 August 2020, Online /New Delhi
3. Demonstration of Case Presentation of Bone Tumours, DMSOG Sarcoma Class, 10 September 2020, Online/New Delhi
4. Denosumab in Giant Cell Tumour, IFFN Webinar on Denosumab, 19 December 2020, Online/New Delhi
5. Case Based Panel Discussion – Bone Tumours, IMSOS (Indian Musculoskeletal Oncology Society) 2021, 6 March 2021, Online/New Delhi
6. Five Landmark Papers in Orthopaedic Oncology, Second Congress of the APOA Young Surgeon's Forum, 13 March 2021, Online/New Delhi

## List of oral papers/posters presented: 22

1. Garg B, Gupta M, Mehta N, Malhotra R, Effect of spinal fusion on gait biomechanics in AIS patients, ISSICON 2020, 12–13 December 2020, Online
2. Garg B, Mehta N. Differential miRNA expression in osteoporotic elderly patients with hip fractures compared to young patients', Regional Expert Meetings 2020, 24–25 October 2020, Online
3. Garg B, Mehta N. Modified Posterior Vertebral Column Resection for Severe Spinal Deformity, 27th International Meeting on Advanced Spine Techniques (IMAST), 1 – 4 April 2020, Online
4. Garg B, Mehta N. Modified Posterior Vertebral Column Resection for Severe, Spinal Deformity: A Retrospective, Comparative Study', MIDCON 2020, 19 July 2020, Online
5. Garg B, Mehta N. Validation of a Hindi Version of the Revised Scoliosis Research Society (SRS)-22r Questionnaire in Patients with Adolescent Idiopathic Scoliosis, 27th International Meeting on Advanced Spine Techniques (IMAST), 1–4 April 2020, Online
6. Garg B, Outcome of 3D printing jigs in spinal deformities, International Congress of Korean spine surgery society, 1–3 August 2020, Online
7. Garg B. Cervical sagittal parameter changes in Lenke 1 AIS patients pre and post-surgery: Multicentric study., ASSICON 2020, 18–20 September 2020, Online
8. Goyal D, Mehta N, Garg B. Defining a safe working zone for lateral lumbar interbody fusion in Indian population: A radiological cross sectional study, MIDCON 2020, 19 July 2020, Online
9. Kumar VS, Gupta M, Singh P, Banjara R, Thapa S, Ragase A, Kapoor L, Khan SA. How does instrumented gait analysis help decision making in the Indian setting for Cerebral palsy treatment? - Experience from a Tertiary Referral Centre, POSICON 2021, 30-31 January 2021, Online
10. Malhotra R, Manhas V, Gupta S, Chawala L. Short Stem Total Hip Arthroplasty For Osteonecrosis Of The Femoral Head In Young: Minimum 5 Years Follow Up, Virtual EFORT Congress, 28–30 October 2020, Online
11. Manhas V, Malhotra R, Gupta S, Gupta V. Short Stem Total Hip Arthroplasty For Osteonecrosis of the Femoral Head in Young: Minimum 5 Years Follow Up, Virtual EFORT Congress, 28–30 October 2020
12. Mehta N, Garg B, et al., A Study of Psoas Morphology with respect to Safe Surgical Corridors for Lateral Lumbar Interbody Fusion in Indian Population, 27th International Meeting on Advanced Spine Techniques (IMAST), 1–4 April 2020, Online
13. Mehta N, Garg B, Spinal Cord Society Gold Medal Paper Award Category on 'Design and Implementation of an Enhanced Recovery after Surgery (ERAS) Protocol in Elective Lumbar Spine Fusion Surgery by Posterior Approach', ISSICON 2020, 12–13 December 2020, Online
14. Mehta N, Garg B, Validation of a Hindi version of the Revised Scoliosis Research Society (SRS)-22r Questionnaire in Patients with Adolescent Idiopathic Scoliosis', ASSI Virtual Conference 2020, 18-20 September 2020, Online
15. Mehta N, Garg B. "Design and Implementation of an Enhanced Recovery After Surgery (ERAS) Protocol in Elective Lumbar Spine Fusion by Posterior Approach: A Retrospective, Comparative Study" (Third Prize), Virtual world spine, 29–30 August 2020, Online<sup>1</sup> Third Prize
16. Mehta N, Garg B. 'Active Apex Compression technique', Delhi spine society meeting, September 2020, Online
17. Mehta N, Garg B. 'Clinical, Radiological and Functional Outcome of Posterior Only Three-Column Osteotomy in Congenital Kyphosis', DOACON 2020, 27–28 November 2020, Online

18. Mehta N, Garg B. Case Presentation on ‘Phosphaturic Mesenchymal Tumor in Upper Thoracic Spine causing Oncogenic Osteomalacia’, Delhi Spine Society Meeting, May 2020, Delhi
19. Mehta N, Garg B. Influence of Etiology and Onset of Deformity on Spatiotemporal, Kinematic, Kinetic and Electromyography Gait Variables in Patients with Scoliosis “A Prospective, Comparative Study. bBest publication session, BSSCON, 19–20 December 2020, Online
20. Mehta N, Garg B. Predictors of Surgical Duration in Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis: A Retrospective Cohort Study’, ISSICON 2020, 12–13 December 2020, Online
21. Mehta N, Shubhankar S, Garg B. ERAS protocol for spine surgery: design and implementation. , DOACON 2020, 28–29 November 2020, Online
22. Mukharjee R, Mehta N, Garg B. Modified Posterior Vertebral Column Resection For Severe Spinal Deformity: A Retrospective, Comparative Study, BSSCON 2020, 19–20 December 2020, Online

## RESEARCH

### Funded projects

#### Ongoing

1. “A Phase III, Multicenter, Randomised, Open Label, Parallel Group, Comparative Clinical Study To Evaluate The Efficacy And Safety of Aceclofenac Topical Ointment 1.5% w/w with Voveran Emulgel® (Diclofenac Sodium 1.0% w/w) For The Treatment of Acute Musculoskeletal Conditions”, Dr Bhavuk Garg, Panacea Biotec Limited, 3 months 10 days, March 2021–June 2021, Rs 3.3 lakhs
2. A prospective randomized study to compare the systemic emboli in computer assisted navigation Vs conventional surgical technique of knee replacement, Prof Rajesh Malhotra, ICMR, 3 years, 2018–2021, Rs 50 lakhs
3. A prospective randomized study to compare the systemic emboli in computer assisted navigation Vs conventional surgical technique of knee replacement, Prof Rajesh Malhotra, ICMR, 3 years, 2019–2022, Rs 50 lakhs
4. “Anatomy of the apical pedicles in scoliosis”, Dr Bhavuk Garg, AIIMS MBBS Intramural Project, 1 year, 2019–2020, Rs 1.25 lakhs
5. Biomechanical Design Evaluation of Knee Implants for Indian Population, Rajesh Malhotra, IIT, 2 years, 2020–2022, 5 lakhs
6. Bone health assessment in transgender population; a pilot study, Bhavuk Garg, ICMR, 3 years, 2018–2021, Rs 72 lakhs
7. Comparative Evaluation of Genetic and Biochemical profile in postmenopausal osteoporotic and age matched healthy women, Rajesh Malhotra, ICMR, 3 years, 2019–2022, Rs 1.39 crore
8. Comparative evaluation of genetic and cytokines profile in age-matched North Indian subjects with and without knee Osteoarthritis: A follow up study” Bhavuk Garg, ICMR, 3 years, 2021–2024, Rs 1.24 crore
9. Computer based surgical planning for patient with fused hip and spino-pelvic deformities, Deepak Gautam, IIT, 2 years, 2020–2022, Rs 5 lakhs
10. Designing of patient specific Total Elbow Replacement prosthesis for Indian Population” Bhavuk Garg, ICMR, 3 years, 2019–2022, Rs 84.6 lakhs
11. Evaluation of Immune Checkpoints in tumour micro-environment of Osteosarcomas, Venkatesan Sampath Kumar, AIIMS, 2 years, 2018–2020, Rs 5 lakhs
12. Intra-articular injection of Autologous adipose tissue-derived stromal vascular fraction (SVF) or Hyaluronic acid for the treatment of symptomatic knee osteoarthritis: A randomised control trial., Vikrant Manhas, AIIMS, New Delhi, 1 year, 2020–2021, Rs 4.5 lakhs
13. Prospective, Multi-centre Outcomes Study of Persona Knee System in Total Knee Arthroplasty. Rajesh Malhotra, Zimmer, 7 years, 2015–2022, Rs 24 lakhs
14. Study of osteogenic humoral factors on fracture healing in patients with head injury: decoding the mystery, Vijay D, DST, 3 years, 2018–2021, Rs 49 lakhs
15. Surveillance in Paediatric Bone Sarcomas, Shah Alam Khan, Jiv Daya Foundation, USA, 3 years, 2016–2019, USD 20000
16. Treatment response evaluation in extra spinal musculoskeletal tuberculosis using molecular imaging (PET-CT), Shah Alam Khan, ICMR, 3 years, 2018–2021, Rs 8 lakhs
17. Understanding Differences In The Patterns Of Osteoarthritis In Indian And Western Population: Impact on Symptoms, Treatment Options and Their Outcome, Rajesh Malhotra & Vijay Kumar, DST, 3 years, 2017–2021, Rs 88 lakhs

18. Use of O-arm navigational technique versus Free hand standard method in pedicle screws placement for the treatment of Spinal disorders: A Randomized controlled trial, Bhavuk Garg, AIIMS, 1 year, 2019–2020, Rs 5 lakhs

### **Completed**

1. A Prospective, Active-controlled, Randomised, Double blind, Multicentre, Phase III Study to Compare the Safety and Efficacy of Biosimilar Denosumab of Enzene Biosciences Limited versus Innovator Denosumab in the Treatment of Postmenopausal Osteoporosis, Bhavuk Garg, Alkem Laboratories Ltd, 2 years, 2018–2021, Rs 8 lakhs
2. Comparative evaluation of genetic and cytokines profile in age matched Indian subjects with and without knee Osteoarthritis, Bhavuk Garg, ICMR, 3 years, 2017–2021, Rs 1.4 crore

### **Departmental projects**

#### **Ongoing**

1. A prospective randomized study to evaluate kinematic and mechanical alignment in total knee arthroplasty
2. An ambispective analysis of the effect of introduction of WALANT in a tertiary care center
3. An ambispective study determining the prevalence of menstrual irregularity and related disorders in female patient of scoliosis and assessment of their obstetric and reproductive health.
4. An ambispective study of the clinical, functional and radiological assessment of scoliotic patients preoperatively and postoperatively.
5. An observational study to know the prevalence of posterior ligament complex injury in traumatic thoracolumbar burst fracture patients
6. Biomechanical Modelling of Knee Replacement
7. Clinical and radiological outcomes of revision joint replacement surgery in periprosthetic joint infections: An ambispective study
8. Comparison of all inside ACL reconstruction using semitendinosus graft with and without augmentation: a prospective, randomized control trial.
9. Delay in Surgery after Hip Fracture: Reasons and Impacts on Outcomes
10. Double blind randomized control trial to assess the outcome of open vs arthroscopic excision of dorsal wrist ganglion
11. Epidemiology of surgically managed ACL injuries in Indian population.
12. Gait analysis in normal people and in osteoarthritis of knee
13. Intra-articular injection of Autologous adipose tissue-derived stromal vascular fraction (SVF) or Hyaluronic acid for the treatment of symptomatic knee osteoarthritis: A randomised control trial.
14. Musculoskeletal Modelling of Spino-Pelvic Deformity
15. Prospective Observational study of Transfusion Practices in Severely injured Trauma Patients in Emergency department at Level 1 Trauma Centre
16. Randomised Control Trial comparing manipulation of shoulder under inter scalene brachial plexus block followed by surgeon guided physiotherapy versus surgeon guided physiotherapy alone in treatment of primary adhesive capsulitis
17. Study of p 53, Ki 67 labelling index, CXCL12 Chemokine and its receptors CXCR4 and CXCR7 in Ewing Sarcoma
18. The comparison of efficacy of manipulation of shoulder under inter scalene brachial plexus block followed by physiotherapy versus physiotherapy alone in treatment of primary adhesive capsulitis: A randomized clinical trial.
19. To evaluate the tunnel/socket morphology in arthroscopic ACL reconstruction with two different graft fixation methods: A retrospective cohort study.
20. To evaluate the tunnel/socket morphology in an arthroscopic ACL reconstruction with two different method of graft fixation methods: A prospective randomised control trial

#### **Completed**

1. Biomechanical Investigation of Extracorporeal Irradiation Therapy in Malignant Bone Tumors
2. Disability Outcomes after Total Knee Arthroplasty for Degenerative Osteoarthritis
3. Functional and radiological outcomes of fixed versus mobile bearing navigated UKR in patients with AMOA: a RCT
4. M.ch. Thesis: Epidemiology and analysis of predictors of mortality in trauma patients at a level I Trauma Centre
5. MD Thesis: Study of Complement levels in Hospital Admitted COVID-19 Patients and its association on Coagulopathy and survival



6. Response evaluation in extra spinal musculoskeletal tuberculosis using PET/CT scan
7. “Role of CT guided percutaneous biopsy in suspected case of tuberculosis spine”

### **Collaborative projects**

#### ***Ongoing***

1. Clinical Research to assess efficacy of repetitive transcranial magnetic stimulation along with neurotrophic coated nanoparticles in complete spinal cord injury patients, Physiology
2. Effect of nicotine replacement therapy on peri-operative opioid requirement in abstinent tobacco smokers undergoing spinal fusion, a double blind randomized controlled trial, Anaesthesiology, Pain Medicine and Critical Care
3. Effectiveness of Ultrasound-guided interventions for soft tissue pain in foot and ankle, Dept. of Radiology
4. Fluorosis mitigation in scheduled cast community of Bihar through intervention and counseling –Prof A Shariff, Anatomy, AIIMS, New Delhi
5. Impact of upper and lower body exercise on body composition, weight, muscle strength in obese patients with knee osteoarthritis, Dept. of Medicine
6. Impact of upper body exercise on body composition and weight in obese patients with knee osteoarthritis, Dept. of Medicine
7. Randomized Controlled Trial Evaluating The Efficacy Of Transcatheter Arterial Embolization In Moderate Medial Knee Pain Refractory To Optimal Non-Surgical Management - A Pilot Study, Dept. of Cardiac radiology
8. The PARITY Trial, McMaster University, Canada
9. Understanding differences in the patterns of Osteoarthritis in Indian And Western population: Impact on Symptoms, Treatment options and their outcome, UKIERI-DST

#### ***Completed***

1. Biomechanical Investigation of Extracorporeal Irradiation Therapy in Malignant Bone Tumors, IIT, Delhi

### **PUBLICATIONS**

**Journals: 83**

**Chapters in Book: 4**

### **PATIENT CARE**

1. Indoor COVID-19 patient care
2. Member of committee constituted by AIIMS for Rashtriya Arogya Nidhi (RAN) to provide financial assistance for poor patients
3. Specialized clinics, TB clinic, Hand clinic, Scoliosis clinic, Bone tumour clinics, Fragility fracture clinic, CTEV clinic, Disability clinic, sports medicine clinic
4. This was a challenging year in view of CORONA pandemic; apart from routine OPD, IPd operation theatre services, department provided special duties for the COVID patients in the dedicated center for the CORONA patients

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Rajesh Malhotra** was Member, SICOT Research Grants Committee; Member, Specialists Board in various specialities of DNB & FNB programs of NBE; Member, Armed Forces Medical Research Committee Meeting organised by DRDO, New Delhi; Judge for PG Competition Paper DOACON during (DOACON 2020); Member, Arthroplasty Advisory Board (NBE); Chairman, the Meeting Peer Review of INMAS PROJECTS **organised by DRDO**; Member, Project Review Group Meeting in the Division of ITR at ICMR; Member, Transportation Research & Injury Prevention Programme Review Committee organized by IIT; Member, TEC on “DBT-School of innovation in Biodesign”; Co-Chairman; TEC on “IV Medical Biotechnology STAG; Co-Chairman; Expert Committee Meeting for IIBC Proposals; Co-chairman of Fourth TEC Meeting on Biomedical Engineering (Devices, Diagnostics & Implants); Expert, Minimum Standards, Standard Treatment Guidelines & Key Performance Indicators for TCFs; Expert, 4th Meeting of the TECon “Nano-biotechnology”; Expert, the Second meeting of DBT Technical/Advisory Core Committee on International cooperation- Sweden, Finland, France; Expert Member; 5th Meeting of the Task Force on Research Resource Service Facility & Platforms (RRSFP) under DBT-SAHAJ Programme; Member Task Force on Proposal for pre-fabricated, self-contained, container based mobile hospital under overall scheme of Health Sector Disaster Preparedness & Management by MOHFW; Chairman for “Operational Guidelines Meeting on Management of Common Emergencies, Burns & Trauma at Primary Care Level” organised by MOHFW; Member, Apex Technical Committee, NOTTO (National Organ & Tissue Transplant Organization); In-charge, Trauma Centre, COVID Hospital; 65 live TV & Radio shows on various aspects of COVID for public education.

**Professor Hira Lal Nag** was Chairman, Sports Medicine Section, Central working committee IOA; Editorial board member, JASM, official journal of IAS.; Expert Member, Human Rights Committee; Member EHS Advisory Committee; Honorary consultant for Sports Authority of India; Co-chairman, Technical specification committee for procurement of common equipment for new OPD Block; Appointed Member, Hospital Management Board; Nominated Member, Technical Specification Selection Committee of (1) Surgical Items (2) Types of rubber gloves; Member, SPC, AIIMS; Member, Medical equipment committee for SIC (expansion), Safdarjung; External Expert, Standing Selection Committee for orthopaedics Faculty selection, IGIMS Patna; Member, Medical team Health Camp at Leh; Expert Member, Indian Standard Bureau for Orthopaedic Implants.

**Professor Vijay Kumar** got Fellowship of the Royal College of Physicians & Surgeons, Glasgow.

**Dr Bhavuk Garg** got ISCR's – ACCRI National Award; Award for Best New Methodologies & Techniques to Enhance Safety in Spine Surgery DBT-Biotech Product Process Development & Commercialization Award; GAPIO Karl Storz Surgical Excellence Award; Member: SICOT spine subcommittee; Chair, ASSICOVID Task Force; AOSIN delegate; Co-chair, Research & Award Committee of ASSI; Member: ASSI Task Force on Scoliosis Screening, Elearnspine.org Task Force, Capacity Development Program Task Force, Indian Spine Journal Task Force, Publication Committee Member, SRS patient education committee; Associate editor: Indian Journal of Orthopedics, North American Spine Society Journal, Journal of Clinical Orthopedics & Trauma; Guest edited the spine issue for Journal of Clinical Orthopedics & Trauma & ISJ.

## 9.26. Otorhinolaryngology

### Professor and Head

Alok Thakar

### Professor

Rakesh Kumar

### Additional Professor

Kapil Sikka

Chirom Amit Singh

### Associate Professor

Rajeev Kumar

Prem Sagar

Arvind Kairo

Shuchita Singh

Hitesh Verma

### Assistant Professor

Smriti Panda

Anup Singh

Pirabu Sakthivel

### HIGHLIGHTS

The department continued its activities to impart quality education to its own students and also to delegates and observers.

Through the year that was plagued by the COVID-19 pandemic, the department was committed to providing quality education to its own residents, students, fellows, and other delegates both online and offline. The department played its role in sharing the massive responsibility bestowed to the institute in providing care to COVID-19 patients. Our department played a vital role in sampling for COVID. Despite the pandemic, our faculty and residents provided services in COVID areas and to the fullest extent possible in the main hospital, CRHSP Ballabgarh, and NCI Jhajjar. We performed more than 150 Surgeries in NCI Jhajjar, providing vital and state-of-the-art care to Head and Neck Cancer cases. We also initiated two important research projects, and their reports were published in reputed journals. Our data on Local anesthesia in Oropharyngeal Sampling for COVID-19, Hydroxychloroquine nasal drops for COVID management and ENT manifestations of COVID-19 has been published and widely quoted. We also conducted in house workshops for head and neck, endoscopic and suturing training for our residents

### EDUCATION

The formal lecture schedule for the MBBS students is included in the 6th and 8th semesters and consists of 1-hour lectures. The undergraduate students are posted in the ENT department (OPD and Ward) for a total period of 2 months on rotation basis. Here they learn the basic ENT examination, become familiar with diagnosing common ENT diseases, and learn elementary management, including communication skills.

The clinical training consists of

1. Two classes on introduction to the clinical aspects of ENT including proper Ear, Nose, and throat examination
2. Bedside teaching and case discussion on common ENT conditions like CSOM, Deviated Nasal septum, Nasal polyps, Cancer larynx etc
3. Orientation to commonly used ENT instruments and X-Rays in ENT practice
4. Exposure to commonly done OPD procedures like nasal packing, ear packing, cautery etc.
5. Exposure to selective operative procedures like tracheostomy, tonsillectomy, septoplasty, Nasal polypectomy etc
6. Preventive Otolaryngology and head & neck cancer.

At the end of the Otorhinolaryngology posting. The students are able to:-

1. Examine and diagnose common ear, nose, and throat problems
2. Suggest common investigative procedures and their interpretation to diagnose and manage the patient.
3. Treat the common ENT and Head & Neck problems at primary care centres.
4. Perform various minor surgical procedures like ear syringing nasal packing, and biopsy procedures.
5. Develop awareness of Preventive otology and head & neck cancer for public guidance.

Where direct clinical postings were not possible, all efforts were made to take clinical and practical sessions online.

For postgraduates, major goals are patient care, teaching, research ability, and team work.

PG students will have to do a presentation of seminar/paper, research writing, and acquire Clinical decision-making ability and management expertise. Postgraduate students perform major and minor surgical procedures under the supervision of a

faculty member/a senior resident. They are trained to perform major and minor operations independently. During training, they are posted for exposure to Audiology Section and Vestibular Laboratory, learn bedside history taking in the ward, care of indoor (Medical; preoperative and postoperative) patients, have OT exposures, casualty, ICU requirement and visit related disciplines such as Neurosurgery/Anaesthesia, They attend operation theatre and emergency operations, assist in ward rounds and visit other wards with senior colleagues to attend call/consultations from other deptt. Students participate in the teaching sessions in the ward for bedside clinical aspects, in specialty clinics in the afternoon, in seminar/journal Clubs and do emergency duty as per Roster of the deptt. Postgraduate students also have to do a thesis under the guidance of faculty.

The department also runs the MCh Head and Neck Surgery super specialty course and fellowship in Skull Base surgery. The MCh residents have been allocated duties in the respective specialties in OPD, OT and also attend academic activities jointly with departments of radiation oncology, medical oncology, pathology, neurosurgery etc. MCh residents and Skull Base Fellows also are encouraged to participate in research projects jointly with faculty members. They present Seminars and Journal clubs by rotation. MCh residents are also posted in NCI Jhajjar for clinical and academic duties. This year, residents and faculty were also posted in COVID care areas.

The department also organizes workshops and conferences for the benefit of national and international delegates from time to time on various recent topics of interest. The department also welcomes delegates for observership from India and abroad and hosts them to observe departmental activities, specialty clinics, seminars, and operative procedures. Online teaching schedules continued over virtual platforms during the pandemic.

#### **Elective training:**

- Elective posting of Interns of AIIMS, New Delhi
- Department had observers and rotation postings from Departments of Emergency Medicine, Paediatrics, Medicine and Physiology.
- Observership posting of students of Bachelor's in Audiology and Speech Language Pathology (BASLP), AYJNISHD, Regional Centre, Noida.

#### **CMEs/Workshops/Symposia/National and International Conferences\***

1. Suturing Techniques on animal model (19 December 2020)
2. Laryngology – Webinar cum PG teaching activity on 29 July 2020 and Gave a talk on “Evaluation of Voice” in Laryngology update - Webinar 2020 at AIIMS, New Delhi on 29 July 2020.
3. Animal Model-Based Hands-on Workshop on Thyroplasty on 30 July 2020

#### **Lectures delivered**

<b>Alok Thakar: 22</b>	<b>Rakesh Kumar: 6</b>	<b>Kapil Sikka: 16</b>
<b>Chirom Amit Singh: 4</b>	<b>Rajeev Kumar: 4</b>	<b>Prem Sagar: 5</b>
<b>Hitesh Verma: 1</b>	<b>Shuchita Singh: 1</b>	<b>Arvind Kumar Kairo: 2</b>
<b>Smriti Panda: 2</b>	<b>Anup Singh: 2</b>	

#### **AlokThakar**

1. Management of Juvenile Angiofibroma, Paeds Rhinology Training Day UK- NAPDENT & AOT (Association of Otolaryngologists in Training), 22 May 2020
2. Keynote Lecture – Evolution in the surgical management of early glottic cancers, Minimally Invasive Head & Neck Surgery – (COMED), 28 June 2020
3. Why Mastoidectomy Fails, Healthy Hearing Ears- Improving Outcomes in COM Related Hearing loss, 1 October 2020
4. Panelist- Thyroid Cancer, Head-Neck OncoSurgery - UChicago-UCMS Webinars, 5 January 2021
5. Striking a balance between professional commitment and personal safety: the ‘EXIT’ plan after lockdown 2.0, West Bengal Association of Otolaryngologists of India, 26 April 2020
6. Maximizing Functional Outcomes with Lateral skull Base surgery, Skull Base CME, AIIMS New Delhi, 28 April 2020
7. Moderator – Salivary Grand Tumors, 3rd Annual review H & N Cancers - Reliance Hospital 19-20 June 2020 – Kumar Prabhash, 19 June 2020
8. Surgical Function preservation in Cancer Larynx, Larynxcon 2020- RCC Trivandrum, 21 June 2020 Paranasal sinus Tumors- moderator, Delhi Oncology Forum, 6 July 2020
9. Panelist - Decision Making in FESS, Otolaryngology Online Education, 20 July 2020
10. Salivary Gland tumors - Panelist, Complications in Head-Neck Oncology - Aastha & Gujrat Society of Head-Neck Oncology, 15 August 2020

11. Treatment Options for Early/Advanced Cancer and Considerations for Case Selection, Surgical Organ Preservation, Association of Otolaryngologists of India- AOI Lecture Series, 2 October 2020,
12. Future of Phonosurgery in India- Panelist, Mid Phonocon 2020, 1 November 2020,
13. Robotic surgery for OPX cancer-, International Cancer Summit, 6 November 2020,
14. TransOral Robotic Surgery in the Tongue Base, OTOFRONT 2020 – Otorhinolaryngology at the Frontiers, 4 December 2020,
15. Robotic Thyroid Surgery, OTOFRONT 2020 – Otorhinolaryngology at the Frontiers, 4 December 2020
16. Robotic Surgery and TOUSS in ENT, 9 ENT Update-Maulana Azad Medical College, 5 December 2020
17. Moderator- Panel Discussion - Head-Neck Cancer in the elderly, OFCON 2020- Oncology Forum Conference, 6 December 2020
18. Surgical Function Preservation in Cancer Larynx- Panelist, Foundation of Head-Neck Oncology (FHNO) 20th Annual Meeting, 12 December 2020
19. Trans Oral Ultrasonic Surgery (TOUSS), Recent Advances in ENT– 2021; BPS Govt. Med College, Sonapat, 9 January 2021
20. Treatment allocation in Larynx and Hypopharynx Cancer, AOI Digital, 20 February 2021
21. Rec. Resp. Papillomatosis (28 February), 9th Annual Conference of Laryngology & Voice Assn, 28 February 2021
22. Function presentation in larynx & HPX cancer, Paras Conclave cancer 19-21 March 2021

### **Rakesh Kumar**

1. FRSCI- Moderated a live webinar on, on Local flaps in facial plastic surgery by Ms Nadia Ashraf, UK, FRCSI-series of International webinars on facial plastics, 10 May 2020
2. NES seminar, Core concepts in vertigo- moderated, NES, 2 June 2020
3.
  - a. Laryngology workshop- talk, Type I Thyroplasty talk, ENT AIIMS, 29-30 July 2020
  - b. Live demonstration, How to carve Thyroplasty implant,
4. Webinar LHMC, Pitfall in cochlear implant surgery, Intricacies of ear surgery, 22 October 2020
5. FRCSI, Managing lower third of the nose- lateral crural tensioning techniques” by Richard Davis, USA, Facial Reconstructive and Cosmetic Surgery India talk, 11 October 2020
6. Webinar LHMC, Endoscopic management of angiofibroma, Advances in FESS–Rakesh Kumar, 22 January 2021

### **Kapil Sikka**

1. A Dizzying solution to a dizzying problem”, Clinical Combined Round, AIIMS, New Delhi, 23 March 2021
2. Surgery for end stage Meniere’s Disease”, case presentation, AOI Delhi Branch Monthly meeting, Delhi (Virtual), 15 January 2021
3. Invited talk on topic Decision Making in Invasive Fungal Sinusitis, IAOHNS Session 1, Rising India-Sub-Specialty focus. ENT-UK Virtual BACO international conference, 9-11 January 2021, Virtual
4. Moderator, session on Transoral Ultrasonic Surgery (TOUSS), “Recent advances in ENT” workshop organized by Department of ENT, BPS Government Medical College for Women, Sonapat, 9 January 2021, Virtual
5. Trans Oral untrasonic Surgery “TOUSS”, Federation of Head and Neck Oncology (FHNO 2020) annual meeting, 12-13 December 2020, Virtual
6. “Fungal Sinusitis”, 9th ENT update hosted by Maulana Azad Medical College, 5-6 December 2020, Virtual
7. Co-Presenter, Juvenile Angiofibroma, experience on two decades at AIIMS, New Delhi, Clinical Grand Round, AIIMS, AIIMS, New Delhi, 17 November 2020
8. Panelist, panel discussion on Early laryngeal Cancer. Webinar Series in Head and Neck onco surgery, UCMS and U Chicago event, 6 November 2020, Virtual
9. Panelist, panel discussion on “Inner ear malformations- Tips and Tricks, CIGI Virtual Seminar Series, under the aegis of Cochlear Implant Group of India, 13 October 2020, Virtual
10. Infections and Tumors of external ear, Basic to advanced certificate series by Association of Otolaryngologists of India, 19 August 2020, Virtual
11. ‘Challenges of Tracheal Papillomatosis”, International Webinar on pediatric airway problems, 26 July 2020, Virtual
12. Panelist, “Surgery for Vertigo”, NES Webinars series, 21 July 2020, Virtual
13. Moderator, debate on Elective PTND in T3/T4 differentiated thyroid carcinoma, Delhi Oncology Forum, 8 July 2020, Virtual



14. “Radiology pertaining to cochlear Implants”, Lecture series Cochlear Implants: A to Z, 2 June 2020, Virtual
15. Organ Preservation protocols in Head and Neck cancer, PG Update: A Comprehensive webinar series on various aspects of ENT, 4 May 2020, Virtual
16. Moderated the live Webinar on “Maximising Functional Outcomes with Lateral Skull Base Surgery”, Virtual teaching series, 28 April 2020, Virtual

#### **Chirom Amit Singh**

1. Supraclavicular Flap: Technical tips and clinical applications, FHNO Web Learning Series, 9 May 2020, online
2. Laryngeal EMG, Voice workshop, 29-30 July 2020, Online
3. How I do it: Superficial Parotidectomy, SURGICON 2020, 6-8 November 2020, online
4. Head and Neck Reconstruction, ENT update 2020, 5-6 December 2020, online

#### **Rajeev Kumar**

1. How to avoid cord palsy in thyroid surgery? AIIMS-PG Teaching Activity by the department of Otolaryngology and Head Neck Surgery, AIIMS, New Delhi, 29 July 2020, online (you tube) platform.
2. Management of Carcinoma Larynx, 9th ENT Update 2020, 6 December 2020, Department of ENT, MAMC (Online)
3. Instructional Course on “Infrahyoid flap”, 20th Annual conference of FHNO, 13 December 2020, Online Platform
4. Type IIa OPHL for early glottic carcinoma, AOI, Delhi branch monthly meet, 15 January 2021, Online platform

#### **Prem Sagar**

1. Panelist for session on “Vestibular Rehabilitation”, NES e-webinars organized by Neurotology and Equilibriometric society (NES) of India, 19 June 2020, e-Webinar with participants from across the globe
2. Migraine Related Vertigo, NES e-webinars organized by Neurotology and Equilibriometric society (NES) of India, 7 July 2020, e-Webinar with participants from across the globe
3. Oesophageal impedance and pH monitoring and Reflux Management, AIIMS-PG Teaching Activity by the department of Otolaryngology & Head Neck Surgery, AIIMS, New Delhi, 29 July 2020, Online (you tube) platform.
4. Entomophthoromycosis: atypical presentation and treatment dilemma, Institutional Combined Clinical Round, AIIMS, New Delhi, 25 August 2020, online (you-tube) platform.
5. Atypical laryngopharyngeal mass: diagnostic and management dilemmas, AOI, Delhi branch monthly meet, 15 January 2021, Online platform

#### **Hitesh Verma**

1. Vascular Endothelial Growth factor- in Recurrent Respiratory Papillomatosis, PGI Alumni 2020, 20 November, 2020, Virtual

#### **Shuchita Singh**

1. FEES – Functional Endoscopic Evaluation of Swallowing, Laryngology update - Webinar 2020, 29 July 2020, AIIMS, New Delhi

#### **Arvind Kumar Kairo**

1. Evaluation of Voice, Voice workshop, 29 July 2020, AIIMS, New Delhi
2. Medialization Thyroplasty, Voice workshop, 30 July 2020, AIIMS, New Delhi

#### **Smriti Panda**

1. Carcinoma Hypopharynx: Anatomy, Pattern of Spread, Advances in Diagnostics, AOI Webinar, 2 September 2020, New Delhi
2. Post Thyroidectomy Vocal Cord Dysfunction: Averting Tracheostomy, AOI Delhi State Monthly Meet, 12 January 2021, New Delhi

#### **Anup Singh**

1. Cough in the elderly, XIV National Conference of Association of Cough specialists, 12 April 2020, Gurugram/Online
2. How to prepare an annual report, IV Conference of Annual Report preparers, 21 May 2020

#### **Oral papers/posters presented: 4**

1. Agarwala S, Luthra K, Sharan P, Lodha R, Sahni P. How to prepare an annual report, IV Conference of Annual Report preparers, 21 May 2020, Dubai, UAE
2. Singh A, Kumar B. Cough in the elderly, XI National Conference of Association of Cough Specialists, 12 April 2020, Gurugram/Online
3. Shuchita Singh S, Suresh Sharma S, Alpana Sharma A. Can salivary microRNA be exploited as biomarker during molecular changes in people exposed to tobacco chewing, ESSO 2020-Virtual (European Society of Surgical Oncology), at Prague, Czech Republic, 23.10.-20 to 24.10. October 2020.
4. Verma H, Singh A, Kaushal S. The Serum and Tissue Expression of Vascular Endothelial Growth factor- in Recurrent Respiratory Papillomatosis, BACO 2021, 10-12 January

#### **RESEARCH**

##### **Funded projects**

##### ***Ongoing***

1. A Phase III, Randomized Controlled Study of Utility of Pectoralis Major Myofascial Flap in Reducing Pharyngocutaneous Fistula Rates After Salvage Total Laryngectomy, Kapil Sikka, TMH, 2021 - Ongoing
2. An evaluation of HLA, phagocytic function and trace elements in cases of sinusitis, invasive fungal sinusitis and non-invasive fungal sinusitis, HITESH VERMA, AIIMS, 2 Years, 2019-2021, Rs 10 lakhs
3. Clinical and Social Outcomes of Cochlear Implantation in older prelinguals, Kapil Sikka, CIGI, 3 Years, 2019-2022, Rs 6 lakhs
4. Clinical validation of the effectiveness of automated speech therapy for stuttering delivered by digital means, Shuchita Singh Pachauri, BIRAC, 2 years 3 months, 2020-22, Rs 10 lakhs
5. Development of single-cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on Head and Neck Cancer, HITESH VERMA, ICMR, 3 years, 2019-2022, Rs 3 Crore/RORE
6. Effects of non-ionizing electromagnetic field on human health: effects on auditory and vestibular system, Rakesh Kumar, ICMR, 3.5 years (extended), 2012-2022, Rs 90 lakhs
7. Evaluation of genetic profile of olfactory neuroblastoma, Rajeev Kumar, AIIMS, 2+1 years, 2018-2021, Rs 9.9 lakhs
8. Fabrication of biocompatible low pressure, adjustable length, indwelling long stay, valued tracheoesophageal voice button (Ref. AI-20), Prof. Alok Thakar, IIT-AIIMS, 2 years, 2018 -Ongoing, Rs 10 lakhs
9. Factors impacting outcomes of Cochlear Implants in Pediatric population, Kapil Sikka, ICMR, 3 years, 2019-2022, Rs 28.4 lakhs
10. Minimally invasive nano enabled targeted technology for Sentinel Lymph Node SLN detection” (Ref: N – 2050), Alok Thakar, BIRAC, 1.6 years, 9.12. December 2019 – Ongoing, Rs 13.1 lakhs/-
11. Multi-centric clinical trial of indigenous cochlear implant “Sraavan” (Ref. N2014), Prof. Alok Thakar, DRDO, 12 months, June 2019 – Ongoing, Rs 1 lakh per subject
12. Phased pilot study to assess baseline serum level of Prestin in healthy individuals and in patients of definite Meniere’s disease and ototoxicity as a biomarker of cochlear outer hair cell functional status, Prem Sagar, AIIMS, 2 years, 2020- 2022, Rs 4.25 lakhs
13. Prevention of Radiotherapy Induced Xerostomia by intraductal administration of N- Acetyl, Arvind Kumar Kairo, ICMR, 3 years, 2020- 2023, Rs 36 lakhs
14. Sound 4 All: Re-engineering High-end Audiometric Devices for Robust and Affordable Audiological Testing Phase 2, Kapil Sikka, Indo German Science and Technology Center (IGSTC), 3 years, 2019-2022, Rs 54 lakhs
15. Study of Human Papilloma Virus (HPV) Association in Sinonasal Tumors, Kapil Sikka, Deepali Jain, AIIMS Collaborative, 2 years, 2018-2020, Rs 20 lakhs
16. The Clinicopathological evaluation of Cholesteatoma aggressiveness, Kapil Sikka, AIIMS, 2 years, 2018-2020, Rs 6.5 lakhs

##### ***Completed***

1. Clinical and biochemical evaluation for depression in patients with recently diagnosed head and neck cancer, Prem Sagar, AIIMS, 3 years, 2016-2019, Rs 8,00,000 lakhs
2. Evaluation of level of Vascular Endothelial Growth Factor’ – in cases of Recurrent Respiratory Papillomatosis, Hitesh Verma, AIIMS, 2 year, 2016-2018, Rs 4.7 lakhs
3. Evaluation of Morphologic structure of external auditory canal from 3D reconstructed models of temporal bone, Chirom Amit Singh, AIIMS, 1 year, 2020-21, Non funded

4. Evaluation of unknown head and neck primaries metastatic to cervical lymph nodes, Dr Chirom Amit Singh, AIIMS, 2 years, 2018-2020, Rs 4 lakhs
5. Post Market Study to Assess Performance of NoXeno, A Device for Removal of Anteriorly Impacted Foreign Bodies in the Nasal Cavities of Children, Kapil Sikka, Inn Accel Technologies Private Limited, 1 year, 2018-2019, Rs 1.5 lakhs
6. Salivary micro-RNA: Their utility as bio-marker during molecular changes in tobacco users vs. tobacco non-users, Shuchita Singh, AIIMS, 2 years, 2016-2018, Rs 10 lakhs
7. Topical Chloroquine Nasal Drops in Early Stage Covid 19: Impact on Viral loads and cure rates. (Ref. A-COVID-11), Alok Thakar, AIIMS, 6 Months, May 2020, Rs 4 lakhs
8. Usage of topical lignocaine to decrease the gag reflex while sampling for COVID-19: Does it affect the yield of the specimen? Alok Thakar, AIIMS, 6 Months, May 2020, Rs 50,000

## **Departmental projects**

### ***Ongoing***

1. A pilot study to assess the effect of intraductal N Acetyl Cysteine on Swallowing and voice outcomes of patients with oropharyngeal cancer undergoing radiotherapy
2. A prospective pilot study to evaluate the effect of supraglottoplasty on tracheomalacia in pediatric patients with congenital laryngotracheomalacia
3. A prospective study to determine early predictive factors of hypocalcemia in patients undergoing total thyroidectomy or completion thyroidectomy
4. Allogenic tissue engineered tracheal transplantation in wistar rats – preclinical study
5. An ambispective cohort control study to evaluate the incidence of SARS COV-2 Infection in Post Adenoidectomy / Adenotonsillectomy patients
6. Analysis of voice outcomes after radiation or chemoradiation in carcinoma larynx and the effect of N acetyl cysteine on voice parameters
7. Association of hearing loss in geriatric patients with cognitive impairment
8. Design and development of Tracheoesophageal prosthesis for improved deployment and voice rehabilitation in post-laryngectomy patients.
9. Detection of Extra nodal extension in node positive oral cavity squamous cell carcinoma
10. Detection of oncogenic viruses HPV and EBV by IHC in secondary cervical lymph nodes from primary of oropharynx, nasopharynx and unknown primary
11. Effect of Itraconazole in AFRS – A clinicoradiological correlation
12. Functional evaluation of spinal accessory nerve after selective neck dissection
13. Impact of oral submucous fibrosis on Occult and Overt lymph node metastasis in Gingivobuccal complex carcinoma of Oral Cavity - A prospective study
14. Outcomes of cochlear implantation in older Prelingual Sensorineural hearing loss patients
15. Outcomes of patients undergoing same stage pinna reconstruction and canalplasty
16. Parathyroid identification in thyroid surgery by naked eye evaluation, microscopic evaluation and by near infrared fluorescence using indocyanine green
17. Prospective pilot study to evaluate the incidence of lymph node metastasis in olfactory neuroblastoma
18. Prospective study to determine the incidence of intraglandular, peri-parotid, occult and overt cervical lymph node mets in patients with primary parotid carcinomas
19. Prospective study to evaluate the utility of IHMCF reconstruction in oral tongue squamous cell carcinoma
20. Role of PET CT in Surgical management of oral cavity
21. To assess the prevalence of lingual lymph nodes and pattern of lymph nodal spread in squamous cell carcinoma of the tongue
22. To compare different CI outcome scores with auditory cortical activity seen on fNIRS in Prelingual profound SNHL patients after cochlear implantation
23. To determine the incidence of paratracheal lymph node metastasis in patients with carcinoma larynx and hypopharynx planned for partial/Total Laryngectomy
24. To study impact of CI on school and educational performance in Prelingual deafened children

### **Completed**

1. Assessment of host immunological tumour response by histochemistry in cancer oral cavity and its impact on prognosis –retrospective cohort study
2. Coblation assisted endoscopic excision of juvenile nasopharyngeal angiofibroma: a prospective pilot study
3. Comparison of different cochlear implantation outcome scores with auditory cortical activity seen on fNIRS in prelingual profound SNHL patients atleast 3 years after cochlear implantation
4. Comparison of post cochlear implant outcomes in children with inner ear malformation vs normal anatomy
5. Evaluation of clinical features and treatment outcomes in patients with Skull Base Osteomyelitis
6. Evaluation of fat implantation in patients with sulcus vocalis and videolaryngostroboscopic assessment before and after treatment
7. Evaluation of serum Otolin 1 as biomarker and significance of serum vitamin D in BPPV Patients
8. Severity of OSA- An evaluation with effect of surgery by inflammatory markers and correlation with anatomical factors
9. Survival outcomes and quality of life evaluation for surgically treated oral cavity carcinoma patients
10. To correlate functional near infrared spectroscopy measurement of auditory cortex activation with auditory verbal outcome in prelingual profound sensorineural hearing loss patients after cochlear implantation
11. To evaluate the role of transnasal esophageal endoscopy for detection of synchronous esophageal neoplasm in head and neck cancer patients

### **Collaborative projects**

#### **Ongoing**

1. 3D Printed Tracheal Grafts For Regenerative Applications (AIIMS-IIT), Dr Sujata Mohanty (Stem Cell Facility- PI)
2. A cohort study to assess the feasibility of WHO ICOPE approach in tertiary health centers, Department of Geriatric Medicine
3. A longitudinal Survey to assess Patient Satisfaction for Nurse Initiated Follow Up Tele-Consultation among patients discharged from a selected tertiary care hospital, Nursing
4. A Phase II trial of Pentoxifylline and alpha tocopherol (PAT) in prevention of radiation induced dysphagia in head and neck squamous cell carcinoma, Radio-therapy
5. A Phase III prospective randomised trial comparing dysphagia-aspiration related structures & submandibular gland sparing Intensity modulated radiotherapy (SWOAR-IMRT) versus standard IMRT (s-IMRT) paring in locally advanced oropharyngeal and laryngeal carcinomas, Radio-therapy
6. A Study of nasopharyngeal carriage of *Haemophilus influenza* in north Indian population, Microbiology
7. An OMR sheet based feed-back survey on in-patient satisfaction regarding various hospital services in a selected tertiary care hospital, College of Nursing
8. Analysis of circulating DNA for BRAF (T 1799A) mutation as a futuristic non-invasive tool for diagnosis, prognostication, targeted therapy and follo-up of papillary thyroid cancer, Pathology
9. Audit for antifungal treatment usage in adults with invasive fungal infections” “Audit for antifungal treatment usage in adults with invasive fungal infections” “Audit for antifungal treatment usage in adults with invasive fungal infections” Audit for antifungal treatment usage in invasive fungal infections, Infectious diseases
10. Cleft Lip and Palate anomaly in India: Clinical profile Risk factors and current status of treatment: A hospital based study” Co-Investigator: Prof SC Sharma, Centre for Dental Education and Research
11. Clinico-radio-pathological evaluation of different possible primary sites in cases of FNAC proven SCC of lymph node in head and neck malignancy, Department of Otolaryngology & Head Neck Surgery, Department of Radio-diagnosis, Department of Pathology, AIIMS, New Delhi
12. Comparative proteomics analysis to identify potent biomarkers during the transformation of premalignant oral conditions to malignant oral squamous cell carcinoma, Biophysics
13. Comparison between three phase 99m TC-MDP bone scintigraphy, SPECT/CT and 18F –FDG PET/CT in Skull base Osteomytitis (SBO), Nuclear Medicine
14. Design and Development of Nanomaterials based Point of Care Device for Head and Neck Cancer Biomarkers Detection, Dr Pratima Solanki, JNU
15. Developing suctioning machine for cleaning tracheostomy tubes, IIT Delhi
16. Development and validation of a questionnaire based tool to identify sleep problems in school going children and adolescents aged 3-18 years against overnight polysomnography, Pediatrics

17. Diagnosis of NIFTP using molecular criteria and nuclear characteristics evaluated by artificial intelligence: A Preliminary Study, Department of Pathology
18. Evaluation of genetic profile of olfactory neuroblastoma, Department of Pathology
19. Evaluation of Machine Learning Techniques including Deep Learning for the Identification of Malignancy in Tissue Samples, (IIT-AIIMS), Dr Aanchal Kakkar (Pathology-PI)
20. Evaluation of split- bolus dual energy CT in staging of carcinoma larynx (Department of Radiodiagnosis), Radiodiagnosis
21. Evaluation of WNT and SHH signalling pathways in olfactory neuroblastomas (Department of Pathology), Department of Pathology, Department of Otolaryngology- Head Neck Surgery, Dept. of Medical Oncology
22. Fluorosis mitigation in scheduled caste community of Bihar through intervention and counselling, Anatomy
23. Frequency and Outcome of persistent Lymphadenopathy after ATT in Lymph node tuberculosis patients, Medicine
24. Immune Microenvironment of Anaplastic Thyroid Carcinoma, Pathology
25. Interdisciplinary variations in the spectrum of oral mucosal lesions, Dermatology
26. Medium term outcomes in patients with primary renal tubular acidosis: A cross sectional observational study, Pediatrics
27. Molecular characterization of olfactory neuroblastomas for classification into prognostically and therapeutically relevant subgroups, Department of Pathology
28. Molecular characterization of olfactory neuroblastomas for classification into prognostically and therapeutically relevant subgroups, DST (SERB), Dr. Aanchal Kakkar (Pathology- PI)
29. Phenotypic and genotypic characterization of non-typeable *Haemophilus influenzae* (NTHi) from North India, Microbiology
30. Pilot study on comparison of efficacy and usability of indigenous handheld suction assembly for pediatric tracheostomised patients with the existing suction devices, Pediatrics
31. Pilot study on comparison of efficacy and usability of indigenous handheld suction assembly for paediatric tracheostomised patients with the existing suction devices, Department of Otolaryngology & Head Neck Surgery and Department of Paediatrics, AIIMS, New Delhi
32. Role of 68 GA-PSMA-HBED-CC PET/CT in Adenoid Cystic Carcinoma, Nuclear Medicine
33. Role of HBOT in salvage of compromised flaps. (Completed 2021), Plastic Surgery
34. Role of ultrasound in predicting the depth of tumour invasion and lymph node metastasis in early tongue carcinoma, Department of Otolaryngology & Head Neck Surgery, Department of Radiology, AIIMS, New Delhi
35. Serum Zinc levels in Indian population with chronic idiopathic tinnitus, Pharmacology
36. To compare the functioning of delayed surgical obturator fabricated using conventional and vacuum formed method in maxillectomy patients: a randomized control study ( Department of Prosthodontics), Pathology
37. To evaluate the role of Kit-based Loop-Mediated Isothermal Amplification (TB-LAMP) assay in the diagnosis of Extra-pulmonary tuberculosis (EPTB), Medicine
38. Ultrasonographic assessment of tonsillar volume in children undergoing tonsillectomy: a predictor of post operative morbidity, Anaesthesiology

### **Completed**

1. A longitudinal Survey to assess Patient Satisfaction for Nurse Initiated Follow Up Tele-Consultation among patients discharged from a selected tertiary care hospital, Nursing department
2. A pilot study to assess the therapeutic potential of Lu-177 DKFZ-PMSA 617 in Ga-68 PSMA HBED CC PET-CT positive anaplastic thyroid carcinoma, Department of Nuclear Medicine, AIIMS, New Delhi
3. A prospective study to determine the efficacy of PET-CT scan in determining residual disease in locally advanced head and neck squamous cell carcinoma managed with primary chemoradiotherapy, Department of Nuclear Medicine, AIIMS, New Delhi
4. An OMR sheet based feed-back survey on in-patient satisfaction regarding various hospital services in a selected tertiary care hospital, Nursing department
5. Evaluation of split-bolus dual energy CT in staging of carcinoma larynx, Department of Radiodiagnosis, AIIMS, New Delhi
6. Evaluation of WNT and SHH signaling pathways in olfactory neuroblastomas, Department of Pathology
7. Evaluation of WNT and SHH signaling pathways in olfactory neuroblastomas, Department of Pathology, AIIMS, New Delhi
8. To compare the functioning of delayed surgical obturator fabricated using conventional and vacuum formed method in maxillectomy patients: a randomized control study, Department of Prosthodontics, CDER



## PUBLICATIONS

**Journals: 54**

**Chapters in Books: 11**

## PATIENT CARE

Apart from OPD, Operation theatre, and minor OT services, the department runs a rehabilitation unit of audiology and speech pathology and specialty clinics in Audiology and skull base with cochlear implant, rhinology, vertigo, voice and swallowing, and twice a week Head and neck cancer clinic. Department also provides rural services at CRHSP Ballabgarh and Outreach OPD, Jhajjar. The statistics are as follows:

Ward Admissions: D4 Ward: 1551\*

Long admissions: 1434

Short Admissions: 117

Number of patients operated

Main OT: Major cases-579

Minor Cases-120

Minor OT: OPD procedures: 6856

Number of patient seen in OPD

New patients- 6935

Old registration -8819

Total - 15754

Total Number of Patients seen in RUAS

New Patients: 544

Old Registrations: 347

Total RUAS: 891

Total audiological tests done (PTA + Tympanometry + FFA + BERA + OAE + ASSR): 6945

## Teleconsultation Services

Total number outpatient teleconsultation: 29685

Total number of RUAS teleconsultation: 6009

## No. Of cases in Specialty Clinics

S. No.	Clinic	New Cases	Old cases	Total
1	Vertigo	12	3	15
2	Otology and Skull Base	14	2	16
3	Cochlear Implant	22	13	35
4	Voice	37	9	46
5	Rhinology	15	3	18
6	Head and Neck Cancer	145	25	170
7	HNRC (Head and Neck Rehabilitation Clinic)	10	5	15
8	Radiology Conference	264	-	264

## Community service clinics

- Twice weekly clinics in the community hospital in Ballabgarh with once-a-week operating facilities.
- Weekly clinics in the primary health centre in Gurgaon
- Weekly clinics in a community hospital in IIT Delhi
- The department is providing daily OPD services at Outreach OPD Jhajjar. And thrice a week OT Services.

## AWARDS, HONOURS, AND SIGNIFICANT EVENTS

**Professor Alok Thakar** was Chairperson, ICMR Committee for Standard Treatment Workflows in ENT; Co-Chairperson, Subcommittee for Medical Devices, Standing National Committee on Medicines; Co-ordinator for Head- Neck Cancer National Cancer Grid; Technical Expert- Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)/ National Health Authority (NHA); Honorary President - Foundation for Head-Neck Oncology; Convenor - Delhi Head-Neck Oncology Forum; Scientific Director - Head-Neck OncoSurgery- UChicago-UCMS Webinar Series; WHO Expert Member- Regional Expert Group on Hearing Care for South-East Asia Region; Council Member - Asia-Pacific Society of Thyroid Surgery (APTS) – 2019-2022; Advisory Board member - Health Hearing Ears; Visiting Professor, - Department of Otolaryngology, AIIMS Rishikesh (2019- ); Member, Board of Studies - Department of Otorhinolaryngology, Faculty of Health Sciences, Manipal University 2017; Member, Project Review Committee, Indian Council of Medical Research; Keynote Lecture- OTOFRONT 2020 - OTORHINOLARYNGOLOGY AT THE FRONTIERS; Armed Forces Medical College / Armed Forces Medical Services- 4-6 December 2020.

**Professor Rakesh Kumar** was Chairperson of MHD-4 of BIS for looking after standards of ENT surgical instruments in India; Honorary Vice President, Otorhinolaryngologic Research Society of AIIMS (ORSA); Honorary Consultant at Department of Otorhinolaryngology and HNS, IGIMS Patna; Honorary Visiting Consultant at Department of Otorhinolaryngology and HNS, AIIMS, Rishikesh; Invited as external subject expert in the panel of standing selection committee for recruitment of faculty at AIIMS, Bhubneshwar and Bhopal; Invited guest faculty at various National clinical meetings and presented papers and participated in panels.

**Dr Kapil Sikka** was Editorial Board Member and Assistant Editor, Indian J of Otolaryngology; Reviewer, Indian J Otolaryngology, Indian J Otolaryngology, Head and Neck Surgery, Indian J Pediatrics, Indian J Cancer, Laryngoscope Investigative Otolaryngology, Indian J Neurology; Joint Secretary, Association of Otolaryngologists of India, Delhi State Branch; Honorary Treasurer, Otorhinolaryngologic Research Society of AIIMS (ORSA), 2017; Member Medical Board, AIIMS; Member, editorial team for research directory, AIIMS; Subject matter expert, OSCE writing workshop, National Board of examinations, at Hotel Taj Vivanta, Dwarka New Delhi on 9-10 February, 2021; Member, Advisory board for implementation of ADIP Cochlear Implant Program; Empanelled faculty for academic activities of National Board of examinations.

**Dr Chirom Amit Singh** Organized and conducted 3rd Microvascular anastomosis workshop (Live rat model) from 3-5 January 2020.

**Dr Rajeev Kumar** was Treasurer of Association of Otolaryngologists of India, Delhi Branch, 2020-21; Reviewer for BMJ Case Reports, BMJ Journals; Indian Journal for Otolaryngology and Head & Neck Surgery; Journal of Medical Case Reports; Indian Journal of Radiology and Imaging; Cureus Clinical Otolaryngology; World Journal of Paediatric Surgery

**Dr Prem Sagar** was Member of Expert group for review of Health Benefit Packages for ENT under AB-PMJAY, Ministry of Health and Family Welfare, Govt. of India; Specialist in the Medical Cell of National Health Authority, Govt. of India under the project/ task on standard treatment guidelines (STGs), Health Benefit Packages (HBPs), Quality Assurance (QA); Member of Expert group for Standard Treatment Workflows (STWs) for ENT by Ministry of Health and Family Welfare, Govt. of India; Co-opt Member of the panel on ENT Sectional Committee looking after and setting up the standard of ENT Surgery Instruments, MHD 04 by Bureau of Indian Standards; Honorary Editor of Association of Otolaryngologists of India, Delhi Branch, 2020-2021; Executive body member of Neuro-Equilibrimetric Society (NES)- India, 2020-2021; Reviewer for ORL, Karger publishers Indian Pediatrics Journal, official publication of the Indian Academy of Pediatrics (IAP), Springer Nature; Developmental Medicine & Child Neurology, official journal of the American Academy for Cerebral Palsy and Developmental Medicine (AACPD), Australasian Academy of Cerebral Palsy and Developmental Medicine (AusACPD), British Academy of Childhood Disability (BACD), British Paediatric Neurology Association (BPNA), European Academy of Childhood Disability (EACD), and Mexican Academy for Cerebral Palsy and Neurodevelopmental Disorders, Annals of Otolaryngology, Rhinology & Laryngology, Sage Journals, International Archives of Otorhinolaryngology (IAO), Thieme publication, BMJ Case Reports, BMJ Journals, BMJ Innovations, BMJ Journals, Journal of International Medical Research, SAGE publishings, Journal Trends in Anaesthesia and Critical Care, Elsevier Inc.

**Dr Hitesh Verma** Joined as Adjunct faculty, Special Centre for Systems Medicine (SCSM), JNU, New Delhi

**Dr Arvind Kumar Kairo** Organized Workshop (as organizing Secretary) on Suturing Techniques on animal model (19 December 2020); Participated in PHA Health Camp (15 March 2021 to 26 March 2021) in the Parliament, New Delhi; Organizing secretary Laryngology – Webinar cum PG teaching activity on 29th July 2020 and Gave a talk on “Evaluation of Voice” in Laryngology update - Webinar 2020 at AIIMS, New Delhi on 29 July 2020; Organizing secretary of Animal Model-Based Hands-on Workshop on Thyroplasty on 30 July 2020; Have attended the 12th East Asian Conference on Phono-surgery EACP 2020-Virtual, at Chiayi, Taiwan, as delegate from 16-17 October 2020; Patent - Measurement device for determining length of ossicle replacement implant. (Filing date 25 May 2020, Application No 202011021868 (in collaboration with IIT, Delhi).

**Dr Shuchita Singh Pachaury** Invited to be a global partner in the collaborative effort of UCLA Global Health Seed Grant Program concerning HPV related cancers to assess physician, trainee, and medical student knowledge and attitudes regarding HPV and HPV vaccination, as well as creation of educational activities and follow-up of HPV related malignancies; Involved as a Co-investigator in a nation-wide oral screening project by Atom 360, an Indian Artificial Intelligence Startup and winners of Elevate 2018 by Govt. of Karnataka. The project title is “Analysis of Image Based Diagnosis using Artificial Intelligence and Pathological Correlation”.

## 9.27. Paediatrics

### Professor and Head

Ashok K Deorari (Neonatology)

### Professors

Arvind Bagga  
(Nephrology)

Sushil K Kabra  
(Pulmonology, Intensive Care, Tuberculosis)

Madhulika Kabra  
(Genetics)

Pankaj Hari  
(Nephrology)

Sheffali Gulati  
(Neurology)

Rakesh Lodha  
(Pulmonology, Intensive Care, Tuberculosis)

Rachna Seth  
(Oncology)

Vandana Jain  
(Endocrinology)

Ramesh K Agarwal  
(Neonatology)

### Associate Professors

Neerja Gupta  
(Genetics)

M Jeeva Sankar  
(Neonatology)

Aditi Sinha  
(Nephrology)

Biswaroop Chakrabarty  
(Neurology)

Kana Ram Jat

Jhuma Sankar  
(Pulmonology, Intensive Care, Tuberculosis)

Rajni Sharma  
(Endocrinology)

Anu Sachdeva  
(Neonatology)

Prashant Kumar Jauhari  
(Neurology)

Rohan Malik  
(Gastroenterology)

Jagdish Prasad Meena  
(Oncology)

Narendra Kumar Bagri  
(Rheumatology)

### Assistant Professors

Aditya Kumar Gupta  
(Oncology)

Ankit Verma  
(Neonatology)

Madhumita Roy Chowdhary  
Kajal Jain

### Scientists

Amita

Rashmi Shukla  
Lata Singh

### Other Staff

Anuja Agarwala (Dietician)  
Pallavi Mishra (Biochemist)  
Dhaneshwar Yadav  
(Medical Social Service Officer)  
Sushila Yadav  
Laboratory Technician

Sumita Gupta (Physiotherapist)  
Savita Saini (Technical Officer)  
Neena Mehta  
(Medical Social Service Officer)  
Suresh Kumar  
Laboratory Technician

## HIGHLIGHTS

### Covid related activities

1. Department of Pediatrics actively engaged in conducting Region wise Webinars on effective care for covid in children with support from WHO SEARO. Finally, this culminated in guidelines by GOI for covid in children on 28 April 2021. Similarly, Covid perinatal guidelines second Ed for covid along with IAP, NNF & FOGSI for the Nation were released in May 2020 along with a National Registry on Covid in neonates.
2. Department faculty is engaged in institutional capacity building for covid appropriate behavior among all levels of healthcare professionals by online and face to face workshops.
3. Faculty is involved in guiding HICC for appropriate use of resources, procuring PPE and streamlining the delivery of Covid services at AIIMS

### Centers of excellence within the Department

The Division of Neonatology continues to be a WHO Collaborating Centre (2019-2023) for training and research in Newborn Care. The Division of Genetics continues as a WHO CC for Training in Clinical and Laboratory Genetics in developing

countries. Three Divisions continue to contribute as Centre of Advanced Research in Pediatric Nephrology, Pulmonology and Childhood Neurodevelopmental Disorders

## **Newer initiatives**

### **Clinical**

Neurology and Genetics Division in joint collaboration initiated gene therapy and trials on new molecules in SMA patients on humanitarian grounds. Neurology, Genetics and Oncology in joint collaboration performed Hematopoietic Stem Cell Transplantation for a child with Adreno-leukodystrophy.

### **Education (Due to pandemic moved to Virtual platform)**

Department is running six DM courses in Neonatology, Nephrology, Neurology, Genetics, Oncology and Pulmonology & Intensive care with 50 students enrolled. A Vibrant PhD program is ongoing with four students.

MD Program: A MD program involving a total of 38 students is ongoing. There are regular teaching sessions and a system of ongoing internal assessment on virtual platform due to pandemic this year.

DM Program: All the Divisions have regular structured teaching activities 2-3 times a week on virtual platform. Interdisciplinary and interdepartmental teaching in the form of integrated seminars and case discussions, are encouraged in all disciplines. Regular small workshops and interactive case discussions involving residents and faculty are held. Pulmonology Division uses Telemedicine to connect to other institutions. Neonatology Division organised weekly workshops on common topics such as Kangaroo Mother Care, Total Parenteral Nutrition, understanding equipments, which involve hand on training of residents and nurses.

MBBS teaching: Departmental faculty is involved in teaching of MBBS students during their posting in Pediatrics (OPD and wards) along with lectures, structured tutorials and integrated seminars on online platform. Department of Paediatrics has contributed for the development of skill modules for Undergraduate Medical students for SET facility. Despite pandemic, Division of Neonatology organised a workshop for UG students on Standard Treatment Protocols for management of Sick neonates using wall charts, simulators, tablets, case studies and workshop on neonatal resuscitation for sixth semesters.

The WHO-CC conducted two hybrid online trainings as “Online Course for best practices for preterm infants” which was done over three weekends covering five modules on best practices in basic preterm care. This virtual course included completion of modules on an online platform 18 hours ([www.pretermcare-elimintaingrop.org](http://www.pretermcare-elimintaingrop.org)) along with interaction with experts online for 20 hours spread over three weekends (August to September and October 2020). Additional ‘Telegram’ - a freeware, cloud-based messaging software, was used for interactive and asynchronous learning of 4600 nursing professionals over ten weeks. They were mentored by 62 facilitators (doctors and nursing staff) across India & SEARO region.

## **EDUCATION**

### **Genetics**

#### ***Long Term /Short Term Training Record-2020-2021***

1. Ambrish, 14 October 2019, 15 April 2020, Cytogenetics, DBT under UMMID initiative
2. Ekta, 16 October 2019, 15 April 2020, Molecular, Cytogenetics, Biochemical, Lady Harding Medical College, New Delhi
3. Lt. Col. Shivani Sangwan, 17 June 2019, 16 June 2020, Cytogenetic Lab, Office of DGAFMS/DG-1D, Ministry of Defence, New Delhi
4. Lt. Col. Dr. Anurodh Gupta, 16 March 2021, 15 March 2022, Molecular/Biochemical Lab, Office of DGAFMS-1D, Ministry of Defence, M Block, New Delhi
5. Santosh Sahu, 1 March 2021, 1 September 2021, All Labs, Department of Biotechnology UMMID program

#### ***Fellowship/Rotation Intra and inter Departmental***

1. Abhijeet Kumar Maternal & Fetal Medicine, Department of Obstetrics and Gynaecology, 17.09.20 to 27.09.20, 10 days, All 3 labs, HOD, Obstetrics and Gynaecology
2. Akriti Khare, DM Hematopathology, 1 November 2020 to 10 November 2020, 10 days, All 3 labs, HOD, Hematology
3. Ranjan Yadav J.R. (Acad.), Laboratory Medicine, 1 December 2020 to 31 December 2020, One month, All 3 labs, HOD, Laboratory Medicine
4. Sarjana, DM Hematopathology, 26 December 2020 to 4 January 2021, 10 days, All 3 labs, HOD, Hematology
5. Priyanka Chaudhary, 18 January 2021 to 14 February 2021, One month, All labs and Clinics, Professor Vatsala Dadhwal, Obstetrics and Gynaecology

### ***CMEs/Workshops/Symposia/National and International Conferences***

1. SIAMG-ORDI Lecture series, October 2020-January 2021, Virtual
2. Intercountry workshop to build capacity in strengthening birth defects surveillance focusing on quality and analysis of data, 25-26 November 2020, Virtual

### **Neonatology**

**MD Program:** The division organized 12 weekly workshops on common topics such as Kangaroo Mother Care, Total Parenteral Nutrition, understanding equipment, involving hands on training of residents and nurses.

**DM program:** The division organized weekly workshops on bedside echocardiography, parenteral nutrition, ventilator settings in respiratory disorders and neonatal equipment. The division organised five integrated seminars and case discussions involving other disciplines in the teaching program.

**MBBS teaching:** The Department has contributed for development of skill modules for Undergraduate Medical students for SET facility. The Division of Neonatology organised NRP workshop for eighth semester and another workshop for seventh semester students on Standard Treatment Protocols for management of Sick neonates using wall charts, simulators, tablets and case studi

### ***CMEs/Workshops/Symposia/National and International Conferences***

1. National Perinatal Virtual COVID Conference, 11 July 2020, AIIMS, New Delhi
2. Webinar on COVID 19 FAQs with national experts, 22 August 2020, AIIMS, New Delhi
3. “Online Course for best practices for preterm infants” PART I (nutrition, thermal regulation, KMC, developmentally supportive care)
4. Virtual course: on (preterm care-eliminating rop.com) along with mandatory attendance and interaction with experts online for 20 hours spread over three weekends (August to September 2020), August to September 2020, AIIMS, New Delhi
5. “Online Course for best practices for preterm infants” PART II in Virtual course: on (preterm care-eliminating rop.com) along with mandatory attendance and interaction with experts online for 20 hours spread over three weekends October 2020 in which the remaining five modules were covered in the same way as above, October 2020, AIIMS, New Delhi
6. Telegram software for interactive and asynchronous learning of 4600 nursing professionals over ten weeks and then doctors (600) till March 2021, November 2020 to January 2021, AIIMS, New Delhi
7. Panel on COVID-19 as a part of NNF Delhi E Neocon: Maternal & Neonatal health, 1 November 2020, AIIMS, New Delhi
8. NNF Online **basic neonatal echocardiography course**, October 2020-November 2020, AIIMS, New Delhi
9. NNF Online **basic neonatal ventilation workshop**, 24-30 December 2020, AIIMS, New Delhi

### **Nephrology**

#### ***Long Term /Short Term Training Record-2020-2021***

1. Lieutenant Colonel Aditi Sharma, July 2018-July 2020, Two-year fellowship, Indian Army
2. Dr. Jasintha Sabanadesan, May 2019-July 2020, Two year fellowship (curtailed in view of the pandemic), Post Graduate Institute of Medicine, Srilanka

### **Neurology**

E learning modules and website developed by the Division continued to provide knowledge on various aspects of Child Neurology. Mobile app based diagnostic tools on Autism, Epilepsy, Attention Deficit Hyperactivity Disorder and Neuro Motor Impairments developed by the Division continued to help medical professionals across the country.

### ***CMEs/Workshops/Symposia/National and International Conferences***

- Organized Preconference workshop: Pediatric Neurology workshop: A primer for Pediatric Conference of North India and North India Pediatric Infectious Disease on 30 November 2020 (online)
  - Organised series of Lectures “Pediatric Neurogenomics” as part of academic activities under the aegis of Centre of Excellence and Advanced Research in Childhood Neurodevelopmental Disorders in collaboration with CSIR-IGIB, International Child Neurology Teaching Network (ICNA) and ICMR-AIIMS Computational Genomics Centre
1. Essential for a Pediatric Neurologist: Interpretation of a Genetic Report by Professor Madhuri Hegde, USA, 18 February 2021, Virtual



2. Precision medicine in Pediatric Neurology: current status and future potential by Professor J Helen Cross, United Kingdom, 25 February 2021, Virtual
3. Recent therapeutic advances in neuromuscular disorders by Professor Andoni Urtizberea, France, 4 March 2021, Virtual
4. Radiogenomics in Pediatric Neurology by Dr Sniya Valsa Sudhakar, United Kingdom, 25 March 2021, Virtual

### **Oncology**

1. Virtual celebration of Childhood cancer day, 26 February 2021, AIIMS, New Delhi
2. Patient's education program on Childhood cancer, 18 January 2021, AIIMS, New Delhi

### **Miss Anuja Agarwala**

1. 26 April 2020, 1 November 2020, 30 hours, Online course, Monash University, Australia, Continuing Professional Development - Certificate of completion 2 November 2020, Trained on the use of a low FODMAP diet for IBS (Online Dietitian Course)
2. 29 April 2020, A virtual educational event "A Taste of eGNA: Now Expanding with Project ECHO" organized by EMORY University, School of Medicine, Department of Human Genetics, Division of Medical Genetics
3. 13 June 2020, 14 June 2020, 2 days, Genesupport and IDA, Delhi Chapter, Certificate of completion, Basic Program on Nutrigenomics
4. 17 January 2021, 28 February 2021, 5 weeks, NUTROSPECT, Certificate of completion (AAN), Autism Aware Nutritionist – Skill Building Program (nutrospectbyricha@gmail.com)

### **Lectures delivered:**

**Rajni Sharma: 7**

**Madhulika Kabra: 15**

**Ashok K Deorari: 16**

**Anu Sachdeva: 8**

**Arvind Bagga: 6**

**Sheffali Gulati: 44**

**Rachna Seth: 8**

**Kana Ram Jat : 4**

**Vandana Jain: 8**

**Neerja Gupta: 10**

**Ramesh Agarwal: 3**

**Ankit Verma: 4**

**Pankaj Hari: 4**

**Biswaroop Chakrabarty: 11**

**Sushil K. Kabra: 36**

**Jhuma Sankar: 6**

**Rohan Malik: 2**

**Amita: 1**

**M Jeeva Sankar: 16**

**Kajal Jain: 2**

**Aditi Sinha: 6**

**Prashant Jauhari: 11**

**Rakesh Lodha: 5**

**Narender Kr. Bagri: 5**

### **Endocrinology**

#### ***Rajni Sharma***

1. Bone age estimation in children, Pediatric Endocrinology Workshop by Hindu Rao Hospital and NDM Medical College in association with Indian Academy of Pediatrics, North Delhi branch, 2 August 2020, Online meeting
2. Adolescent polycystic ovarian syndrome, Pediatric Endocrinology Update by Growth Hormone Research Society and Indian Academy of Pediatrics Delhi, 13 September 2020, Online meeting
3. Endocrine monitoring of child on steroid therapy, CME on Endocrine Disorders Neurological Perspectives organized by Academy of Pediatric Neurology and Indian Academy of Pediatrics, 17 September 2020, Online meeting
4. Moderator of panel discussion "Bone disease in children", Endocrine Conference Endocon organized by Indian Academy of Pediatrics, North Delhi, 18 October 2020, Online meeting
5. Moderator of panel discussion "Diabetic Ketoacidosis: Recent update", Pediatric Diabetes Update by Indian Society for Pediatric and Adolescent Endocrinology and International Society for Pediatric and Adolescent Diabetes, 21 November 2020, Online meeting
6. 'Debate on Vitamin D Adequacy in Indian children: 20 ng/ml is adequate level', Pediatric Endocrinology CME by Indian Academy of Pediatrics, Chennai and Mehta Children's Hospital, 21 February 2021, Online meeting
7. Moderator of case discussion on "Solitary thyroid nodule", Academic and Clinical Education Series "Pediatric Thyroid Disorders" organized by Indian Society for Pediatric and Adolescent Endocrinology, 27 March 2021, Online meeting

#### ***Vandana Jain***

1. Management of diabetic ketoacidosis-panel discussion, Digital initiative of Indian Academy of Pediatrics, 23 September 2020, Delhi (online)
2. Advances in diagnosis and management of neonatal diabetes, Digital initiative of Indian Academy of Pediatrics, 29 September 2020, Delhi (online)

3. Genetic testing in CAH- an endocrinology perspective, PACE (association of endocrinologists of Kerala) Virtual Masterclass on Adrenals, 9 October 2020, Kochi (virtual)
4. Case based discussion on short stature, E-Endocon organized by Indian Academy of Pediatrics, North Delhi, 1 October 2020, Delhi (online)
5. Neonatal diabetes mellitus, Pediatric Diabetes Update by Indian Society for Pediatric and Adolescent Endocrinology and International Society for Pediatric and Adolescent Diabetes, 20 November 2020, Delhi (online)
6. Moderator for panel discussion on geneticist's approach to short stature, obesity and tall stature syndromes, SIAMG-ORDI Lecture series organized by Indian Academy of Medical Genetics, 26 December 2020, Online
7. Diabetic ketoacidosis-current concepts, Pediatric Endocrinology CME by Indian Academy of Pediatrics, Chennai and Mehta Children's Hospital, 20 February 2021, Online
8. Medical management of Differences of Sex Development, 13th Pediatric Surgery Update organized by MAMC, Delhi, 12 March 2021, Delhi (virtual)

## **Gastroenterology**

### ***Rohan Malik***

1. Hepatic considerations in Pediatric Inflammatory Bowel disease, PIBD Masterclass by AAPSPGHAN, 4 November 2020, Bangkok (Virtual)
2. How to interpret liver function tests, South Delhi IAP monthly meet, 17 September 2020, Delhi (Virtual)

## **Genetics**

### ***Madhulika Kabra***

1. Rare Disease Scenario in India, Resilience approach towards rare Disease policy in India, 1 August 2020, Virtual
2. Understanding Genetics of CF & Antenatal diagnosis, Webinar on Cystic Fibrosis IAP Respiratory chapter, 16 September 2020, Virtual
3. Newborn Screening in India-Where are we now?, National Neonatology Forum Rajasthan, E-RAJNEOCON 2020, 25 October 2020, Virtual
4. Genetic Diagnostics-How to choose the correct test, SIAMG-ORDI Lecture series, 31 October 2020, Virtual
5. Panelist in Panel discussion -The Screening Conundrum, AOGD 42nd Annual E Conference, 2 November 2020, Virtual
6. Moderator for panel-Key unmet needs in the management of Rare diseases at the state level, East Region Rare Disease Consultation, 12 December 2020, Virtual
7. Investigation in a suspected Genetic disorder – Quest for a cause, ALLEPPY PEDICON-2020, 18 December 2020, Virtual
8. Newborn screening, Annual Scientific meet IAP, 20 December 2021, Virtual
9. Diagnosis of genetic Disorders in the present Era -What a Pediatrician should know, IAP AP State E-Pedicon, 10 January 2021, Virtual
10. Autism spectrum disorders: geneticists approach, SIAMG-ORDI Lecture series, 16 January 2021, Virtual
11. Moderator for panel - Key unmet needs in the management of Rare diseases at the state level, North Region virtual RD consultation, 22 January 2021, Virtual
12. Panelist in “Genetic Testing in Pediatric Practice-When & How?”, CIAP Pedicon 2021, 6 February 2021, Virtual
13. Panel Moderator- Setting priorities and urgency on Rare diseases, Global Rare Disease Consultation, 28 February 2021, Virtual
14. Down syndrome, Total Health DD News, 21 March 2021, Virtual
15. Genetic counseling for rare disorders in India, Genetic Counseling Course of Future Academy & Sri Ramachandra Institute of Higher Education and Research, 22 March 2021, Virtual

### ***Neerja Gupta***

1. Clinical perspective of quantitative analysis by Liquid chromatography (LC)-coupled mass spectrometry (MS) Quantitative Mass Spectrometry of Biomolecules (Utility from Bench to Bedside) AIIMS CCRF Webinar Series, 22 September 2020, Virtual
2. A multicenter, double-blinded randomized placebo-controlled trial of arimoclomol in patients diagnosed with Gaucher Disease type 1 and 3, International Gaucher alliance Biennial Members meeting, 26 October 2020, virtual
3. Genetic perspective in Retinoblastoma, Indian Cancer genetics and genomics conference, 21 November 2020, Virtual

4. Methods (tools) to examine and improve data collection Clinical checklists for neural tube defects, Intercountry workshop to build capacity in strengthening birth defects surveillance focusing on quality and analysis of data, 25 November 2020, Virtual
5. Geneticist approach to Intellectual disability, SIAMG-ORDI Lecture series, 5 December 2020, Virtual
6. Approach to Inborn Errors of Metabolism, SIAMG-ORDI Lecture series, 12 December 2020, Virtual
7. Treatment of Rare diseases “Where are we”, North Region virtual RD consultation, 22 January 2021, Virtual
8. GENETIC RISKS OF IVF/ICSI IN NEWBORNS, “Genetic defects in IFS Babies” IFS webinar, 30 January 2021, Virtual
9. Exploring beyond Conventional Fetal Autopsy, Fetal Autopsy unravelling the mystery under the aegis of NARCHI & AOGD Fetal Medicine Subcommittee, 17 February 2021, Virtual
10. Early Diagnosis of Rare Diseases in India-Strategies & Solutions, Setting priorities and urgency on Rare diseases under Global Rare Disease Consultation, 28 February 2021, Virtual

### **Amita**

1. PCR– A Molecular Tool in Diagnosis of Single Gene Disorders, Online workshop on “Molecular Biology Tools” Organised by Miranda House, University of Delhi, 13 September 2020, Virtual

### **Neonatology**

#### ***Ashok K Deorari***

1. Importance of Breastfeeding, West Bengal State NNF and West Bengal IAP, 7 August 2020, Online
2. Holistic newborn care, Telangana State IAP, 25 August 2020, Online
3. Rebooting eLearning for Medical Education, Indian Academy of Pediatrics, 25 August 2020, Online
4. Quality Improvement in Child Health, Indian Academy of Pediatrics, H.P, 2 September 2020, Online
5. Pediatrician’s Role – Retinopathy of prematurity, Indian Academy of Pediatrics, 2 September 2020, Online
6. Safe practices for improving Newborn Survival, Indian Academy of Pediatrics, Kerala State, 4 September 2020, Online
7. Rebooting education through eLearning in COVID Era, Lucknow Neonatology Foundation, 1 October 2020, Online
8. Quality Maternal & Newborn Health: Is Tamil Nadu ready?, State NNF, Tamil Nadu, 11 October 2020, Online
9. Improving ecosystem for Newborn Health: Areas to focus in NE states, Regional Collaborative Centre, Dibrugarh, 16 November 2020, Online
10. Strategies to improve Newborn Health, Chhattisgarh State NHM, 19 November 2020, Online
11. Maternal & Newborn Health challenges & solutions for the state of Rajasthan, AIIMS Jodhpur, Dr S.N. Medical College Jodhpur and NNF Marwar Society, 24-25 October 2020, Online
12. Harnessing Digital Technology for Education, AVM, Pondicherry, 6 November 2020, Online
13. Neonatal Webinar Series, National Health Mission, Assam, 16 November 2020, Online
14. Digital Learning: Hybrid approach to skill learning, Delhi IAP, 4 December 2020, Online
15. Chai Pe Charcha: Meet with Doyen Digital Learning, Hybrid Approach to Skill Building Day-3, 4 December 2020, Online
16. 4th Prof. N. R. Biswas Oration, 4th Prof. N. R. Biswas Oration, 12 February 2021, Online

#### ***Ramesh Agarwal***

1. Respiratory distress in neonates, Online talk for SNCU doctors, 21 November 2020, Online
2. Rational antibiotics therapy, Raj Neocon, 25 October 2020, Online
3. Prevention of infection, Ped surgery conference, New Delhi, 15 March 2021, Online

#### ***M Jeeva Sankar***

1. Management of bronchopulmonary dysplasia (BPD), Online Neonatology Training for Residents & Fellows, 15 April 2020, Online
2. Principles of meta-analysis, Workshop for oncology residents & fellows, JIPMER, 2 May 2020, Online
3. Critical appraisal of randomised controlled trials (RCTs), Workshop on ‘Critical Appraisal of Scientific Articles’ by the Scientific Society, AIIMS, 9 May 2020, Online
4. Random errors & systematic errors, NNF Online Research Methodology Course, 26 July 2020, Online
5. Principles of survival analysis–K-M curve and hazard ratio, Indian National Association for Study of The Liver (INASL), 1 August 2020, Online

6. Correlation & regression, NNF Online Research Methodology Course, 15 August 2020, Online
7. Time-to-event (survival) analysis, NNF Online Research Methodology Course, 16 August 2020, Online
8. Bronchopulmonary dysplasia (BPD) – preventive strategies, UP e-NEOCON 2020, 3 October 2020, Online
9. Preventing BPD – what is new, TS NEOCON 2020, 22 November 2020, Online
10. How to concise your remarks on the research paper–systematic reviews, ISPPD Reviewers’ Training Workshop, 25 November 2020, Online
11. Introduction to Systematic Review/Meta-analysis, Workshop on Meta-analysis at IRCH, AIIMS, New Delhi, 4 December 2020, Online
12. How to calculate sample size, AIIMS Research Methodology Workshop, 22 December 2020, Online
13. Correlation & regression, NNF Online Research Methodology Course, 6 February 2021, Online
14. Time-to-event (survival) analysis, NNF Online Research Methodology Course, 7 February 2021, Online
15. Neonatal ventilation including high frequency oscillation (HFO) and ECMO, 13th Pediatric Surgery Update 2021, 11 March 2021, Online
16. Risk of bias assessment, Workshop on Systematic Review and Meta-analysis for VIth JIPMER Research Day, 19 March 2021, Online

#### ***Anu Sachdeva***

1. Optimizing neonatal care during COVID-19 pandemic, Neonatal COVID-19 infection, 6 August 2020, AIIMS, New Delhi
2. Maternal Support & Newborn Care, Breastfeeding panel by PATH talk show in COVID Times - debunking myths, 22 September 2020, New Delhi; Online
3. Neonatal Nutrition- How best can I optimize, Rajasthan NeoCon, 25 October 2020, Virtual, AIIMS Jodhpur
4. Approach to a newborn with cyanosis, Central IAP Cardiology Chapter, 23 October 2020, New Delhi Online
5. COVID Panel, Delhi Neocon, 1 November 2020, Online
6. Case discussions for neonatal ventilation workshop
7. Prevention of lung injury, Neonatal ventilation workshop, 24-30 December 2020, New Delhi; Online
8. Fetal circulation and resuscitation at birth, 13th Pediatric Surgery Update 2021 organized by the Department of Paediatric Surgery, Maulana Azad Medical College, New Delhi, 11-14 March 2021, New Delhi; Online

#### ***Ankit Verma***

1. Parasternal long axis view (PLAX) - Neonatal echocardiography, NNF online: Basic neonatal echocardiography course, 1 November 2020, Online, AIIMS, New Delhi
2. Neonatal echocardiography views- group discussion, NNF online: Basic neonatal echocardiography course, 7-8 November 2020, Online, AIIMS, New Delhi
3. Neonate with COVID-19- key messages with evidence, National clinical grand rounds on COVID-19, 2 September 2020, Online, AIIMS, New Delhi
4. Case discussions for neonatal ventilation workshop, Neonatal ventilation workshop, 24-30 December 2020, Online, AIIMS, New Delhi

#### ***Kajal Jain***

1. How do you study microbiome? 16s Sequencing vs Shotgun metagenomic sequencing, Microbiome webinar series, 28 July 2020, Online, AIIMS
2. Setting up microbiome experiment and a Recap, Microbiome webinar series, 25 August 2020, Online, AIIMS

#### **Nephrology**

##### ***Arvind Bagga***

1. Nephrotic syndrome 2020, European Society of Pediatric Nephrology (ESPN) 2020 Virtual Meeting, 18 September 2020, ESPN (virtual platform), Ljubljana, Slovenia
2. Epidemiology of acute kidney injury, IPNA endorsed web master series 2020, 24 November 2020, Dr. Mehta’s Hospitals (virtual platform), Chennai
3. Difficult nephrotic syndrome, Annual Congress of the Indian Society of Pediatric Nephrology, 13 December 2020
4. St. John’s Medical College (virtual platform), Bengaluru

5. Hemolytic uremic syndrome in children, Challenges in Pediatric Nephrology, 5 February 2021, Tashkent Pediatric Nephrology Institute (virtual platform), Tashkent
6. Clinical trials in nephrotic syndrome, 14th Asian Congress of Pediatric Nephrology: IPNA Scientific Workshop, 29 March 2021, Taiwan (virtual platform), Taipei

#### ***Pankaj Hari***

1. Vesicoureteral reflux: Controversies met, IPNA endorsed web master series 2020, 2 December 2020, Dr Mehta's Hospitals (virtual platform), Chennai
2. UTI/VUR: New guidelines, Annual Congress of the Indian Society of Pediatric Nephrology, 13 December 2020, St. John's Medical College (virtual platform), Bengaluru
3. Urinary tract infections: Indian Guidelines, IPNA Webinars on Best Clinical Practice, 24 February 2020, IPNA (virtual platform), None
4. Patient perspective & patient centered outcome measures: SONG initiative, 14th Asian Congress of Pediatric Nephrology: IPNA Scientific Workshop, 29 March 2021, Taiwan (virtual platform), Taipei

#### ***Aditi Sinha***

1. Fluid balance in acute kidney injury, IAP Indore CME in Pediatric Nephrology, 18 October 2020, Indore (virtual platform), Indore
2. Nephrotic syndrome: From pathophysiology to management, IPNA endorsed web master series 2020, 28 October 2020, Dr. Mehta's Hospitals (virtual platform), Chennai
3. Evaluation and management of refractory rickets, Annual Congress of the Indian Society of Pediatric Nephrology, 13 December 2020, St. John's Medical College (virtual platform), Bengaluru
4. Mycophenolate mofetil in nephrotic syndrome, Webinar: Visiting Faculty Lecture Series, 22 January 2021, Institute of Child Health (virtual platform), Kolkata
5. Nephrolithiasis and nephrocalcinosis, Digital Indian Academy of Pediatrics (IAP), 28 January 2021, IAP (virtual platform), Mumbai
6. An approach to atypical hemolytic uremic syndrome in children, Webinar on Glomerular Diseases in Children, 11 March 2021, Pediatric Nephrology Group, Mumbai (Virtual platform), Mumbai

#### **Neurology**

##### ***Sheffali Gulati***

1. Interface between Child neurology and palliative care (moderated as a chairperson and gave Indian perspective), Forum of Indian Neurology Association, 28 April 2020, Online
2. CNS Vasculitis' for IAP teaching slide, IAP PG teaching module, 26 May 2020, Online
3. EEG basics, what a pediatrician must know, IAP, 5 June 2020, Online
4. Panelist for an educational program on Infantile Spasms: Diagnosis and management of Infantile Spasms - practical considerations, Indian Epilepsy Association, Kochi, 5 June 2020, Online
5. Moderator for a session on "Examination of Higher mental function", Association of Child Neurology Web Academy (AOCN), 5 June 2020, Online
6. 1st online task force meeting on SMA: Guidelines for management of children with Spinal muscular atrophy during COVID-19 pandemic and beyond: Expert/panelist, Cure SMA Foundation of India, 16 July 2020, Online
7. Case discussion and Approach to polyradiculoneuropathy in Pediatric Potpourri - Autoimmune conundrum, IAP Cochin, 5 August 2020, Online
8. Panelist in Round table discussion on Universal Access to Life Science Medicine - Challenges and Solutions, Cure SMA Foundation of India, 9 August 2020, Online
9. Approach to Chronic Neuromuscular weakness, Recent advances and treatment, Academy of Pediatric Neurology, IAP, 10 August 2020, Online
10. Recent Advances in Management of Cerebral palsy in Cerebral palsy Webinar, Indian Society of Pediatric Neurosurgery, 28 August 2020, Online
11. Panelist for a panel discussion on Diagnosis and management of childhood epilepsy, Pediweek: Himalaya IAP North Zone, 3 September 2020, Online
12. Management of Spinal Muscular Atrophy-Recent advances and our experience, Pediatric subsection, Indian Academy of Neurology, 20 September 2020, Online
13. Brain death: Definition and Basics, Academy of Pediatric Neurology, IAP, 23 September 2020, Online



14. Keynote speaker for the LGMD Patient Day, on Muscle Dystrophies: recent update, Ayushkama Foundation, 30 September 2020, Online
15. Panelist in the dIAP professional education event on Febrile Seizures, IAP, 1 October 2020, Online
16. Invited as Guest of Honor and speaker for the Golden Jubilee of Mashavara, Manovikas Charitable Society, 14 October 2020, Online
17. “What’s New in DMD: Talk and Quiz Series in Pediatric Neurology” (DMD), AOCN, 16 October 2020, Online
18. Neurodevelopmental disorders in Children: Autism, LD, CP, ADHD, Free interactive webinar by Mom’s belief, 24 October 2020, Online
19. Neurological complications in Covid 19, Zee news, 24 October 2020, Online
20. Recent advances in Pediatrics, Departmental Symposium, Department of Pediatrics, AIIMS, New Delhi, 1 November 2020, Online
21. Prevention of Mental retardation/Intellectual Disability, Community Pediatric Chapter Conference (COMPED 2020), 6 November 2020, Online
22. Chairperson for Webinar on Pediatric Neuro-Developmental disorders, IAP, Varanasi, 8 November 2020, Online
23. Approach to children with Intellectual disability with focus on children with Downs Syndrome, IAP Delhi, 21 November 2020, Online
24. Use of technology in neurodevelopmental disorders, Pediatric Conference of North India and North India Pediatric Infectious Disease Preconference workshop: Pediatric Neurology workshop: A primer, 30 November 2020, Online
25. Chaired a session on Pediatrics Neuromuscular disease: Duchenne muscle dystrophy and limb girdle muscle dystrophy, Pediatric Neuromuscular Update. AIIMS Rishikesh, 1 December 2020, Online
26. Invited as a Chairperson for a session on headache and Rabies Immunoglobulin: current concepts, Pediatric Conference of North India and North India pediatric infectious Disease, 3 December 2020, Online
27. Moderated session on Approach to Neurodegenerative Disorders, Lysosomal storage disorders – Approach to Diagnosis, Peroxisomal Disorders, SIAMG –ORDI lecture series, 19 December 2020, Online
28. Recent Advances in management of Chronic neuromuscular disorders, IAP, 19 December 2020, Online
29. Use of technology in Neurodevelopmental disorders, 17<sup>th</sup> National Conference of Developmental Pediatrics (eNCDP 2020), 30 December 2020, Online
30. Use of technology in Neurodevelopmental disorders including ASD, Pediatric Neurology Chapter of IAP West Bengal, 10 January 2021, Online
31. Panelist for Building and Nurturing Clinician- Researcher networks, IBRO-APRC School of Neuroscience, CSIR-IGIB, 23 January 2021, Online
32. Advances in the management of Cerebral Palsy, Talk for The IAP Chapter of Neurodevelopmental Pediatrics fellowship program, 2 February 2021, Online
33. Panelist in Epilepsy Awareness Webinar, Zee digital platform, 14 February 2021, Online
34. Panelist for Approach to 1<sup>st</sup> unprovoked seizure in a healthy child, BLK Centre for Child Health, BLK Super Specialty Hospital IAP Delhi and IAP Central Delhi Branch, 21 February 2021, Online
35. Experience with Spinraza at our center, SIPHAP Virtual Medical Workshop, 22 February 2021, Online
36. Spinal Muscular Atrophy- Recent Advances in diagnosis and treatment: A video clip on ‘Rare disease and the need for awareness in India’, Rare Disease Day 2021, Department of Pediatrics, Government Medical College, Kozhikode, CSIR Institute of Genomics and Integrative Biology, Delhi, Indian Academy of Pediatrics, Kozhikode Branch, 28 February 2021, Online
37. Panelist in Virtual discussion Program SMA (SMart) Update and Ray, Cure SMA Foundation of India, 28 February 2021, Online
38. Use of technology in Neurodevelopment Disorder in the Series “Disease of National Importance for M.Sc IV semester”, JNU New Delhi, 4 March 2021, Online
39. Recent Advances in Cerebral Palsy, Academy of Pediatrics, Gujarat and action plan e-gurukul, 7 March 2021, Online
40. Expert in UG curriculum group, IAP-WHO Task Force Meeting for incorporating “Nurturing Care for Early Childhood Development” (NC-ECD) in UG/PG Curriculum, 20 March 2021, Hotel Pullman, Aerocity, New Delhi
41. Panelist for Delivering on the Nurturing Care Framework: Targeted Child Development Interventions for High-Risk Children, National Consultative meeting of Stakeholders for Early Childhood Development (NC-ECD), 21-23 March 2021, Hotel Pullman, Aerocity New Delhi
42. Dietary therapy in Pediatric Neurology- Epilepsy and Beyond: Experience of more than 15 years, CGR, 23 March 2021, LT 1, AIIMS (hybrid)

43. Dietary therapies in drug refractory epilepsy, Podcast in ICNA pedia, 23 March 2021, Online
44. World Epilepsy Day: epilepsy Awareness, Society for Advance Study for Rehabilitation (SASR) Faridabad Haryana, 27 March 2021, Online

***Biswaroop Chakrabarty***

1. Examination of cranial nerves I-VI, AOCN Postgraduate lecture series, 12 June 2020, Online
2. Video based case wise approach to movement disorders and seizure mimics in children, IAP, Noida, 22 August 2020, Online
3. Treatment of Movement Disorders in children, IAP, Karnataka, 2 October 2020, Online
4. Neurocysticercosis versus Tuberculoma, the everlasting debate, IAP, Agra, 4 October 2020, Online
5. Reading and Interpreting an EEG report (normal and abnormal), IAP, Dehradun, 18 October 2020, Online
6. Recent advances in Pediatrics, Departmental Symposium, Department of Pediatrics, AIIMS, New Delhi, 1 November 2020, Online
7. Benign generalized epileptiform variants, IAP, Dehradun, 1 November 2020, Online
8. Spinal Muscular Atrophy, Neuromuscular Disease Update, AIIMS, Rishikesh, 2 December 2020, Online
9. Faculty Judge for “Case-based discussion on approach to nontraumatic coma in children”, IAP, PICU Chapter, 28 December 2020, Online
10. Faculty moderator for “Floppy Child”, 18th Intensive Clinical Program organized by Department of Pediatrics, Government Medical College, Kozhikode, 13 March 2021, Online
11. Dietary Therapy in Pediatric Neurology, Epilepsy and beyond: Experience of more than 15 years, CGR, AIIMS, New Delhi, 22 March 2021, Online

***Prashant Jauhari***

1. Management of irritability and aggression in children, IAP, New Delhi, 12 June 2020, Online
2. Examination of cranial nerves VII-XII, AOCN Postgraduate lecture series, 19 June 2020, Online
3. Refractory Status epilepticus, Academy of Pediatric Critical Care, 5 September 2020, Online
4. Tubercular Meningitis: the latest in diagnosis and management, IAP, Agra, 4 October 2020, Online
5. Case based approach to childhood epilepsy, Pediatrics Alumni lecture series organized by KGMC, Lucknow, 10 October 2020, Online
6. Localization on EEG, IAP, Dehradun, 18 October 2020, Online
7. Recent advances in Pediatrics, Departmental Symposium, Department of Pediatrics, AIIMS, New Delhi, 1 November 2020, Online
8. Catastrophic EEG patterns, IAP, Dehradun, 1 November 2020, Online
9. Congenital muscular dystrophy, Neuromuscular Disease Update, AIIMS, Rishikesh, 30 November 2020, Online
10. Global developmental delay, IAP, Chennai, 19 February 2021, Online
11. Dietary Therapy in Pediatric Neurology, Epilepsy and beyond: Experience of more than 15 years, CGR, AIIMS, New Delhi, 22 March 2021, Online

**Oncology**

***Rachna Seth***

1. Child Health, Wonder Years Education Society, 2 August 2020, Virtual
2. Systematic treatment in Pediatric Hodgkin lymphoma and NHL, Indraprastha Apollo Hospitals, Class room teachings, 28 August 2020, Virtual
3. Moderator for session on Pediatric cardio-oncology survivorship, Asian Cardio-Oncology Society (ACOS), 29 October 2020, Virtual
4. Sickle cell disease: future perspectives in India, North Zone Pedicon, 22 November 2020, Virtual
5. Chair for session: Basics of Bone marrow transplantation-what a pediatrician must know, North Zone Pedicon, 22 November 2020, Virtual
6. Retinoblastoma:Tumor board, Indonesian Rb-MDT meeting, 17 December 2020, Virtual
7. Chaired a session on “Key note Lecture: Retinoblastoma”, 1st National Virtual CME of Pediatric Hematology and Oncology Chapter of IAP, 19-20 December 2020, Virtual
8. Chairing and moderating session on Survivorship and late effects and panel discussion, XIIIth SIOP ASIA Congress, 19-21 March 2021, Virtual

## **Pulmonology, Intensive Care, Tuberculosis**

### ***Sushil K. Kabra***

1. Approach to Recurrent Respiratory Infections, CME Indian Academy of Pediatrics, 10 April 2020, Webinar
2. Cystic Fibrosis, Indian Academy of Pediatrics, 19 April 2020, Webinar
3. Panel Discussion. Dos & Don'ts to Manage Childhood Asthma during COVID-19 Pandemic, Asthma day celebration Organized by Pediatric Respiratory Society of Delhi, 2 May 2020, Webinar
4. Approach to recurrent respiratory tract infection, CME program Organized by IAP Kerala and Kozhikode, 1 July 2020, Webinar
5. Management of Pediatric Asthma: beyond guideline, Annual Function of Mumbai IAP Organized by IAP, Mumbai, 1 August 2020, Webinar
6. Reading Chest X ray for Pediatrician, CME program Organized by Central IAP, 5 August 2020, Webinar
7. COVID-19 infection in Children: epidemiology, clinical features and management of mild to moderate illness, Organized by Regional office of WHO South East Asia, 19 August 2020, Webinar
8. Panel discussion: COVID-19 in children, National CGR on COVID-19 Organized by AIIMS, New Delhi, 19 August 2020, Webinar
9. Chaired session on case presentation on MIS in children, In monthly web meeting of IAP, Delhi, Organized by IAP Delhi, 16 July 2020, Webinar
10. Chaired session on Neonate with Stridor, Monthly meeting of NNF Delhi, Organized by NNF Delhi, 3 June 2020, Webinar
11. Cystic fibrosis: when to suspect, In North Zone IAP Annual conference, organized by IAP Delhi, 31 August 2020, Webinar
12. Cystic Fibrosis: when to suspect, In UP RESPICON 2020, organized by IAP Agra and RESPIRATORY chapter UP, 5 September 2020, Webinar
13. Bronchiectasis: Pediatrician's nightmare, Annual meeting of Kerala RESPICON, 13 September 2020, Webinar
14. Overview of CF, Respinar on Cystic Fibrosis, conducted by national Respiratory Chapter Indian Academy of Pediatrics, 16 September 2020, Webinar
15. Case Discussion: Childhood Interstitial Lung disease (Child), CME for PGs Organized by Indian Academy of Pediatrics, Cochin branch, 16 September 2020, Webinar
16. Chaired session on "Investigations in Pulmonology", EPulmocon, organized by IAP, North Delhi branch, Delhi IAP, Pediatric Respiratory Society (PRS) Delhi, 19 September 2020, Webinar
17. Management of asthma: Guideline and Beyond, EPulmocon, organized by IAP, North Delhi branch, Delhi IAP, Pediatric respiratory Society (PRS) Delhi, 20 September 2020, Webinar
18. Update on Pediatric TB, CME for PGs Organized by Department of Pediatrics, SJ Hospital, New Delhi, 6 October 2020, Webinar
19. Management of Cough, CME organized by National Respiratory Chapter and North Delhi IAP, 10 October 2020, Webinar
20. Flu Like Illness in Context of COVID-19 & OPD Management, Annual function of Respiratory Chapter IAP, Organized by Rajasthan Respiratory Chapter, 11 October 2020, Webinar
21. Approach to recurrent respiratory Tract Infection, CME organized by IAP, Andhra Pradesh, 1 November 2020, Webinar
22. Chaired session in Departmental symposium: Advances in Pediatrics, Departmental Symposium organized by department of Pediatrics, AIIMS, New Delhi on, 1 November 2020, Webinar
23. Cough Module: Recurrent cough, Punjab IAP, Respiratory chapter, 7 November 2020, Webinar
24. Management of Acute Severe Asthma in Middle level Hospital, Annual conference of IAP Community Pediatrics Chapter (COMPED 2020), 8 November 2020, Webinar
25. Clinical case discussion, IAP PG clinic, 10 November 2020, Webinar
26. Panel discussion on Pediatric TB update, CME Organized by IAP Mumbai, 22 November 2020, Webinar
27. Webinar and Panel Discussion, Update on Childhood TB, Northzone PEDICON 2020, organized by IAP Udaipur, 22 November 2020, Webinar
28. Cough Module, Recent cough, Cough Module, Organized by IAP Tamil Nadu and National Respiratory chapter, 27 November 2020, Webinar
29. Education program for parents with children with cystic fibrosis, Education program for parents with CF, organized by department of pediatrics, AIIMS, New Delhi, 29 November 2020, Webinar
30. Covid 19 Extra Pulmonary manifestations, National Webinars of COVID-19, organized by AIIMS, New Delhi, 2 December 2020, Webinar

31. Under five wheezing in PedAllergocon 2020, organized by IAP chapter on allergy and Immunology, 5 December 2020, Webinar
32. Non Tubercular Granulomatous lesions in Lungs, in eRESPICON, organized by National respiratory chapter, 13 December 2020, Webinar
33. Panel discussion on “Pediatric Tuberculosis”, NATCON, 18 December 2020, Webinar
34. Panel discussion on “Chasing the Lung Shadow”, IAP Pediweek, 23 December 2020, Webinar
35. Update on Pediatric Tuberculosis, In Fore Front of Future Frontiers, A Medical Webinar series organized by Vinayak Mission Research Foundation, AVMC, Puducherry, 12 February 2021, Webinar
36. Medical emergency warning signs in ER, CME, Organized by College of Nursing, AIIMS, New Delhi, 26 March 2021, Webinar

#### ***Rakesh Lodha***

1. ICU Management of COVID in Children, Indian Academy of Pediatrics (IAP) North Zone Pediweek 2020 ‘Himalaya’, 2 September 2020, Online
2. COVID-19 Vaccines candidates and Claims, Pulmonology update by IAP North Delhi Branch; EPulmocon 2020, 19 September 2020, Online
3. Research Question, Writing Research Project and Funding, 3 October 2020, Online
4. Language & style, SGPGI Scientific Communication Course, 26 February 2021, Online
5. AI in Healthcare: Perspective of Healthcare team, AI in Healthcare: An Impending Revolution, 24 March 2021, Online

#### ***Kana Ram Jat***

1. Case of MISC-moderator, IAP Delhi, Monthly Clinical Meeting, 16 July 2020, Online webinar
2. Infantile Wheezing: Tricky bits - Panel Discussion, North Zone Pediweek 2020 ‘Himalaya’, 31 October 2020, Online webinar
3. Newer Investigations in pediatric pulmonology, E Pulmocon 2020, 19 September 2020, Online webinar
4. What is cystic fibrosis, clinical features and diagnosis, Education program for parents of children with Cystic fibrosis, 29 November 2020, Online webinar

#### ***Jhuma Sankar***

1. Multi system inflammatory system and SARS CoV-2 in children, Coalition of centres in Global Child Health, 30 June 2020, Online, USA
2. Management of PIMS-TS/MISC in children, National grand round on COVID-19, 19 August 2020, AIIMS, India
3. Balanced salt versus normal saline in children with septic shock (Presentation of results), PALISI Fall meeting, 10 September 2020, Online, USA
4. Webinars for management of COVID-19 in children, WHO, 26 November 2020, Online, webcast, India
5. Randomization and blinding, Research Methodology Course, 7 December 2020, AIIMS, Delhi, India
6. Vitamin C versus Placebo in critically ill children, PALISI Spring meeting, Virtual, 12 March 2021, Online, USA

#### **Rheumatology**

##### ***Narender Kr. Bagri***

1. Management issues in Kawasaki disease, 3rd Conference of Indian Society for Kawasaki Disease, 31 October-1 November 2020, Online platform
2. Behcets disease, Delhi Rheumatology Association meeting, 28 October 2020, Online platform
3. Multisystem inflammatory syndrome in children, WHO webinars on COVID-19 infection, 29 October 2020, Online platform
4. Approach to a child with arthritis, E-RHEUMATPEDIA: by Delhi IAP branch, 14 January 2021, Online platform
5. Academic discussions (Case presentations, etc.), Pediatric Rheumatology European society, Sister hospital initiative with Gaslini Institute, Italy, 5-26 March 2021, (once a month), Online platform

#### **List of oral papers/posters presented: 47**

##### ***Endocrinology***

1. Tak AS, Jain V, Body composition of healthy term newborns, Delhi IAP Annual Meet, 6 December 2020, Delhi Sarla Vaishnav Award



## *Nephrology*

### **Oral presentations**

1. Khandelwal P, Nambiar S, Sinha A, Hari P, Bagga A, Anti-factor B antibodies in atypical hemolytic uremic syndrome, C3 glomerulopathy and immune- complex glomerulopathy, 14th Asian Congress of Pediatric Nephrology, 29 March-2 April 2021, Taiwan (virtual platform), Taipei
2. Mathew G, Sinha A, Grewal N, Ahmed A, Hari P, Bagga A\*, Efficacy and safety of rituximab versus tacrolimus in frequently relapsing nephrotic syndrome: An open label randomized controlled trial with non-inferiority design, 32<sup>nd</sup> Annual Conference of the Indian Society of Pediatric Nephrology, 12-13 December 2020, Bengaluru (virtual platform), India
3. Yadav M, Sinha A, Tiwari A, Lodha R, Sankar J, Hari P, Bagga A, Feasibility and efficacy of sustained low-efficiency dialysis in critically ill children with severe acute kidney injury, 32<sup>nd</sup> Annual Conference of the Indian Society of Pediatric Nephrology, 12-13 December 2020, Bengaluru (virtual platform), India

### **Poster presentations**

1. Mathew G, Sinha A, Grewal N, Ahmed A, Hari P, Bagga A, Efficacy and safety of rituximab versus tacrolimus in frequently relapsing nephrotic syndrome: An open label randomized controlled trial with non-inferiority design, 14th Asian Congress of Pediatric Nephrology, 29 March-2 April 2021, Taiwan (virtual platform) Taipei
2. Yadav M, Sinha A, Tiwari A, Lodha R, Sankar J, Hari P, Bagga A, Feasibility and efficacy of sustained low-efficiency dialysis in critically ill children with severe acute kidney injury, 14th Asian Congress of Pediatric Nephrology, 29 March-2 April 2021, Taiwan (virtual platform), Taipei  
Best paper award

## *Neurology*

1. Badal S, Ananad V, Panda P, Zulfiqar ML, Sirolia V, Jauhari P, Chakrabarty B, Gulati S, Polymerase  $\gamma$  (POLG) related disorder causing childhood mitochondrial depletion/deletion syndromes presenting with variable neurological phenotypes: Chronic progressive external Ophthalmoplegia (CPEO), Alpers Huttenlocher and Paroxysmal movement disorder, Three genetically confirmed homozygous POLG mutation cases from a tertiary care center in North India, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
2. Badal S, Anand V, Zulfiqar ML, Sirolia V, Kaur P, Singh S, Kumar A, Jauhari P, Chakrabarty B, Gulati S, Biotinidase deficiency a treatable IEM with infantile onset epilepsy and cutaneous involvement: Clinical profile and neurodevelopmental outcomes in five children at a tertiary care hospital in North India, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
3. Badal S, Sharma S, Parveen S, Khan S, Kumar P, Kumaran S, Jauhari P, Chakrabarty B, Pandey RM, Gulati S, Structured remedial intervention for Indian school going children up to Class VI having Specific Learning Disorder (SLD) with Dyslexia: A longitudinal study assessing change of brain activation profile using Functional MRI and Resting state MRI and clinical severity scores using standard tools post intervention of 12 weeks. (Selected for Junior Investigator Award), 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
4. Chakrabarty B, Gulati S, Jauhari P, Kumar A, Pandey RM, Panda P, Ananad V, Singh S, Kamila G, Saini S, Pandey T, Yadav S, Upadhyay A, Clinical features and outcome in single live parenchymal live neurocysticercosis and their correlation with serum matrix metalloproteinase 9: A longitudinal observational study, 16<sup>th</sup> International Child Neurology Congress, 2020, 12-23 October 2020., ICNC Virtual Congress, 2020
5. Chakrabarty B, Tiwari R, Gulati S, Jauhari P, Lodha R, Sankar J, Kumar A, Pandey RM, Sinha R, Gupta J, Zulfiqar ML, Upadhyay A, Kumar S, Clinico-electroencephalographic features and outcome in pediatric convulsive status epilepticus: A longitudinal observational study, 16<sup>th</sup> International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
6. Gulati S, Badal S, Chakrabarty B, Jauhari P, Anand V, Sirolia V, Kaur P, Zulfiqar ML, Singh S, Sinha R, Gupta J, Kamila G, Panda P, NM Shruti, Madaan P, Clinical profile of a cohort of 47 children with absence epilepsy at a tertiary care hospital from North India attending Child Neurology Services over a period of 3 years, 16th International Child Neurology Congress, 2020, 12-23 October 2020., ICNC Virtual Congress, 2020
7. Gulati S, Gupta A, Kaushik JS, Saini L, Sondhi V, Panda P, Sharma S, Development of AIIMS-Modified-INDT-ASD Diagnostic Tool for the Age Group 1-14 Years and a Screening Tool for Identifying the Early Signs of Autism Spectrum Disorder, INSAR 2020 Virtual Meeting, June 2020, INSAR 2020 Virtual Meeting
8. Gulati S, Gupta A, Sondhi V, Kaushik J, Saini L, Sharma S, Pandey RM, Development and evaluation of Autism screening instrument (AIIMS-ASD-Infant Screening tool) in children aged 1-18 months and DSM-5 based Autism diagnostic instrument (AIIMS-Modified-INDT-ASD tool) for children above 1 year, 16th International Child Neurology Congress, 2020, 12-23 October 2020., ICNC Virtual Congress, 2020



9. Gulati S, Sharma S, Gupta A, Panda P, Sharma R, Ahmad A, Pandey RM, Comparison of Blood Heavy Metal Levels and Quantitative EEG Correlates in Children with Autism Spectrum Disorder Aged 3-12 Years and Typically Developing Children: A Cross sectional study, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
10. Gulati S, Sharma S, Gupta A, Panda P, Sharma R, Ahmad A, Pandey RM, Comparison of Blood Heavy Metal Levels and Quantitative EEG Correlates in Children with Autism Spectrum Disorder Aged 3-12 Years and Typically Developing Children: a Cross sectional study, INSAR 2020 Virtual Meeting, June 2020, Virtual
11. Gulati S, Sharma S, Panda P, Clinical profile of children presenting with functional neurological complaints from a tertiary care center in north India, 16<sup>th</sup> International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
12. Gulati S, Sharma S, Panda P, Parveen S, Agrawal S, Rakholia V, Dahiya V, Comparison of symptom severity as per AIIMS Modified INDT-ADHD tool with Conner's Parent reported scale in 6-18-year-old children and adolescents with ADHD, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
13. Gulati S, Sharma S, Sinha R, Badal S, Sirolia V, Panda P, Khan S, Singh A, Squires J, Pandey RM, Abstract No - 18. Indian Adaptation and Validation of ASQ 3 (Ages and Stages Questionnaire) in Indian children 2 to 24 months of age, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
14. Gulati S, Sinha R, NM Shruti, Panda P, Jossy M, Yousaf J, Bhardwaj M, Parmar B, Thapliyal N, Pandey RM, Telephonic helpline and consultation for chronic childhood neurological disorders: a novel initiative., 16th International Child Neurology Congress, 2020, 12-23 October 2020., ICNC Virtual Congress, 2020
15. Gulati S, Sondhi V, Panda PK, Dubey R, Gupta A, Kaushik J S, Saini L, Sharma S, Early recognition of autism, comprehensive management, novel research initiatives, empowering health professionals and health care providers in a tertiary care center - experience over last 2 decades, INSAR 2020 Virtual Meeting, June 2020, INSAR 2020 Virtual Meeting
16. Gulati S, V Aparna, Rashmi H, Batish V, Sharma S, Grover S, Comparative analysis of gut microbiota between children with autism spectrum disorder and typically developing children: A PCR and metagenomic approach, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
17. Gupta J, Badal S, Jauhari P, Chakrabarty B, Gulati S, Acquired Childhood CNS Demyelination associated with Anti-MOG Antibody: A Retrospective Cohort., 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
18. Gupta J, Badal S, Sinha R, Jauhari P, Chakrabarty B, Jana M, Kumar A, Gulati S, Visual Outcome in Pediatric Optic Neuritis Cohort from a Tertiary Care Centre in India, 16<sup>th</sup> International Child Neurology Congress, 2020, 12-23 October 2020., ICNC Virtual Congress, 2020
19. Gupta J, Singh S, Sinha R, Anand V, Jauhari P, Kumar A, Chakrabarty B, Kumar A, Gulati S, Primary Hemophagocytic Lymphohistiocytosis Masquerading as Recurrent Haemorrhagic Demyelination, 16th International Child Neurology Congress, 2020, 12-23 October 2020., ICNC Virtual Congress, 2020
20. Kaur P, Kumar A, Chakrabarty B, Jauhari P, Pandey RM, Gulati S, Generation of ultrasound-muscle based parameters for evaluation of hypotonia in children aged 1 month to 18 years, 16th International Child Neurology Congress, 2020, 12-23 October 2020., ICNC Virtual Congress, 2020
21. Singh S, Kamila G, Jain A, Jauhari P, Chakrabarty B, Gulati S, Paroxysmal sympathetic hyperactivity in a child with malignant MCA stroke., 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
22. Singh S, Kamila G, Sinha R, Jauhari P, Chakrabarty B, Sharma MC, Kumar A, Gulati S, Clinical spectrum of Congenital Muscular Dystrophy - A seven-year experience from a tertiary care center of North India, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
23. Singh S, Sinha R, Badal S, Gulati S, Pyruvate dehydrogenase deficiency- presenting as episodic paralysis in a three-year-old girl, 16th International Child Neurology Congress, 2020, 12-23 October 2020., ICNC Virtual Congress, 2020
24. Sinha R, Badal S, Anand V, Singh S, Jauhari P, Chakrabarty B, Yadav S, Kumar S, Gulati S, Pandey RM, Clinical profile, EEG findings and response to treatment in patients with tuberous sclerosis from tertiary care center of North India, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
25. Sinha R, Panda P, SondhiV, Gupta J, Jauhari P, Chakrabarty B, Gulati S., To study the clinical profile and the response to immunotherapy in autoimmune encephalitis in children in a tertiary care center of North India., 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
26. Sinha R, Shruti NM, Luhar Z, Kaur P, Kumar A, Gulati S, Treatment responsive NDUFB1 mutation mitochondrial cytopathy, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020

27. Sirolia V, Singhal M, Singh U, Jauhari P, Chakrabarty B, Sharma S, Khan S, Pandey RM, Gulati S, To evaluate efficacy of Sensory Integration Therapy (SIT) reinforced with standard therapy in improving gross motor function in spastic cerebral palsy children aged  $\geq 3$  to 12 years with GMFM level I-III with sensory processing abnormalities, 16th International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020
28. Zulfiquar M, Chakrabarty B, Gulati S, Jauhari P, Pandey RM, Kabra S, Tripathi M, Jain V, Sikka K, Kaur P, Development and validation of ICSD-3 based screening questionnaire with overnight PSG for sleep disorders in children and adolescents: a community and hospital-based study, 16<sup>th</sup> International Child Neurology Congress, 2020, 12-23 October 2020, ICNC Virtual Congress, 2020

### ***Oncology***

1. Das G, NGS in JMML: a tool to Prognosticate and guide Management, XIIIth SIOP ASIA Congress, 19-21 March, 2021, Virtual
2. Praneetha M, Seth R, Kabra SK, Gupta AK, MeenaJP, Bisoi S, Pulmonary dysfunction in pediatric hodgkin lymphoma survivors- 5 years experience, XIIIth SIOP ASIA Congress, 19-21 March, 2021, Virtual
3. Seth R, Kapoor G, Arora R, Verma N, Mahajan A, Kumari P, Bhattacharya P, Radhakrishnan V, Gupta V, Jain P, Sharma S, The Indian Childhood Cancer Survivorship Study (C2s Study): After Treatment Completion Registry Of Childhood Cancers An Inpog- Late Effects Study”, XIIIth SIOP ASIA Congress, 19-21 March, 2021, Virtual
4. Seth R, Siri P, Thomas T, Das G, Kaur K, Wajid A, Sahoo D, Gupta AK, Meena JP, Day care facility & networking with non government organizations (ngos) for child cancer patients : a boon for resource constrained setting, XIIIth SIOP ASIA Congress, 19-21 March, 2021, Virtual
5. Srinivasan P, Das G, Sahoo D, Abdul Wajid M, Kaur K, Gupta AK, Meena JP, Seth R., Rosai-dorfman disease– a single tertiary care centre experience, XIIIth SIOP ASIA Congress, 19-21 March 2021, Virtual

### ***Pulmonology, Intensive Care, Tuberculosis***

1. Sankar J, Lodha R, Kabra SK, Balanced crystalloids vs normal saline in children with septic shock, EAPS 2020, October 16-19, 2020, Virtual, Oral presentation
2. Sankar J, Lodha R, Kabra SK, Use of Honey versus Standard Care for Hospital Acquired Pressure Injury in Critically Ill Children- A Multicenter Randomized Controlled Trial, EAPS 2020, October 16-19, 2020, Virtual, Oral presentation

### ***Rheumatology***

1. Bagri NK, Dulasi Durga K, Gupta A, Kandasamy D, Where is the leaky channel: Communicating calf swelling in systemic-onset juvenile idiopathic arthritis, 18th National Conference of Pediatric Rheumatology Society of India, 3-4 October 2020 Online
2. Bagri NK, Netaji AL, Jana M, Tripathy SK, Demystifying the cause of mono-articular arthritis using Imaging, 18th National Conference of Pediatric Rheumatology Society of India, 3-4 October 2020, Online
3. Bharadwaj U, Mittal D, Jana M, Bagri NK, Enigma of monoarticular hip arthritis, 18th National Conference of Pediatric Rheumatology Society of India, 3-4 October 2020, Online
4. Satapathy J, Bagri NK, Jana M, Dulasi Durga K, Pseudorheumatoid Arthropathy of Childhood: A Mimicker of Juvenile Idiopathic Arthritis, 18th National Conference of Pediatric Rheumatology Society of India, 3-4 October, 2020 Online
5. Satapathy J, Bagri NK, Jana M, Kumar R, Chronic Recurrent Multifocal Osteomyelitis, 18th National Conference of Pediatric Rheumatology Society of India, 3-4 October 2020, Online

### ***Lata Singh***

1. Singh L, Singh MK, Rizvi M, Pushker N, Bakhshi S, Meel R, Lomi N, Sen S, Kashyap S, Identification and validation of comparative expression patterns of immune checkpoint markers in primary and chemoreduced retinoblastoma, 52nd Congress of the International Society of Pediatric Oncology (SIOP 2020 (SIOP Award Session), 15 October 2020, Virtual

## **RESEARCH**

### **Funded projects (Ongoing)**

#### ***Endocrinology***

1. Efficacy of Metformin in reduction of hepatic fat fraction and insulin resistance in overweight adolescents with NAFLD: an RCT, Vandana Jain, ICMR, 3 years, 2018-2021, Rs 59.2 lakhs
2. Low cost and Painless Transdermal Smart Insulin Delivery Device, Vandana Jain, AIIMS-IIT Kharagpur grant, 2 years, 2019-2021, Rs 20 lakhs

3. The differential gain of fat and lean mass during first six months of life in healthy preterm infants: Determinants and impact on subsequent health, Vandana Jain, ICMR, 3 years, 2021-2024, Rs 24.5 lakhs
4. The effect of low glycemic index diet in the form of traditional Indian millets in obese children: a randomized controlled trial, Rajni Sharma, ICMR, 3 years, 2021-2024, Rs 32.7 lakhs

### **Genetics**

1. Breakpoint Mapping of Apparently Balanced Chromosome Rearrangements Associated with Clinical Phenotypes, Rashmi Shukla, AIIMS Intramural Grant, 2 years, 2019-2021, Rs 10 lakhs
2. Clinical and Molecular characterization of Indian patients with Classical Homocystinuria, Neerja Gupta (SRF awarded to Ms Puneeta), ICMR, 3 years, 2019-2021, Rs 14 lakhs
3. Comparison of dried blood spots and plasma samples for the quantification of amino acid using HPLC method among inborn error of amino acid metabolism patients, Pallavi Mishra, AIIMS Intramural Grant, 2 Years, 2019-2021, Rs 10 lakhs
4. Comprehensive evaluation of underlying molecular mechanisms of severe fetal and neonatal Mendelian developmental defects using whole exome sequencing, Neerja Gupta, Madhulika Kabra, DHR, July 2018, July-2020, Extended till February 2021, Rs 49.3 lakhs
5. Contribution of Copy Number and Sequence Variants in Cilia and Sonic Hedgehog Pathway Genes in the Formation of AVSD in Down Syndrome, Rashmi Shukla, ICMR, 3 years, 2019-2022, 65 lakhs
6. Deciphering idiopathic intellectual disability (DIID) through Next Generation Sequencing (DIID-NGS study), Neerja Gupta, Madhulika Kabra, DBT, April 2018-April 2021, Rs 86,81, 682
7. Deciphering molecular pathogenesis and clinical spectrum of Isolated Lateralized Overgrowth/Isolated Hemihyperplasia, Dr Madhumita Roy Chowdhury, AIIMS Intramural, 2 years, 2018-2020, Rs 10 lakhs
8. Development of a high throughput genome editing pipeline based on an orthologous CRISPER/Cas9 system (FnCas9) and its application in the generation of 3D organoides for disease modelling and correction” In collaboration with IGIB, Madhulika Kabra, Neerja Gupta, Madhumita, Roy Chowdhury, DBT, 2019-2021, Rs 1.2 crores
9. Evaluation of geno-phenome of Indian patients with skeletal dysplasia using comprehensive genomic evaluation and translational bioinformatics, Neerja Gupta, Madhulika Kabra, ICMR, 2019-2022, Rs 57 lakhs
10. Evaluation of read through compounds for nonsense suppression of ATM mutations in Indian patients, Rashmi Shukla, ICMR, 3 years, 2019-2022, Rs 45 lakhs
11. Ex vivo Correction of ATM Splice Variants Using Antisense Oligonucleotides, Dr. Rashmi Shukla (SRF Fellowship awarded to Ms Akhila Sankar), ICMR, 3 years, 2019-2022, Rs 16 lakhs
12. Functional Characterisation and Antisense Oligonucleotide (AON) Mediated Correction of Novel ATM Variants, Rashmi Shukla, ICMR, 3 years, 2021-2024, Rs 50 lakhs
13. ICMR Registry for Rare and other inherited disorders, Madhulika Kabra, Neerja Gupta, ICMR, 2019-2025, Rs 1.09 Crores
14. Identification of variants in known/new genes and functional characterization of novel variants in a retrospective cohort of patients with Ectodermal Dysplasia, Madhulika Kabra (SRA awarded to Shweta Kushmaker), ICMR, 2 years, 2020-2021, Rs 14 lakhs
15. Non-invasive prenatal detection of de novo trisomies (Down’s syndrome) from maternal blood samples, Madhulika Kabra, Dr Neerja Gupta, Rashmi Shukla, Seq India, 2018-2021, Rs 12 lakhs
16. Quality assurance for birth defects and microcephaly surveillance in the SEAR, Madhulika Kabra, Neerja Gupta, WHO, 2020-2021, Rs 12 lakhs
17. Study of single nucleotide polymorphism in TNF, TNFAIP3, TNIP1, TRAF3IP2, IL12B, IL23R, IL17 and HLA-C gene in Indian psoriasis patients and their association with clinical characteristics”, Dr Madhumita, Roy Chowdhury (SRF Fellowship awarded to Ms. Sonam Singh), ICMR, 3 years, 2019-2021, Rs 14 lakhs
18. Training of Clinicians cum Creation of Genetic Diagnostic unit’ in Human Genetics with an Aspirational District component under Unique Methods of Management and treatment of Inherited Disorders (UMMID) initiative, Madhulika Kabra, Neerja Gupta, DBT, 2019-2022, Rs 4 crore

### **Neonatology**

1. Burden of multidrug-resistant neonatal sepsis in district hospital settings in India, M Jeeva Sankar, BMGF, US, 2½ years, 2019-2021, USD 12,43,286  
Effect of SMOFLipid (R) vs. Intralipid(R) on time to regain birth weight in preterm neonates (>=34 weeks): A Randomized control Trial, Anu Sachdeva, AIIMS, 2 years, 2020-2022, Rs 4,25,000 (per year)
2. Identification of potential pathogen(s) among neonates with culture-negative sepsis, Kajal Jain, DBT, 5 years, March 2021-February 2026, Rs 2,41,62,700

3. NeoAMR Global Neonatal Sepsis Observational Study (NeoOBS): a prospective cohort study of sepsis in hospitalized neonates, Prof. Ramesh Agarwal & Dr Kajal Jain, GARDP, Swaziland, 1½ years, 2018-2020, Rs INR 1,51,35,291
4. Sepsis-related mortality in neonates in India: A multi-disciplinary, multi-institutional research program for context-specific solutions, M Jeeva Sankar, DBT, 5 years, March 2021-February 2026, Rs 45,52,17,307/-
5. To provide technical support to sustain the regional learning platform for improving quality of care, Ashok Deorari, WHO, 1 year, 2020-2021, Rs 34,44,000

### ***Nephrology***

1. Autoantibody associated alternative complement pathway dysregulation in nephrotic syndrome secondary to membranoproliferative glomerulonephritis, Pankaj Hari, DBT, 3 years, 2017-2019
2. Establishing a biorepository & registry for patients with hemolytic uremic syndrome, Arvind Bagga, ICMR, 5 years, 2017-2022
3. Formulating & disseminating evidence-based guidelines for diagnosis & therapy of childhood renal illnesses, Arvind Bagga, ICMR, 5 years, 2017-2022
4. Infectious and genetic triggers in children with hemolytic uremic syndrome, Arvind Bagga, ICMR, 3 years, 2020-2023, Rs 82 lakhs
5. Open label, randomized, controlled trial to compare the efficacy of daily therapy with low dose prednisolone vs standard therapy on alternate days in patients with frequently relapsing or steroid dependent nephrotic syndrome, Arvind Bagga, ICMR, 5 years, 2017-2022
6. Pediatric Renal Biology Program: Research on nephrotic syndrome, Arvind Bagga, DBT, 5 years, 2016-2021, Rs 8 Crore
7. Pilot study of genetic variations among Indian children with vesicoureteral reflux, Pankaj Hari, ICMR, 5 years, 2017-2022
8. Proposal for ICMR Advanced Centre for Research in Pediatric Kidney Diseases, Arvind Bagga, ICMR, 5 years, 2017-2022, Rs 16,095,653/-
9. Randomised open labeled controlled trial to compare the efficacy and safety of levamisole versus long term alternate days steroids made daily during infection, in patients with frequently relapsing steroid sensitive nephrotic syndrome, Arvind Bagga, ICMR, 5 years, 2017-2022, Included in above
10. Randomised, multicentric, open label, parallel group trial to compare the efficacy of 6-months versus 3-months therapy with prednisolone for the first episode of idiopathic nephrotic syndrome in children younger than 4 years, Arvind Bagga, DBT, 5 years, 2016-2021, Included in above
11. Serum and urinary microRNAs as biomarkers of renal histology and response to therapy in children with steroid resistant nephrotic syndrome, Arvind Bagga, DBT, 5 years, 2016-2019
12. Setting up registry and targeted exome sequencing in children with renal tubular disorders, Arvind Bagga, ICMR, 3 years, 2020-2023, Rs 6 lakhs
13. The genetic basis of cystic kidney diseases in children, Aditi Sinha, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
14. Whole exome sequencing in patients with non-diarrheal & non-autoimmune form of hemolytic uremic syndrome, Arvind Bagga, ICMR, 5 years, 2017-2022

### ***Neurology***

1. A Multicentric Cross-sectional Study of Leukodystrophies in India: A Pilot Project , Dr Sheffali Site PI, IAN, 1 year, 2020, Rs 5 lakhs to Coordinating site PGI, Chandigarh  
A Phase 3, Randomised, Double blind, Placebo-controlled efficacy and safety study of Ataluren in patients with non sense mutation Duchenne Muscular Dystrophy and Open label extension, Sheffali Gulati (Site PI), PTC Therapeutics, USA, 2 years, 2019 - currently ongoing, Rs 50 lakhs
2. Center of Excellence and Advanced Research on Childhood Neurodevelopmental disorders with its projects in 5 thrust areas, Sheffali Gulati (PI), AIIMS GIA (supported by MOHFW) and IIFCL (as part of its CSR), 5 years, December 2017 currently ongoing, Rs 11.3 crores (6.3 +5)
3. COMPASS: Communication-focused parent-mediated treatment for Autism Spectrum Disorder in South Asia trial (University of Manchester and Sangath), Sheffali Gulati (Site PI), MRC, UK, 4 years, 2018- currently ongoing, Rs 11.2 crores to MRC, none to AIIMS
4. Developing reinforcement based AI model for improvising the predictive skills of individuals with autism, Sheffali Gulati PI (AIIMS), AIIMS – IIT Delhi Collaborative Research Project, 2 years, 2019-2021, Rs 5,00,000 lakhs



5. Differentiating monophasic and recurrent acquired demyelinating disorders of childhood and adolescence: an HLA typing, serum and CSF inflammatory biomarkers based longitudinal observational study, Dr. Biswaroop Chakrabarty, AIIMS-IRG, 2 years, 2020, Rs. 10 lakhs
6. Mobile app based Augmentative and Alternative Communication based intervention in Children with ASD, Sheffali Gulati (Mentor), AIIMS UG Research mentorship Scheme, 2 years, 2019 onwards, Rs 2 lakhs
7. Multi center randomized double blind placebo controlled trial to evaluate the effects of intra erythrocyte dexamethasone sodium phosphate on neurological symptoms in patients with Ataxia Telangiectasia, Sheffali Gulati (Site PI), Ery Del, S.p.A, Italy, 2 years, 2018- currently ongoing but currently open label extension 2021, Rs 72 lakhs
8. To compare efficacy and safety of Melatonin and Triclofos in inducing sleep in children posted for sleep deprived sleep EEG: A double blind, parallel design, randomised clinical trial, Prashant Jauhari, AIIMS-UG Mentorship scheme, 1 year, 2019, Rs 2lakhs
9. To determine the clinical and neuroimaging characteristics and outcomes of Febrile Infection-Related Epilepsy Syndrome (FIRES) in children, Sheffali Gulati (AIIMS) Prof. J Helen Cross (UCL PI), AIIMS-UCL collaboration, 1 year, 2020, Rs 5 lakhs to AIIMS
10. To evaluate the efficacy of oral probiotic supplementation in children with Autism Spectrum Disorders (Asds): A randomised double blind, placebo controlled trial, Sheffali Gulati (Site PI), ICMR, 3 years, 2019- September currently ongoing, Rs 33,32,868
11. To evaluate the feasibility of multigene panel for diagnosis and management of Autism Spectrum Disorder in early neonatal period (< 7days), Dr Sheffali Gulati CoPI, ICMR, 3 years, 2020, Rs 2.85 crores (not coming to AIIMS any funds but to Genekart research)

### ***Oncology***

1. A collaborative, multicenter, national study for newly diagnosed patients with acute lymphoblastic leukaemia (ICiCle), Rachna Seth, National Cancer Grid & ICMR, 5 years, 2017-2022, Rs.30 lakhs jointly received for Pediatrics & IRCH (Dr Sameer Bakhshi) As both are site PIs
2. “Chemo to Cure (C TO C)” study of cancer survivorship, Dr Rachna Seth, JIV DAYA foundation, 8 years, 2011-2021, Rs 1.2 crore
3. Detection of circulating cell free micro-RNA in the blood samples of Neuroblastoma patients and its clinical correlation, Aditya Kumar Gupta, AIIMS intramural, 2 years, September-2020-2022, Rs 10 lakhs
4. Genomics and Clinical Outcome of Pediatric Acute Myeloid Leukemia (AML) Relapse, Jagdish Prasad Meena, ICMR, 3 years, 16 March 2021-15 March 2024, Rs 45,15,254
5. Improving Nutrition in Children with Cancer, Rachna Seth, Cuddles foundation, 3 years, 2020-2023, Rs 11,20,000
6. Integrated molecular biology of biological markers: Role of copy number alterations of genes in Indian Childhood B Lineage Acute Lymphoblastic Leukemia, Nivedita, Rachna Seth as mentor, UGC women Scientist Fellowship, 5 years, 2018-2022, Rs 40 lakhs
7. Mapping the Genomic Landscape of Indian JMML patients by whole exome sequencing, Dr Aditya Kumar Gupta, ICMR, 3 years, 1 March 2021-28 February 2024, Rs 44,71,278
8. Pro-Adrenomedullin as a Novel Biomarker for Predicting Infections and Response to Antimicrobial Therapy in Febrile Neutropenic Children with Cancer and its Comparison to Procalcitonin, Jagdish Prasad Meena, DST, 3 years, 2020-2023, Rs 42,18,500
9. Prospective Collaborative Study for Relapsed/Refractory Hodgkin Lymphoma, Aditya Kumar Gupta (Site PI), InPOG, 5 years, 2019-2024
10. The Indian Childhood Cancer Survivorship Study (C<sub>2</sub>S study), After treatment completion registry of childhood cancers: Multicentre study, Rachna Seth, InPoG Study, 10 years, 2016-2026
11. To determine the role of Ikzf1 gene and various IKAROS isoforms in pathogenesis of B cell acute lymphoblastic leukemia (BALL) in Indian pediatric population, Dr. Kakali Purkayasta, Rachna Seth, As mentor, DBT under BIO CARE grant, 3 years, 2018-2020, Rs.60 lakhs
12. Use of Biomarkers and Imaging for early detection and treatment of chemotherapy induced cardio toxicity in newly diagnosed children of acute leukemia, Rachna Seth, ICMR, 3 years, 2019-2022, Rs 70,68,462

### ***Pulmonology***

1. A Study for Evaluation of the performance of the stool Processing Kit Combined with Xpert MTB/RIF Ultra for Paediatrics TB Diagnosis, Prof. Rakesh Lodha, FIND INDIA, 2 years, 2019-2021, Rs 42,82,173



2. Biomarkers of Acute Gastrointestinal Injury in Critically ill Children, Prof. Rakesh Lodha, ICMR, 2 years, 2019-2021, Rs 55,84,488
3. Center for advance research in Pediatric Respiratory Diseases. Indian Council of Medical Research, 2018-2023. Investigators:, Rakesh Lodha, Kanaram Jat, Jhuma Sankar, Funds 6.2 crores Projects as follows ((NI 1032)
  - a. Capacity building for management of chronic respiratory disorders in children.
  - b. Cystic Fibrosis in India: Prevalence, Mutation Profile and Development of Registry
  - c. Interstitial lung disease in children
  - d. Point of care testing for Primary Ciliary Dyskinesia in Children.
  - e. Respiratory Complications of Primary and Acquired Immunodeficiency Disorders in children, SK kabra, ICMR, 5 years, 2018, Rs 6 crores
4. COVID-19 in children- risk factors for mortality and morbidity, Jhuma Sankar, AIIMS, 2 years, 2020-2021 (ongoing), Rs 3.6 lakhs
5. Dengue Infection in India (N1602), SK Kabra, NIH, 5 years, 2015, Rs 90 lakhs
6. Detection of genetic mutations profile of Primary Ciliary Dyskinesia and correlation of mutation with clinical phenotype in Indian Children, Kana Ram Jat, DBT, New Delhi, 3 years, 2018-2021, Rs 30.86 lakhs
7. Early detection of Sepsis in neonatal and Pediatric ICUs through integration of clinical and big data, Prof. Rakesh Lodha, Wellcome Trust DBT Alliance, 6 years, 2015-2021, Rs 3,81,16,842
8. Human B Cell responses and receptor repertoire in dengue patients from India, Prof. Rakesh Lodha, DBT, 2 years, 2019-2021, Rs 46,60,000
9. Prevalence of mycoplasma and chlamydia infection in children with poorly controlled asthma, Kana Ram Jat, Institute Research Grant, 2 years, 2019-2021, Rs 9.8 lakhs
10. Procalcitonin guided antibiotic therapy in children, Jhuma Sankar, ICMR, 3 years, 2019-2021, Rs 81 lakhs
11. Signs of shock in children, Jhuma Sankar, DST, 3 years, 2019-2021, 33.76 lakhs
12. Systematic Pulmonary Tuberculosis Case finding among severely malnourished children admitted to nutritional rehabilitation centres”. (I 1031), SK Kabra, ICMR, 2 years, 2018, Rs 1420900
13. Translation Research Consortium for establishing platform Technologies to support Prophylactic and Therapeutic Strategies for Dengue Discovery to Proof-of-Concept, Rakesh Lodha, BIRAC, 4 years, 2019-2023, Rs 1,61,00,000

### ***Rheumatology***

1. Predictors of outcomes in Juvenile Dermatomyositis: a cross-sectional study, NK Bagri (Mentor), Institute UG research grant, 2 years, 2020- ongoing, Rs 1,94,000/-
2. To explore the role of synovial fluid proteomics in predicting the disease course and subtypes of Juvenile Idiopathic Arthritis”, NK Bagri, ICMR, 3 years, 2019-ongoing, Rs 42,12,984/-
3. To study the prevalence, clinical characteristics and outcome of Pediatric multisystem inflammatory syndrome associated with COVID-19, NK Bagri, Intramural research grant, 1 year, 2020- ongoing, Rs 6,75,240/

### **Completed**

#### ***Endocrinology***

1. Optimizing insulin and diet regimes for children with type 1 diabetes in low resource settings, Vandana Jain, Department of Health Research, 2.5 years, 2017-2020, Rs 25.0 lakhs

#### ***Gastroenterology***

1. Role if Intestinal Fatty Acid binding protein and Citrulline in the diagnosis of Celiac disease and evaluation of Compliance on follow up, Rohan Malik, Intramural, 1 year, 2019-2020, 5 lakhs

#### ***Neonatology***

1. Development of videos for practical procedures in newborn nursery and in-service training of doctors and nurses, Prof. Ashok Deorari, WHO, 8 months, 2020-2021, Rs 13.,20,000 lakhs
2. Development of webinars for essential and sick newborn care for pre-service and in-service training of doctors and nurses, Prof. Ashok Deorari, WHO, 10 months, 2020-2021, Rs 14,90,000
3. Multi-system health outcomes (neurodevelopment, growth, respiratory, cardiac, metabolic and renal) of extremely preterm (<28 weeks OR <1000 g) at 2-5 years of age, Anu Sachdeva, AIIMS, 1 year, 2019-2020, RsINR 5,00,000
4. NeoAMR Global Neonatal Sepsis Observational Study (NeoOBS): a prospective cohort study of sepsis in hospitalized neonates, Prof. Ramesh Agarwal, ICMR, 1 ½ years, 2018-2020, Rs 1,02,46,226

5. To establish the comprehensive lactation management centre (CLMC) to universalize access and uptake of human milk for babies to improve neonatal outcomes, Kajal Jain, CHRI, India, 3 years, 2018-2021, RsINR 18,31,600 and equipment for CLMC
6. To provide technical support to sustain the regional learning platform for improving quality of care, Prof. Ashok Deorari, WHO, 1 year, 2020-2021, Rs 34,44,000
7. Understanding disease biology and diagnosis of bacterial sepsis in hospitalized neonates: A multi-centre study, Prof. Ramesh Agarwal, DBT, India, 5 years, 2015-2020, Rs 2,09,12,624
8. WHO guidelines on postnatal care of the mother and the newborn, M Jeeva Sankar, WHO, 4 Months, 2019-2020, Rs 714900

### ***Nephrology***

1. Anti-complement factor H (FH) associated hemolytic uremic syndrome (HUS) in children: Immunological and genetic basis, and functional characterization of autoantibodies, Aditi Sinha, DST, 3 years, 2017-2020, Rs 68,21,200

### ***Neurology***

1. A Randomised, double blind placebo controlled six month study to evaluate the efficacy, safety and tolerability of Sarizotan in patients with Rett syndrome with respiratory symptoms, Sheffali Gulati (Site PI), Neuron Pharmaceuticals, Italy, 2 years, 2017-2020, 42 lakhs
2. Serum matrix metalloproteinase- 9: a potential biomarker for predicting calcification and epilepsy in Neurocysticercosis; a longitudinal observational study, Dr. Biswaroop Chakrabarty, AIIMS IRG, 2 years, 2017-2020, 5 lakhs
3. Serum sICAM5 and MP9/TIMP1 Ratio: Potential Predictors of Disease Activity In Children With Encephalopathy With Electrical Status In Sleep (ESES) Syndrome, Dr Prashant Jauhari, Intramural (Institute Research Grant, AIIMS, New Delhi), 2 years, 2017-2020, 5 lakhs

### ***Oncology***

1. Molecular alterations in childhood acute lymphoblastic leukemia (ALL): Role of Cytokine receptor-like Factor-2 (CRLF2) rearrangements and Janus kinase (JAK) mutation, Rachna Seth, ICMR, 3 years, 2015-2019, Rs 38,00,000
2. Molecular evaluation of gene copy number variations and mutation profile in pediatric Acute Myeloid Leukemia (AML) patients and its association with disease prognosis, Jagdish Prasad Meena, AIIMS, 2 years, 2018-2020, Rs 10,00,000

### ***Pulmonology and Intensive Care***

1. Balanced salt versus normal saline in initial fluid resuscitation in septic shock, Jhuma Sankar, DST, 3, 2017-2019 (completed in 2020 April), Rs 71 lakhs
2. Dengue Virus Infection in India, Prof. Rakesh Lodha, NIH, USA, 5 years, 14-08-2015-31-01-2021, Rs. 99,00,000
3. Longitudinal Big-Data Mining for Prediction and precision in Critical care Medicine, Rakesh Lodha, DST, 2 years, 5 March 2018-4 September 2020, Rs 35,74,668

## **Departmental projects**

### ***Ongoing***

#### ***Endocrinology***

1. Fat gain trajectory from birth to 6 months in healthy infants, and its effect on serum insulin, IGF-1 and adiponectin at 2 years of age
2. Impact of CovidCOVID-19 restrictions on physical activity and glycemetic control in children with type 1 diabetes mellitus.
3. Psychological impact on parents of children born with atypical genitalia in India
4. Smartphone applications-based intervention to reduce body mass index and improve health related behavior among school children with overweight/obesity: A controlled clinical trial
5. Validity of Predicted Adult Height Estimation Methods in Indian Children with Idiopathic Short Stature
6. Vitamin D Supplementation and Glycemic Status in Children and Adolescents with Type 1 Diabetes Mellitus: A Double Blinded Randomised Controlled Study

#### ***Gastroenterology***

1. Generating a noninvasive predictive model for gastroesophageal Varices
2. Validation of IMPACT II in PIBD in Indian children

## ***Genetics***

1. Clinical and Molecular Characterization of Congenital Limb Defects Using Genomic Approaches
2. Clinical, radiological and molecular profiling of uncharacterized skeletal dysplasias
3. Evaluation of trisaccharide BM-652 as a potential biomarker in serum of ERT naive patients with MPS I and MPS II aged 6 months-18 years
4. miRNA 132 expression in serum of children with Down syndrome: A potential marker of severity of Developmental delay
5. Prevalence of autoantibodies for common autoimmune disorders and their correlation with PTPN11 variants in patients with Noonan Syndrome
6. Utility of rapid trio whole exome sequencing in critically ill children in the Intensive care unit

## ***Neonatology***

1. Antiseptic efficacy and plasma chlorhexidine levels following two different methods of application of 1% aqueous chlorhexidine gluconate for skin disinfection in preterm newborns: A blinded, parallel group, trial
2. Development and validation of a prediction model based on machine learning for early recognition of multi-drug resistance in newborns with sepsis admitted in a tertiary health centre
3. Incidence of respiratory syncytial virus (RSV) infection until first 6 months of corrected age in preterm infants (<32 weeks' gestation) with bronchopulmonary dysplasia: A prospective cohort study
4. Incidence of vertical transmission of covid 19 infection in a tertiary hospital in India - A prospective study
5. Post procedure pain in preterm neonates undergoing retinopathy of prematurity screening: A descriptive study
6. Risk factors for failure of caffeine therapy in very preterm neonates: An ambispective cohort study
7. Safety and feasibility of early transition of care of 'stable preterm neonates' of 28 to 33 weeks of gestation from 'largely provider driven' to 'largely mother driven' setup (step-down NICU to the postnatal ward): A single arm interventional study
8. Umbilical cord blood culture positivity in preterm and term neonates - prospective cohort study
9. Validation of three clinical prediction scores for predicting bronchopulmonary dysplasia in Indian preterm neonates - An Ambispective Cohort study

## ***Nephrology***

1. Efficacy and safety of abbreviated protocol of plasma exchange in Anti-factor H associated atypical HUS
2. Efficacy of intravenous rituximab versus oral mycophenolate mofetil in sustaining remission in steroid resistant nephrotic syndrome maintained on calcineurin inhibitors for more than 2-years: Open-label non-inferiority randomized controlled trial
3. Furosemide stress test in predicting progression to acute kidney injury (AKI) stage 3 in children admitted to the ICU with early stages of AKI
4. Long-term safety of rituximab therapy in children with NS: Prevalence of human anti-chimeric antibodies, hypogammaglobulinemia and BK and JC viraemia
5. Medium term outcomes in patients with primary renal tubular acidosis: Cross-sectional observational study
6. Prevalence of anti-neutrophil cytoplasmic antibodies in children with nephrotic syndrome receiving levamisole
7. Prevalence of anti-tissue transglutaminase (tTG) antibodies in patients with idiopathic steroid sensitive nephrotic syndrome: A cross-sectional observational study
8. Short term efficacy and safety of atorvastatin for treatment of dyslipidemia in children with chronic kidney disease

## ***Neurology***

1. Analysis of predictors of response to hormonal therapy in children with treatment naive West Syndrome with qEEG, serum biomarkers, fMRI and DTI: An observational study
2. Cortical excitability in children aged 5 to 12 years with Electrical Status Epilepticus in Sleep (ESES) compared to non-epileptic healthy children using Transcranial Magnetic Stimulation
3. Diagnostic and treatment gap in Neurodevelopmental Disorders in children aged 1 month to 18 years: An observational study
4. Estimating the incidence and pattern of paradoxical reactions in CNS tuberculosis

5. Evaluation of Theta Burst Transcranial Magnetic Stimulation as an adjunct to standard therapy in improving core function deficits in children 5–15-year age with Autism Spectrum Disorder-a randomized, double blind, sham controlled trial
6. Five Days versus Fourteen Days Oral Dexamethasone in Children and Adolescents (aged 5-18 years) with Parenchymal Neurocysticercosis (up to 5 lesions): An Open Labelled Clustered Randomized Superiority Trial
7. Neural correlates of Primary Monosymptomatic Nocturnal Enuresis: an autonomic function testing and polysomnography-based study
8. Optimal EEG duration in children and adolescents with seizures: An observational study
9. Remediating Indian school going children having Specific learning disorder with Dyslexia using Artificial Intelligence based structured intervention program: A longitudinal intervention study
10. Single arm intervention study of low frequency repetitive transcranial magnetic stimulation (rTMS) therapy in steroid resistance /relapsed ESES in children aged 5-12 years
11. Sleep related breathing disorders in children with dystrophinopathy aged 5-18 years on oral steroids for at least 6 months: A cross sectional study

### ***Oncology***

1. Assessment of dysregulated adipokines in survivors of acute lymphoblastic leukemia
2. Association of *IKZF1* gene alterations and *Cytokine Receptor Like Factor 2 (CRLF2)* expression with prognostic markers at presentation and response to induction chemotherapy in Indian children with Acute Lymphoblastic Leukemia (ALL)
3. Clinical utility of serum Survivin levels in retinoblastoma
4. Early discontinuation of empirical anti-fungal therapy in pediatric febrile neutropenia- a randomized feasibility trial
5. Effect of addition of irradiated buffy coat derived Granulocyte transfusion to the standard of care in children with post chemotherapy high risk febrile neutropenia in decreasing mortality – An open label Randomized controlled trial
6. Efficacy and safety of zinc in the prevention of oral mucositis in children with cancer receiving intensified chemotherapy: A Randomised Double-Blind Placebo-Controlled Trial
7. Pulmonary dysfunction in Hodgkin Lymphoma survivors
8. Safety of Procalcitonin Guided Discontinuation of Antibiotic Therapy among Children Receiving Cancer Chemotherapy and Having Low Risk Febrile Neutropenia – A Randomized Non-Inferiority Trial (ProFenC study)
9. Significance of “End of treatment FDG-PET/CT” in newly diagnosed children with Hodgkin Lymphoma – A Prospective Observational Study
10. The Incidence and Risk Factors for Occurrence of Acute Kidney Injury in Newly Diagnosed Pediatric Patients with Acute Lymphoblastic Leukemia receiving High Dose Methotrexate
11. To study the prevalence and the risk factors of psychiatric morbidities and sleep disturbances in pediatric Acute lymphoblastic leukemia survivors

### ***Pulmonology, Intensive Care, Tuberculosis***

1. A combination therapy of Norepinephrine PLUS Dobutamine as a first line agent in fluid refractory pediatric septic shock.
2. A pilot study on the causal relationship of gastro-esophageal reflux and obstructive adenoid or adeno-tonsillar hypertrophy in paediatric population
3. Azithromycin for Poorly Controlled Asthma in Children: A Randomized Controlled Trial.
4. Burden of Invasive Fungal Infections in Critically Ill Children
5. Coagulation dysfunction as assessed by thromboelastography (TEG) in critically sick children with severe sepsis
6. Comparison of protocol based continuous and intermittent tube feeding in mechanically ventilated critically ill children - an open label randomised control trial.
7. COVID-19 in children – risk factors for morbidity and mortality
8. Depression and coping strategies used among adolescents with cystic fibrosis: an exploratory survey.
9. Determining optimal depth of insertion in intubated patients using USG
10. Development and Validation of a Weight Estimation Tool for Acutely Ill Children Who Cannot be weighed.
11. Early versus delayed initiation of parenteral nutrition in critically ill children

12. Efficacy of Pulse Dexamethasone in addition to standard therapy versus standard therapy alone in children with Juvenile Idiopathic Arthritis: A double blind randomised controlled trial
13. Evaluation of HIV-1 subtype C Envelop in infected children
14. Functional outcomes of children with severe sepsis
15. Neurological outcomes in critically ill children
16. Prevalence and Risk factors of Cystic fibrosis Related Diabetes in children with cystic fibrosis- a cross sectional study.
17. Prevalence Of Pneumocystis Jirovecii In Induced Sputum And Broncho-Alveolar Lavage Fluid Of Adults And Children With Bronchiectasis By Polymerase Chain Reaction And 1→ 3 Beta D Glucan Assay.
18. Pulmonary dysfunction in Hodgkin Lymphoma survivors.
19. Study Of Bacterial Infections In A Cohort Of Patients Clinically Diagnosed Of Pneumocystis *Jirovecii* Pneumonia (Pjp)/ *Pneumocystis* Pneumonia (Pcp) And Its Impact On Outcome Of The Disease.
20. To develop algorithm for diagnosis of cystic fibrosis in resource limited setting using clinical features, lab tests and aquagenic wrinkling of palms
21. To evaluate infant Pulmonary Function Test (Tidal Breathing Flow Volume Loop and Raised Volume Rapid Thoracic Compression) in children <18 months with suspected airway malacia and to correlate it with bronchoscopic findings

### **Rheumatology**

1. To estimate the prevalence of abnormal lung function tests in children (aged 6-18years) with juvenile idiopathic arthritis: A cross sectional study
2. To estimate the prevalence of articular and extra-articular damage in children with juvenile idiopathic arthritis: A cross sectional study

### **Completed**

#### **Endocrinology**

1. Body composition in preterm newborns at birth and in early infancy by air displacement plethysmography: A longitudinal study

#### **Gastroenterology**

1. Role of IFABP in the noninvasive diagnosis of Celiac disease

#### **Genetics**

1. Prevalence of microdeletions in NF1 gene and evaluation of phenotypic spectrum of patients with Neurofibromatosis Type 1
2. To study the prevalence of dosage anomalies at 22q11 locus and Evaluate the phenotypic spectrum of facio-auriculo-ocular spectrum disorders

#### **Neonatology**

1. Body composition (Fat mass and fat free mass) in preterm (28-34 week) Very low birth weight (<1500 g) infants fed unfortified breast milk compared to fortified breast milk: A Randomized controlled trial
2. Comparison of performance of two point-of-care glucose meters in detection of hypoglycemia among at-risk neonates
3. Developing a counselling package for the mothers and the families for care of neonates born with weight between 1800g to 2499 g
4. Devising A Formula For The Insertion Length of Peripherally Inserted Central Catheter (PICC) In Indian Newborns – A Prospective Observational Study
5. Diagnostic accuracy of predictive algorithms in detecting retinopathy of prematurity
6. Effect of visual inspection based abdominal monitoring vs routine prefeed abdominal girth monitoring on time to reach full enteral feeds in preterm neonates (= 32 weeks? gestation) - A randomized controlled trial
7. Efficacy of two different chlorhexidine gluconate preparations for skin antisepsis in neonates: a non inferiority randomized trial
8. Feasibility, effectiveness and sustainability of the implementation of —facility-team-driven approach for improving the quality of care in the Special Newborn Care Unit in South India



### ***Nephrology***

1. Body composition monitoring in patients on hemodialysis
2. Efficacy and safety of intravenous rituximab versus tacrolimus for frequently relapsing nephrotic syndrome
3. Feasibility and efficacy of sustained low efficiency dialysis in critically ill children with severe acute kidney injury
4. Functional characterization of anti-FH antibodies in patients with hemolytic uremic syndrome

### ***Neurology***

1. A Randomised Sham Controlled Trial of Targeted Low Frequency rTMS Therapy in Childhood and Adolescent Focal Onset Refractory Epilepsy
2. Childhood and Adolescent Sleep Awareness in Caregivers and Health care Professionals: a Community and Hospital Based Survey
3. Comparison of oxidative biomarkers between Autism Spectrum Disorders and Typically Developing children between 2-18 years of age
4. DTI, fMRI and qEEG correlates of cognition and behavior in children and adolescents with well controlled nonlesional epilepsy: An observational study
5. Estimating the prevalence of sensory processing abnormalities in children aged 3-15 years with cerebral palsy using the sensory profile caregiver questionnaire 2: a cross sectional observational study
6. Evaluation of repetitive Transcranial Magnetic Stimulation as an adjunct to modified Constraint Induced Movement Therapy in improving Upper Limb Function in Children with Hemiparetic Cerebral palsy aged 5-18 years - A Randomized Controlled Trial

### ***Oncology***

1. Characterization of bone marrow involvement in pediatric hodgkin lymphoma using 18F-FDG PET/CT and its comparison with blind bone marrow biopsy
2. Efficacy and safety of olanzapine as an add on therapy in children receiving highly emetogenic chemotherapy. A randomized double blind placebo controlled study
3. Incidence and determinants of outcome of neutropenic enterocolitis in pediatric cancer patients
4. Ketamine Mouthwash versus Placebo in the Treatment of Severe Oral Mucositis Pain in Children with Cancer; A randomized double-blind Placebo-controlled trial
5. Neutropenic Diet vs Standard Indian diet in reducing the incidence of febrile neutropenia following chemotherapy in pediatric oncology patients: A Randomized controlled Trial

### ***Pulmonology, Intensive Care, Tuberculosis***

1. A Study on clinical profile and outcome of Chronic pulmonary aspergillosis patients attending speciality clinic in tertiary hospital in North India
2. Decreasing administration of first dose of antibiotics in is associated with increased mortality in children with septic shock
3. Development and validation of a weight estimation tool for acutely ill children who cannot be weighed
4. Dexmedetomidine versus midazolam for sedation in mechanically ventilated children: A randomized control trial
5. Establishment of cut off values for various Impulse oscillometry parameters for detection of exercise induced bronchoconstriction in children with asthma aged 6-15 years”
6. Evaluation of acute gut injury in critically ill children.
7. Norepinephrine versus epinephrine in children with septic shock
8. Risk factors for mortality in children with severe dehydration and shock
9. Risk factors for sepsis induced myocardial dysfunction
10. To study role of highly sensitive C reactive protein in assessment of asthma control in children
11. To study the infant pulmonary function tests (IPFT) in children with airway anomalies and to correlate these with bronchoscopy finding

### ***Rheumatology***

1. Efficacy of Pulse Dexamethasone in addition to standard therapy versus standard therapy alone in children with Juvenile Idiopathic Arthritis: A double blind randomized controlled trial

## **Collaborative projects**

### ***Ongoing***

#### ***Endocrinology***

1. A randomized controlled trial comparing the effects of multiple micronutrient supplement (including iron) with oral iron and folic acid, for iron deficiency anemia prophylaxis in pregnant women in rural Haryana, CCM
2. Effectiveness of a structured paediatric to adult management transition intervention to improve adherence to diabetes care and clinical outcomes among Type 1 Diabetes Mellitus (T1DM) patients in India” – PATHWAY trial, Endocrinology
3. Enhanced, personalized versus routine antenatal care in the amelioration of anemia in pregnancy in rural LMIC settings- the Comprehensive Anemia Program and Personalised Therapies (CAPPT) project, Gynecology and Obstetrics
4. ICMR Young Diabetes registry, Endocrinology

#### ***Genetics***

1. “A comparative study to evaluate the efficacy of Ibedone in comparison with placebo in Leber’s Hereditary optic Neuropathy patients- A pilot study”, RP Centre, AIIMS New Delhi
2. Cystic Fibrosis in India: Prevalence, Mutation Profile and Development of Registry, Department of Pediatrics, AIIMS, New Delhi, SKIMS, AIIMS Jodhpur
3. Development of a high throughput genome editing pipeline based on based on an orthologous CRISPER/Cas9 system (FnCas9) and its application in the generation of 3D organoides for disease modelling and correction”, IGIB, New Delhi

#### ***Neonatology***

1. Establishment of a Genomic Facility to develop, test and validate an informative, cost-effective and efficient panel of genetic markers for Chronic Pancreatitis, Department of Gastroenterology, AIIMS, New Delhi
2. National Neonatology Forum India (NNFI) - Indian Neonatal Collaborative (INC)- Covid19 COVID-19 registry, National neonatology forum India
3. National registry on COVID 19 infection among pregnant women and their neonates- A three year ICMR study, Department of Obstetrics and Gynaecology, AIIMS, New Delhi; Multicentric study at ICMR network of human reproduction centers (HRRCs)
4. Sepsis-related mortality in neonates in India: A multi-disciplinary, multi-institutional research program for context-specific solutions, THSTI, Faridabad; ICGEB, Delhi; NII; JNU; IGIB; CDSA; UCMS & GTB; SJH, Delhi; LHMC, Delhi
5. Standardizing of data collection and protocol for improving the Quality of evidence on clinical characteristics and outcomes of COVID-19 and Pregnancy (SCOPE - Standardization of Covid COVID in Pregnancy), Department of Obstetrics and Gynaecology, AIIMS, New Delhi WHO India, (WHO CC - AIIMS New Delhi, PGI Chandigarh, MGIMS Sewagram, KLE Belagavi Karnataka and their respective satellite centers)

#### ***Nephrology***

1. Infectious and genetic triggers in children with hemolytic uremic syndrome, Institute of Liver and Hepatobiliary Sciences, Delhi
2. Pediatric Renal Biology Program: Research on nephrotic syndrome, Institute of Genomics & Integrative Biology, New Delhi; Translational Health Sciences & Technology Institute, Govt. of India, Faridabad; Research and Referral Hospital, New Delhi; St. John’s Medical College, Bengaluru; Christian Medical College, Vellore
3. Pilot study of genetic variations among Indian children with vesicoureteral reflux, Institute of Genomics & Integrative Biology, New Delhi
4. Setting up registry and targeted exome sequencing in children with renal tubular disorders, All India Institute of Medical Sciences, Bhopal
5. Whole exome sequencing in patients with non-diarrheal & non-autoimmune form of hemolytic uremic syndrome, Institute of Genomics & Integrative Biology, New Delhi

#### ***Neurology***

1. “A study on development of “Epilepsy care App” and assess its utility and satisfaction among parents of children with Epilepsy reporting at AIIMS, New Delhi”, Nursing College
2. A Multi-center, Open labelled Trial to evaluate the sensitivity and specificity of DSM IV TR and DSM 5 in diagnosis of Autism Spectrum Disorder, 5 sites across India

3. A study to compare the anxiety, depression and quality of life (QOL) among caregivers of children with cerebral palsy and those with typically developing children attending Paediatric Neuro OPD at AIIMS, New Delhi, MSc Nursing
4. Clinico-Sero-Pathological classification and pathogenesis of Idiopathic inflammatory myopathies., Pathology
5. Community based assessment of disability among adult population in Delhi using WHO International Classification of Functioning, Dept. of Community Ophthalmology, AIIMS, New Delhi
6. Impact of advanced paternal age and poor lifestyle on sperm epigenome: Possible etiology in Autism Spectrum Disorder, Department of Anatomy, AIIMS, New Delhi
7. Neuro developmental outcomes in infants undergoing surgery for congenital heart defects – A prospective multi-center cohort study. ICMR study 2020 onwards, Pediatric Cardiology
8. Study of cerebral edema, neuroinflammation and blood brain barrier disruption in pediatric traumatic brain injuries, Neurosurgery
9. Use of 'My Whole Child; Child Health and Development Interactive System', a web based platform for holistic evaluation and management of Indian children and adolescents upto 18 years of age; a tertiary centre pilot study, Chadis, USA

### ***Oncology***

1. A feasibility study to examine the effect of Yoga intervention on pain perception, fatigue and quality of life in children undergoing chemotherapy in AIIMS, New Delhi, College of Nursing
2. Collaborative study for Relapsed/Refractory Hodgkin Lymphoma, Indian Pediatric Oncology Group (InPoG)
3. Development of a database of the fluoride and other heavy metals; and sugar levels for the commercially available baby food supplements, Centre for Dental Education & Research (CDER)
4. Diagnostic accuracy of antifungal scintigraphy in diagnosing invasive fungal disease (IFD) in febrile neutropenia in pediatric hematologic malignancies, 2020-2021, Radiology
5. Identification of novel driving tyrosine kinases in Indian pediatric Ph-like ALL, Lab Oncology
6. Prospective Study to compare role of 18F-DOPA PET/CT and 131I-MIBG Scintigraphy in Neuroblastoma, Nuclear medicine
7. Role of FDG PET/CT in assessment of initial chemotherapy response in pediatric Langerhans cell histiocytosis, Nuclear medicine

### ***Pulmonology and Intensive Care***

1. A longitudinal study of the effect of early initiation of ART on the innate immune responses in HIV-1 infected children, Department of Biochemistry
2. Advancing biomedical interventions for prevention of RSV disease in under-five children: India Case study, Center for Community Medicine
3. Development of novel phenotypic assay to evaluate antiretroviral drug resistance in HIV-1 infected children in India, Department of Biochemistry
4. Generation and characterization of pseudoviruses from children with perinatally acquired HIV-1 infection, Department of Biochemistry

### ***Completed***

#### ***Endocrinology***

1. Child Sexual Abuse: Development of a Multidimensional scale and a Psychological Trauma Intervention, Psychiatry
2. Role of F-DOPA PET-CT in pediatric and adult patients with hyperinsulinemic hypoglycemia, Nuclear Medicine

#### ***Genetics***

1. Multicentric Indi-cleft Task Force Project, CDER, AIIMS

#### ***Neonatology***

1. Understanding disease biology and diagnosis of bacterial sepsis in hospitalized neonates: a multi- centre study, THSTI, Faridabad and NCBS, Bengaluru

#### ***Nephrology***

1. Anti-complement factor H (FH) associated hemolytic uremic syndrome (HUS) in children: Immunological and genetic basis, and functional characterization of autoantibodies, Institute of Genomics & Integrative Biology, New Delhi

### **Neurology**

1. A phase 2 double arm randomized trial comparing conventional radiotherapy alone Vs hypofractionated radiotherapy with concurrent and adjuvant temozolomide in patients with diffuse intrinsic pontine glioma, Department of Radiotherapy. AIIMS, New Delhi
2. Cortical sources and connectivity in Autism spectrum disorder: A QEEG study, Department of Physiology, AIIMS, New Delhi
3. Efficacy, safety and tolerability of Modified Atkins Diet in Adolescents and Adults with Drug Resistance Epilepsy: A Randomized Controlled Trial, Department of Neurology, AIIMS, New Delhi
4. Emotion Recognition Ability and Social Adaptive Behaviour in children with Autism Spectrum Disorder (ASD): A Study of Behavioural and Phenotypic linkage, PhD IIT Kanpur
5. Neurodevelopmental outcomes in children with cyanotic congenital heart disease following open heart surgery, Pediatric Cardiology

### **Oncology**

1. Interim assessment response evaluation of high grade lymphoma using texture analysis on F18 FDG PET/CT, Nuclear Medicine
2. Molecular biology of immature T-acute lymphoblastic leukemia, Lab Oncology

### **Pulmonology**

1. Generation and characterization of HIV-1 C chimeric envelopes towards identification of neutralizing determinants for future immunogen design, Department of Biochemistry

### **Rheumatology**

1. A Cross Sectional Study to assess the Functional Disability in Children with Juvenile Idiopathic Arthritis and its Correlation with their Quality of Life and Burden of Caregivers, Department of PMR
2. Utility of Contrast Enhanced Ultrasound (CEUS) and whole body MRI in response assessment in Juvenile Idiopathic arthritis, Radio-diagnosis

## **PUBLICATIONS**

**Journals: 188**

**Abstracts: 34**

**Chapters in books: 3**

**Books and monographs: 1**

## **PATIENT CARE**

<b>Name of Service</b>	<b>New Cases</b>	<b>Old Cases</b>	<b>Teleconsultation</b>	<b>Total Attendance</b>
Paediatric General OPD	7670	16565	19540	43775
Pediatric Neurology Clinic (PNC)	57	124	33	214
Paediatric Neuromuscular disease	32	42	3	77
Pediatric Gastroenterology Hepatology and Nutrition (PGC)	26	58	7	91
Paediatric Well Baby Clinic	13	2	2	17
Paediatric High Risk Neonatology Clinic (HRC)	53	76	10	139
Pediatric Renal Nephrology Clinic (RMC)	10	79	13	102
Paediatric Chest Clinic (PCC)	32	198	3	233
Paediatric Tuberculosis Clinic	28	48	2	78
Paediatric Rheumatology Clinic (PRC)	48	108	15	171
Paediatric Genetics and Birth Defects Clinic	11	3		14
Paediatric Genetic Antenatal cases	10	10	2	22
Paediatric Oncology Clinic	42	60	1	103
Pediatric Cancer Survivors' Clinic (PCSC)	32	78	3	113
Pediatric Endocrine and Metabolism Clinic(PEC)	3	32	2	37

Child Development Clinic (CDC)		2	4	6
Neurocysticercosis clinic (NCC)			6	6
Autism Clinic			5	5
Pediatric Psychology Clinic	22	14		36
<b>Grand Total</b>	<b>8089</b>	<b>17499</b>	<b>19651</b>	<b>45239</b>

In addition, Cystic fibrosis and Paediatric HIV services were provided in Paediatric Chest Clinic.

Kangaroo Mother Care units ran along with follow-up services of normal and at-risk neonates.

**Physiotherapy Services** were provided to the patients in various clinics (Neurology, Myopathy, Genetics, High risk, Endocrinology, Development, Chest, Rheumatology) and seeking general OPD services.

Total Physiotherapy sessions provided during 2020-2021: 2300

**Total Dietetic consultations: 1014 in the outpatients and 1686 in the wards**

#### Indoor services

- Indoor services include admission facilities in general wards, day care facility, neonatal units (NICUs A and B), Kangaroo Mother Care unit and Pediatric Intensive care facility.
- The Department continues to have an 8-bedded **High Dependency Unit** in children ward to cater to child patients with life-support and other special needs.
- Children requiring short procedures or interventions are admitted for a day in the Day Care Unit situated in the C5 ward.

#### Total indoor admissions

Long admissions in Paediatric wards : 2219  
Admission in day care facility : 10  
Admissions in NICU A + B : 612

#### Specialised Tests

##### Endocrinology

1. Body composition analysis by PEAPOD: 487
2. ECLIA tests: 977
  - a) Human Growth Hormone: 277
  - b) Insulin: 100
  - c) Procalcitonin: 600

##### Gastroenterology

Endoscopic procedures: 500

##### Genetics

##### Laboratory Tests

##### Cytogenetics Lab

1. Peripheral blood and Cord blood cultures 303
2. Amniotic fluid cultures 116
3. Chorionic villi cultures 23
4. QF-PCR 255

##### Molecular Lab

##### Routine tests carried out

1. Beta Thalassemia ( $\beta$  Thal) mutation analysis - 34 cases  
Prenatal diagnosis for  $\beta$  Thal- 33 families



2. Spinal Muscular atrophy (SMA) mutation analysis- Prenatal diagnosis for SMA-	47 cases 11 families
3. Duchene Muscular dystrophy (DMD) mutation analysis -	110 families
4. Prenatal diagnosis for DMD-	10 families
5. Fragile X screening-	59 families
6. Cystic fibrosis molecular analysis- Prenatal diagnosis for Cystic fibrosis -	50 cases 03 families
7. Achondroplasia mutation analysis-	06 cases
8. Non-syndromic hearing loss (Connexin 26) screening-	11 cases
9. Sex Chromatin related abnormalities in -	08 cases
10. RETT Syndrome analysis carried out in - Prenatal diagnosis for RETT syndrome -	06 cases 03 families
11. APERT Syndrome molecular analysis carried out in-	05 cases
12. Molecular analysis for LSD (Gaucher Syndrome) carried out in- Prenatal diagnosis for Gaucher Syndrome offered to -	08 cases 01 family
13. Molecular analysis for Von Hippel-Lindau syndrome carried out in-	06 cases
14. Molecular analysis for Multiple endocrine neoplasias type 2 carried out in-	02 cases

#### Tests carried out on Research basis

1. Prenatal diagnosis for BLAU Syndrome -	01 family
2. Prenatal diagnosis for Mitochondrial mutation analysis-	01 case
3. Prenatal diagnosis for MPS (MPS-I) -	02 families
4. Prenatal diagnosis for Krabbes Disease -	01 family
5. Prenatal diagnosis for Gaucher disease -	01 family
6. Prenatal diagnosis for MPS IV -	01 Family
7. Prenatal diagnosis for MLD-	01 family
8. Prenatal Diagnosis for SRD5A2 gene -	01 family

#### *Biochemical Genetics Lab*

Antenatal Screening: 411

1. Triple Marker - 40
2. Dual Marker - 371

Enzyme Assays for Inborn Error of Metabolism: 310 (including Chitotriosidase)

1. Gaucher Disease- 29
2. Neimenn pick disease- 29
3. Hurler ( MPS-I)- 08
4. Hunter (MPS-II)- 07
5. Sanfilippo (MPS III B, C, D)- 09
6. Morquio A (MPS-IVA)- 07
7. Morquio B (MPS-IV B)- 05
8. GM1 Gangliosidosis- 19
9. Metachromatic leukodystrophy -11
10. MPS-VI- 02
11. Maroteaux- Lamy Syndrome (MPS VII)- 02
12. Tay-Sachs- 12
13. Sandoff disease- 04
14. Krabbes -12
15. Neuronal Ceroid Lipofuscinosis- 15
16. Pompe- 14
17. Biotinidase Deficiency- 30

18. Galactosemia- 42

19. Fabry- 03

#### Biomarkers for LSDs

1. Chitotriosidase- 45

2. Urinary GAGs- 37

#### Prenatal Diagnosis of Lysosomal storage disorders

1. Non-Immune Hydrops – 04

2. MLD-02

3. Others –6 (GM1, MPS1, GAUCHER, MPSIVA, MPSII, MPSIIIB)

#### Small Molecule Inborn Errors of Metabolism

1. Blood Ammonia- 265

2. TLC- 41

3. HPLC - 92

#### Urine Chemical tests

1. Small Molecules – 29

2. Large Molecule (MPS, Oligosaccharide) - 8

#### ***Neonatology***

Invasive blood pressure monitoring: 110

Targeted neonatal echocardiography: 145

Targeted neonatal ultrasonography:140

High frequency ventilation: 34

Inhaled nitric oxide: 14

Total parenteral nutrition: 94

AABR: 180

Therapeutic hypothermia:7

Arterial blood gas analysis: 350

Point of care glucose estimation: 800

Hematocrit: 400

Total serum bilirubin: 300

Gram staining: 300

ROP examinations: 390

Laser therapy: 5

Transcutaneous Bilirubin: 600

Intravitreal Bevacizumab: 3

#### ***Nephrology***

Kidney transplants in children 2

Hemodialysis 1066

Acute or chronic peritoneal dialysis (including automated) 91

Plasmapheresis sessions 252

Continuous renal replacement therapy; Sustained low efficiency dialysis 1; 6

Temporary hemodialysis catheter placement (internal jugular, femoral) 32

Renal biopsies 114

Ambulatory blood pressure monitoring 52

Monitored infusions (albumin, cyclophosphamide, rituximab) 500

ELISA for antibodies to complement factor H; B 336; 409

Surface CD46 expression 22

## Neurology

1. EEG –105, Video EEG –112, Ambulatory EEG 132 – (Total EEG –349)
2. NCS and EMG -21
3. Diagnostic TMS- 27, Therapeutic TMS- 1
4. RNST - 04
5. PSG – 06
6. Day Care Procedures: Lumbar Puncture – 30, Skin biopsy –02, Nerve biopsy –2, Muscle biopsy – 15
7. Spinraza treatment to spinal muscular atrophy patients under SIPHAP (SPINRAZA INDIVIDUAL PATIENT HUMANITARIAN ACCESS PROGRAM)  
Loading dose (4 doses fortnightly) given to SMA patients: 12 patients

<b>Psychological and Developmental test</b>	
VSMS for SQ (for SQ, Cochlear Implant)	180 (64)
Developmental Profile 3	95
Childhood Behavior Checklist	160
Malin's Intelligence Scale for Indian Children	245
Wechsler Intelligence scale for children	07
House Tree Person test	75
Developmental scale for Indian Infants (DASII)	214
Sensory Profile 2	00
DSM-5 for Autism Spectrum Disorder	155
Childhood Autism Rating Scale	06
INCLIN tool for ASD	85
ISAA tool for ASD	85
DSM-5 for Attention Deficit Hyperactivity disorder	25
CONNER's rating Scale for ADHD	21
Grade Level Assessment Device	44
NIMHANS battery for learning disorder	52
<b>Intervention and Counseling</b>	
<b>Total Psychological intervention</b>	
Early stimulation therapy	260
Behavioral Intervention	240
Psychological & personality assessment using HTP (Functional)	85
Psychological counseling for Nocturnal Enuresis	18
Counseling for Tic disorder	04
Cognitive Behavior Therapy	130
Parent's counseling in Ward	62
Parent's counseling in Emergency	12
<b>Certification</b>	
<b>Disability Certification</b>	
Patients evaluated for certification	<b>116</b>

## Oncology

S. No	Tests	Numbers
1	Pro BNP	175
3	URIC ACID	144
4	SGOT	84

5	SGPT	84
6	PHOSPHATE	24
7	MAGNESIUM	144
8	BILIRUBIN (DIRECT)	60
9	BILIRUBIN (TOTAL)	60
10	TROPONIN-I	175
11	TOTAL PROTEIN	24
12	ALBUMIN	24
13	CREATININE	24
14	UREA	24
15	POTASSIUM	24
16	Flowcytometry & MRD estimation for acute lymphoblastic leukemia	100
17	Hemogram I critical care lab	4000
18.	Bone marrow	700
19.	CSF/ITM	1100
20.	Biopsy	600
21.	PRP/PRBC transfusion	1200

### ***Pulmonology, Intensive Care, Tuberculosis***

1. High Speed Video Microscopy:	10
2. Transmission Electron Microscopy from nasal brush:	15
3. Mutations for PCD	10
4. Sweat chloride estimation:	120
5. Pediatric flexible bronchoscopy	102
6. EBUS (Endobronchial ultrasound)	10
7. Spirometry	340
8. Infant PFT	120
9. Plethysmography	2
10. Impulse Oscillometry (IOS)	200
11. Fractional excretion of Nitric Oxide (FeNO)	65
12. Nasal Nitric Oxide (NO)	43
13. Total and specific IgE	43
14. Specific IgE against aspergillus	30
15. Specific IgG against aspegillus	30
16. Specific IgG against Lentil	6
17. Specific IgG against avian antigen	6
18. Exercise testing	5
19. 24 hours esophageal pH study	2
20. Cryo lung biopsy	1

### **Rheumatology**

Transitional care services in collaboration with Department of Rheumatology (transferred to adult care): 01

Intra-articular steroid (IACS) administrations & USG guided IACS: 120

- Joints injected: 279
- USG guided IACS injections: 14
- Diagnostic arthrocentesis: 06
- Diagnostic Skin biopsy: 03

**Mr. D. Yadav (MSSO)*****Funds procured through various schemes for patient welfare and benefit***

Chief Minister Relisf Fund (CMRF)	6,00,000
Hospital Poor Fund (HPF)	58 750
RAN UMBRELA SCHEME	1,69,07,202
Prime Minister Relief Fund (PMRF)	900000
ESI	10,00,000
Other Sources	60,000
TOTAL AMOUNT	INR 1,95,25,952

**AWARDS, HONOURS AND SIGNIFICANT EVENTS****Endocrinology**

**Dr Asma Shaheen Tak** won Dr Sarla Vaishnava award at Delhi IAP Annual day for her MD thesis on body composition of healthy term newborns (Chief Guide: Professor Vandana Jain)

**Genetics**

**Professor Madhulika Kabra** was Nominated as a member of the panel of experts of Rare Disease International Collaborative Global Network (RDI/ WHO); Nominated as member Gene Therapy Advisory and Evaluation Committee (GTAEC) ICMR; Nominated as Chairperson of Committee for Exon Skipping under GTAEC; Nominated as member Expert Group to review clinical research data of use of stem cells in various conditions from scientific literature for evidenced based guidelines; Nominated as Member National Mission on Health Genomics- DBT; Nominated as a member of Scientific Advisory Board (SAB) of National Dope Testing Laboratory; Nominated as a member of the Institutional Ethics Committee, Faculty of Inter-disciplinary & applied Sciences University of Delhi, South Campus.

**Dr Neerja Gupta** Awarded the 8th Dr IC Verma Excellence in Research Award for Young Pediatricians 2020; was Member of the panel of experts of Rare Disease International WHO Collaborative Global Network (RDI/ WHO).

**Neonatology**

**Dr M Jeeva Sankar** was Featured in the recently compiled global database of the 150,000 most-cited authors across all scientific fields based on their ranking of a composite indicator using the data for citations in a single calendar year, 2019; Coordinator of the “Basic Course in Biomedical Research”, an online course for post-graduate medical students and faculty of the country; course approved by Board of Governors - in supersession of Medical Council of India and conducted by NIE, ICMR; Member of the Technical Expert Committee (TEC) on Maternal and Child Health – Developmental and Disease Biology, Department of Biotechnology, Government of India Expert and Member of the Project Monitoring Committee (PMC) of the BIRAC-DBT-BMGF Grand Challenges India for reviewing the progress of research projects; Member of the Working Committee of the ‘Clinical Research Unit (CRU)’, AIIMS, New Delhi, which shall provide resources and services to advance clinical research in the institute; Member of the ‘First Level Screening Committee’ under Grant-in-aid scheme of Department of Health Research, Ministry of Health and Family Welfare (MoHFW), Government of India for reviewing the research proposals on Child Health; Member of the Guideline Development Group (GDG) of the World Health Organization in Maternal and Perinatal Health; Member of the Centre Core Committee (C3) for the Maternal and Child Health program of the Knowledge Integration and Translational (KnIT) Platform, supported by BIRAC, Department of Biotechnology, Government of India; Global and national collaborator to the ‘Global Burden of Diseases, Injuries, and Risk Factors Study (GBD)’ – the largest effort to measure epidemiological levels and trends of disease burden worldwide – for Health Metrics and Evaluation (IHME) at the University of Washington; Member of the Technical Group overseeing the conduct of the ‘Fellowship in Clinical Research Methodology and Evidence Based Medicine’ course at AIIMS, New Delhi; Member of the Expert Consultation Group on ‘STG Development Manual’ that facilitates development of Standard Treatment Guidelines for the MoHFW, Government of India; Member of Editorial Group of ‘NNF – Clinical Practice Guidelines’; involved in hand-holding neonatologists across the country to help develop the guidelines; Invited as an Expert to review the “WHO ACTION (Antenatal Corticosteroids for Improving Outcomes in Preterm Newborns)-III Trial protocol (October 2020); Attended the “Guideline Development Group meeting for development of WHO recommendations on Postnatal care for women and newborns, 2020-2021” (January 2021); Attended the meeting of the “Consultative group for Preterm and Low Birth Weight estimates” organized by the WHO and UNICEF and supported by the London School of Hygiene and Tropical Medicine, as an Expert (Feb 2021).



**Dr Ankit Verma** was Member of Technical expert group (TEG) on Heat and Human Health - National center of disease control (NCDC), New Delhi that facilitates guidelines development for heat related illness.

### **Nephrology**

**Dr Georgie Mathew** was awarded for Best Paper presentation at the 32nd Indian Pediatric Nephrology society Annual conference held virtually on 12-13 December 2020.

**Professor Arvind Bagga** was Secretary General, Asian Pediatric Nephrology Association; Assistant Secretary, International Pediatric Nephrology Association; Editor: Asian Journal of Pediatric Nephrology; Cochrane Kidney and Transplant Group; Frontiers Pediatrics; Editorial Board: Pediatric Nephrology; Indian Journal of Pediatrics; Pediatrics & Child Health; World J Pediatrics; Special expert committee on COVID-19 (CDSCO)

**Professor Pankaj Hari** was Council Member, International Pediatric Nephrology Association; Vice Chair, Best Practices & Standards Committee, International Pediatric Nephrology Association; Member, European Rare Kidney Disease Reference Network (ERKNET) Expert Panel on ERN guidelines; Member, Editorial Board: Asian J Pediatr Nephrol, Indian J Trauma Emerg Pediatrics, J Progr Pediatr Urol, Internat J Nephrol Urol; Reviewer: Clinical Journal of American Society of Nephrology, British Medical J, Pediatric Nephrology, Nephron, Kidney and Blood Pressure Research, Acta Paediatrica, Renal failure, Indian Pediatrics; Chairman Academic Committee, Indian Society of Pediatric Nephrology; Chair, National guidelines on urinary tract infection.

**Dr Aditi Sinha** was Joint Secretary, Indian Society of Pediatric Nephrology; Member, Editorial Board: Pediatric Nephrology, Asian Journal of Pediatric Nephrology, Frontiers in Pediatric Nephrology, Indian Journal of Nephrology; Section Editor (Nephrology): Indian Journal of Pediatrics; Reviewer: Pediatric Nephrology, Indian Pediatrics, Indian Journal of Nephrology; Core committee member International Society of Nephrology-SONG; Core committee, IPNA Junior Master Classes; Associate Editor, Asian J Pediatric Nephrology.

### **Neurology**

**Dr Juhi Gupta** got the Dr PN Taneja award for her thesis titled-‘Evaluation of repetitive Transcranial Magnetic Stimulation as an adjunct to modified Constraint Induced Movement Therapy in improving Upper Limb Function in Children with Hemiparetic Cerebral Palsy aged 5 – 18 years - A Randomised Controlled Trial’ (Chief Guide: Professor Sheffali Gulati).

**Dr Sachendra Badal** got the ICNA Young Investigator award for his thesis titled, ‘Structured remedial intervention for Indian school going children up to Class VI having Specific Learning Disorder (SLD) with Dyslexia: A longitudinal study assessing change of brain activation profile using Functional MRI and Resting state MRI and clinical severity scores using standard tools post intervention of 12 weeks’ (Chief Guide: Professor Sheffali Gulati).

**Professor Sheffali Gulati** received “National Award for outstanding efforts in Science & Technology communication through innovative & traditional methods”. from the Department of Science & Technology on National Science day, 28 February, 2021; Chairperson, Academy of Pediatric Neurology, Indian Academy of Pediatrics, 2021; INSAR (International Society for Autism Research) Global Senior Leader For India 2021-2023 and also reviewer for abstracts for INSAR 2021 and Cultural Diversity Research Award; President Elect, Association of Child Neurology, India 2023-2025; Executive Board Member, Indian Epilepsy Society, 2021-2023; Co-Convenor, Pediatric Epilepsy Subsection, Indian Epilepsy Society 2020-2022; AIIMS Excellence Research Award 2019 by AIIMS, New Delhi for Clinical Research on Development and validation of a DSM5 based Diagnostic tool for ASD.( conferred in September 2020); Site Lead and attended monthly I-CAN Leads Meeting for Clinical and Research in area of Autism Spectrum Disorder as part of Indo-Canadian Autism Network (ICAN) and actively involved in the Diagnostic evaluation and research sub committees; Member of the Board of advisors of ICNTN (International Child Neurology Teaching Network) of the ICNA (International Child Neurology Association) and Faculty lead for Neurodevelopmental disorders in childhood module; ‘Efficacy of Ketogenic Diet, Modified Atkins Diet, and Low Glycemic Index Therapy Diet Among Children With Drug-Resistant Epilepsy’ JAMA Pediatrics Aug 2020 article on dietary therapies in intractable epilepsy was quoted in medpage today, neurology live and many other citations in social media and print media globally and also featured as podcast in ICNAPEDIA March 2021. It was also selected for the general public awareness by AIIMS public awareness committee for AIIMS institute day 2020 celebrations; Our paper entitled “Clinical profile of children presenting with functional neurological complaints from a tertiary care center in north India” which was a platform/ video poster in International Child Neurology Congress, October 2020, has been featured in Neurology today, AAN publication; Subject Expert for an article entitled “Catabasis’ Phase III edasalonexent for DMD; Reviewer of Projects for Medical research Council, UK; Member of the Taskforce to develop Guidelines for management of children with Spinal muscular atrophy during Covid 19 pandemic and beyond and member of Round table discussion on Universal Access to Life Science Medicine- Challenges and Solutions ( Cure SMA); Expert for Neurology and Recent Advances in Chronic Neuromuscular Disorders recorded for teaching as part of IAP Lecture and Modules, also for Case-based discussion of seizure and epilepsy in children and CNC vasculitis teaching slides; Convenor for Indian Academy of Pediatrics Parental Guideline project for the topic: When to suspect learning disability and dealing with it? Member of IAP-WHO Task Force for incorporating “Nurturing Care for Early Childhood Development”

(NC-ECD) in UG/PG Curriculum; National Consultative expert of Stakeholders for Early Childhood Development (NC-ECD); Expert for “Consensus Statement of the IAP on Evaluation and Management of ASD”, IAP, Neurodevelopmental Pediatrics chapter; Co-Chairperson, Academic Committee for IAP fellowship in Neurodevelopmental Disorders; Member, Journal Committee, Indian Journal of Neurodevelopmental Pediatrics, IAP, Neurodevelopmental Pediatrics chapter; Prepared Draft for Evidence based status of use of stem cells in cerebral palsy and SMA and provided inputs for the draft on ASD for ICMR 2021; Expert for Rajkumari Amrit Kaur College of Nursing student for content validation: A Study To Evaluate The Effectiveness Of Planned Teaching Programme On Autism & Its Early Identification In Terms Of Knowledge & Attitude Of Pre-School Teachers In Selected Private Schools Of Delhi.

**Dr Biswaroop Chakrabarty** was Part of the Expert Team that developed the “SOP for community health workers and primary care and management of Muzaffarpur centred AES epidemic” under the aegis of Department of Health, Government of Bihar; Included in the “Editorial Board of BMC Neurology” as Associate Editor; Included as Reviewer for BMC Pediatrics and Neurology India, continued as reviewer for Indian Journal of Pediatrics, Indian Pediatrics, Indian Journal of Medical Research, Annals of Indian Academy of Neurology; Part of the Expert Group for developing “consensus- based guidelines for West Syndrome and Pediatric Stroke in India” under the aegis of AOCN, India One of the National Experts for development of “Pediatric Sleep Module” under the aegis of IAP Respiratory Chapter; One of the Undergraduate internal examiner for final MBBS exam held in January 2021.

**Dr Prashant Jauhari** took Part of the expert group for developing “consensus based guideline for Neurocysticercosis in children” under the aegis of AOCN, India; Included as a reviewer of American Journal of Medical Genetics Part I, PLOS ONE, Frontiers Group of Journals, Journal of Pediatric Epilepsy, and Neurology India. Member of the departmental Antibiotic Stewardship program, participated in revision of Departmental Antibiotic Policy and antibiotic surveillance.

### **Oncology**

**Professor Rachna Seth** was awarded for Best paper in the XIIIth SIOP Asia Congress held virtually from 19 to 21 March 2021; Nominated member of NOC expert committee of CARA; Nominated member subcommittee for monitoring adverse effects in clinical trials; Expert for e-Learning course on Cancer Fundamental on SWAYAM, AICTE under Ministry of Human Resource Development, Government of India, facilitated by Indian Cancer Society; External thesis examiner for TMH, Mumbai & RCC Trivandrum (DM and PhD).

**Dr Aditya Gupta** Accredited for the next 5 years by the European society of Blood and Marrow Transplantation.

### **Pulmonology**

**Professor Sushil K Kabra** Coordinated: Webinar series on COVID in children, supported by WHO, webcast done on 15, 22, 29 October 2020 5 November 2020; Member WHO Group for Developing Guidelines (GDG) for recommendation on pharmacotherapy of COVID-19 infection October/November 2020; Member WHO Group for Developing Guidelines (GDG) Clinical Management Group November/December 2020; Appointed as Core scientific committee RNTCP Program by Indian Academy of Pediatrics; Appointed as Member of Committee for Pulmonology Fellowship, Indian Academy of Pediatrics.

**Professor. Rakesh Lodha** Featured in the recently compiled global database of the 150,000 most-cited authors across all scientific fields based on their ranking of a composite indicator using the data for citations in a single calendar year, 2019; Appointed member of Technical Resource Group on Pediatric Antiretroviral Therapy, Ministry of Health and Family Welfare; Member of Working group on Multisystem Inflammatory Syndrome temporally related to COVID (MIS-C), WHO, Geneva; Member of Specialists Board for Paediatric Intensive Care DNB & FNB Programmes, National Board of Examinations; Appointed Editor of Indian Journal of Pediatrics; Member of Global Burden of Diseases group

**Dr Kana Ram Jat** was Associate Editor: BMC Pediatrics; Reviewer for following journals: Cochrane Collaboration, Chest, Pediatrics, Pediatric Pulmonology, Indian Pediatrics, Allergy, asthma and clinical immunology, Pediatric Allergy, Immunology, and Pulmonology, Indian Journal of Pediatrics, Respiratory care, Indian J of Critical Care Medicine (IJCCM), Plos One, BMC infectious disease, BMJ Open, Indian J of Medical Research (IJMR), J of Tropical Pediatrics, Systematic reviews; Membership of scientific societies: PRESIDE (Pediatric Research and Education Society of India), European Respiratory Society (ERS), American Thoracic Society (ATS), Respiratory Chapter of Indian Academy of Pediatrics (IAP), Indian Academy of Pediatrics (IAP), Rheumatology Chapter, IAP, Indian Rheumatology Association (IRA), Indian Immunology Society (IIS); Instructor for Pediatric Advanced Life Support (PALS) and Basic Life Support (BLS); Trainer of Asthma Training Module (ATM), Respiratory Tract Infection-Group Education Module (RTI-GEM), and Pediatric Tuberculosis module.

**Dr Jhuma Sankar** Received AIIMS excellence in research award for the year 2019-2020; Received the SCCM STAR research achievement award at the 50th Annual Congress of Society of Critical Care Medicine; Member of Technical Advisory Group (TAG) of USAID to support USAID’s COVID Critical Care Capacity Building.

## **Rheumatology**

**Dr Narendra Bagri** was awarded for the best paper in 18th National conference on Pediatric Rheumatology held virtually on 3-4 October 2020.

**Dr Narendra Bagri** had Membership of Pediatric Rheumatology European Society membership PRESM/331; AYR Member Asia Pacific League of Associations for Rheumatology (2020-IN-0028); Chairperson and medical member of NOC committee, Central Adoption Resource Authority (CARA), Ministry of Women & Child Development from 2019; Convener Indian academy of Pediatrics Parenting guidelines for Pediatric Rheumatic disorders; Received Best Paper award at the 18th National Conference of Pediatric Rheumatology Society of India.

**Ms Anuja Agarwala** was Selected as Expert member by National Codex Contact Point (NCCP), FSSAI (MoHFW); External Examiner, MS University, Vadodara; Reviewer for Indian Journal of Pediatrics, Journal of Tropical Pediatrics, European Journal of Epilepsy.

## **VISITING SCIENTIST**

### **Endocrinology**

Dr Vandana Jain organized a guest lecture by Dr David P Olson, MD PhD, Associate Professor of Pediatrics and Molecular and Integrative Physiology and Associate Chair for Research, Pediatrics, University of Michigan Medical School on 'Neurobiology of energy balance regulation' on 26 February, 2021.

### **Oncology**

Dr Rachna Seth organized a guest lecture by Dr Amar Gajjar on Meduloblastoma on 6 August 2020 (virtual platform)..

## 9.28. Paediatric Surgery

### Professor and Head

Minu Bajpai

### Professor

Sandeep Agarwala

M Srinivas (on deputation)

**Additional Professor**  
Shilpa Sharma (JPNATC)

### Associate Professors

Vishesh Jain  
Prabudh Goel

Anjan Dhua  
Devendra Kumar Yadav

**Assistant Professors**  
Aparajita Mitra (Contract)

Ajay Verma

Vipan Kumar (Contract)

### HIGHLIGHTS

The department organized the International Conference of Hypospadias held on a virtual platform on February 12-14, 2021, as a joint biennial meeting of the Indian Society of Paediatric Urology (ISPU) and the Asian Society of Paediatric urology (ASPU).

The conference witnessed more than 1000 registered delegates and was the largest conference till date on the subject of hypospadias organized on a virtual platform. The conference enthusiastically brought together subject experts and trainees from different parts of the world onto a common platform and generated a seamlessly rich environment for academic deliberations and exchange of surgical techniques, ideologies and principles. The contentious issues on hypospadias were discussed threadbare.

The department is poised for expansion with the faculty, space and the staff in the upcoming maternal and child health Centre at AIIMS, developing all sub-specialties and caring for children with serious malformations, advanced cancers, trauma and others

### EDUCATION

The department is actively involved in teaching and training of M.Ch. Pediatric Surgery trainees, Postgraduate, undergraduate, nursing students, BSc and MSc nursing students.

A new and innovative idea to developed and improve teaching and academics in our department is creation of a Google group called "Surgery-paedia". Day to day in clinical practice and during seminar various doubts and queries are generated. The doubts and queries are allotted to residents who read about the query and post the answer in the Google group for the benefit of everybody. The platform has been further enhanced by cataloguing the communications system wise for easier and faster search and retrieval.

Due to ongoing pandemic case-based templates have been created for virtual case presentations of index cases in absence of a physical patients. Also due to limited footfall in the OPD, clinical examination videos of index cases have been created and uploaded to a cloud folder, this can then be assessed by all residents and faculty. Using this method all the residents can benefit for a case seen in the OPD. All this data is catalogued in the easy manner in the cloud for easy access to even those who are not tech savvy.

All online classes (case presentations, Journal clubs and seminars) and meeting with radiodiagnosis and nuclear medicine department have been shifted to online platform.

### CMEs/Workshops/Symposia/National and International Conferences

1. International Conference of Hypospadias (e-conference) 12-14 February 2021

### Lectures delivered:

**M Bajpai: 1**

**Sandeep Agarwala: 6**

**Shilpa Sharma: 7**

**Vishesh Jain: 2**

**Anjan Dhua: 3**

**Devendra Yadav: 4**

**Ajay Verma: 2**

**M Bajpai**

1. Vesicoureteric reflux: Intention to treat or intention to cure, 13th Paediatric Surgery CME, MAMC, 11-14 March 2021, Digital platform, New Delhi

**Sandeep Agarwala**

1. Moderator for case session on undescended testis, Delhi- ASI, SCOPE 2021, 10 January 2021, Delhi, Virtual
2. Guest Lecture: Paratesticular Rhabdomyosarcoma, Delhi IAPS Annual Conference, 2021, 12 September 2020, Delhi, Virtual
3. Surgical guidelines for neuroblastoma, CME on neuroblastoma, West Bengal Chapter of IAPS, 26 March 2021, Kolkata, Virtual
4. Panelist for session on “Low and Intermediate risk neuroblastoma”, Teaching program: Pediatric Hematology Oncology (PHO) Chapter of Indian Academy of Pediatrics (IAP), 1 October 2020, Delhi, Virtual
5. Vascular thrombus in Wilms Tumor: Technical considerations, 13th SIOP-ASIA Conference 2021, 19-21 March 2021, Mumbai, Virtual
6. Pediatric Liver tumors, 12th Pediatric Surgery Update, 19-20 March 2021, Delhi, Virtual

**Shilpa Sharma**

1. Ethics in Disorders of Sexual differentiation, Error traps in Disorders of Sexual differentiation, 7 November 2020, MAMC, New Delhi
2. Impact of Advancing Translational Medicine on Innovation, Biotechnology Impacts on Human Health in 21st Century, 2 January 2021, New Delhi. Online
3. Ethical challenges in ambiguous genitalia, National Seminar on Medical Ethics, 16 January 2021, New Delhi, Online
4. Blood Products and Regenerative Medicine, 4th Biennial International ISCSGCON 2021, Indian Stem Cell Study Group Association, 13-14 February 2021, AIIMS, Raipur, Online
5. Opportunities with Regenerative therapy In Neurological deficit Lower limb, 4th Biennial International ISCSGCON 2021, Indian Stem Cell Study Group Association, 13-14 February 2021, AIIMS, Raipur, Online
6. Long term outcome after repair of Abdominal wall malformations and bowel atresias, Fetal medicine CME -Providing quality care in abdominal malformations: Before, during and after birth, 6 March 2021, LHMC, New Delhi
7. Malignant Germ Cell tumors, 13th Pediatric Surgery Update 2021, 11- 14 March 2021, MAMC, New Delhi, Online

**Vishesh Jain**

1. Vascular Anomalies, 13th Pediatric Surgery Update 2021, 11-14 March 2021, MAMC, New Delhi, Online
2. Adrenocortical tumors, 13th SIOP-ASIA Conference 2021, 19-21 March 2021, Mumbai, Virtual

**Anjan Dhua**

1. Case scenario, AIIMS-National Grand Rounds on COVID-19, 4th November 2020, AIIMS, Delhi
2. Documentation of Hypospadias: from clinical findings to operative notes and patient reported outcomes, International Conference on Hypospadias, 13 February 2021, Online,
3. Nanotechnology/ Nanosurgery and Pediatric Surgeon: Future of Pediatric Surgery, 13th Pediatric Surgery Update 2021, 13 March 2021, Online,

**Devendra Yadav**

1. Proximal Hypospadias Repair: Simplified Paradigm, International Conference on Hypospadias/ 23rd biennial Joint meeting of the Indian Society for Paediatric Urology and Asian Society for Paediatric Urology, 12 February 2021, New Delhi, online
2. Moderator- Operative session of various techniques of hypospadias repair, International Conference on Hypospadias/ 23rd biennial Joint meeting of the Indian Society for Paediatric Urology and Asian Society for Paediatric Urology, 12 February 2021, New Delhi, online
3. Moderator- Operative session of staged hypospadias repair, International Conference on Hypospadias/ 23rd biennial Joint Meeting of the Indian Society for Paediatric Urology and Asian Society for Paediatric Urology, 14 February 2021, New Delhi, online
4. Adrenal and Pancreatic Tumor, Pediatric Surgery Update 2021, 14 March 2021, New Delhi, online



## Ajay Verma

1. Modifiable Surgical Factors to Improve the Outcomes of Hypospadias Repair, International Conference on Hypospadias 12-14 February 2021, 23rd Biennial Joint Meeting of the Indian Society for Paediatric Urology and Asian Society for Paediatric Urology, 12 February 2021, Online
2. Status of Pediatric Surgery Under the Ayushman Bharat Yojana – Pradhan Mantri Jan Arogya Yojana, Pediatric Surgery Update, 14 March 2021, Online

## Oral papers/posters presented: 78

1. Agarwala S, Bakhshi S, Dhua AK, Jain V, Srinivas M, Biswas A, Thulkur S, Jana M, Parthasarthy D, Bisoi AK, Bhatnagar V, Outcome of children with Wilms tumor (WT) having vascular thrombus (VT), 13th SIOP-ASIA Conference 2021, 19-21 March 2021, Mumbai, Virtual
2. Anand S, Agarwala S, Dhua AK, Jain VK, Jana M, Kandasamy D, Kumar R, Bal CS, Bhatnagar V, Experience Of Management Of Bilateral Pelvi-Ureteric Junction Obstruction (PujO) In Children - Can Surgery Be Avoided On One Side?, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/ International
3. Anand S, Agarwala S, Jain V, Dhua A, Bakhshi S, Jana M, Kandasamy D, Biswas A, Outcomes of children with neuroblastoma 4s: twenty-five year experience from a tertiary care center, 52nd Congress of International Society of pediatric Oncology (SIOP) and International Society of Pediatric Surgical Oncology (IPSO), 14-17 October, Toronto, Virtual
4. Anand S, Anand S, Goel P, Jain V, Dhua AK, Yadav DK, Sehgal M, Kandasamy D, Bajpai M, Choledochal Cyst of the Cystic Duct and the Anomalous Pancreatico-Biliary Junction: Systematic Review, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/ International
5. Anand S, Bajpai M, Goel P, Urinary Biomarkers as Point-of-Care Tests for Predicting Progressive Deterioration of Renal Function in Congenital Anomalies of Kidney and Urinary Tract: Trefoil Family Factors as the Emerging Biomarker, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/ International
6. Anand S, Bajpai M, Goel P, Yadav DK, Dhua AK, Sreenivas V, Luthra K\*, Early evidence on genetic polymorphisms in conferring a 'two-hit' propensity to renal injury in Asian Indian children: A translational study, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/ International
7. Anand S, Tomar S, Dhua A, Agarwala S, Bhatnagar V, An audit of the provisional date of elective surgery allotted to pediatric surgery out-patients of a tertiary-care, public-funded teaching hospital of North India, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/ International
8. Bhardwaj A, Bhardwaj A, Bajpai M, Goel P, Foley's-aided Female Epispadias Repair and Bladder Neck Tightening: Report of a Technique with Preliminary Results, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/ International
9. Davera S, Davera S, Dhua AK, Agarwala S, Jain V, Devasenathipathy K, Jana M, Kumar R, Bal CS, Bhatnagar V, Bladder dysfunction in a cohort of Posterior Urethral Valve Patients, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/ International
10. Davera S, Davera S, Dhua AK, Jain V, Agarwala S, Bhatnagar V, Agarwal S, A rare case of giant foreign body granuloma after endoscopic management of vesicoureteric reflux, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/International
11. Davera S, Davera S, Goel P, Bajpai M, Baidya D, Penile Reconstruction with Abdominal Phalloplasty – Cosmesis allays Locker Room Syndrome, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/International
12. Devadasan H, Agarwala S, Yadav D, Jain V, Dhua A, Goel P, Bakhshi S, Jana M, Kandasamy D, Biswas A, Iyer VK, Bajpai M, Congenital mesoblastic nephroma: A single-centre experience, 52nd Congress of International Society of pediatric Oncology (SIOP) and International Society of Pediatric Surgical Oncology (IPSO), 14-17 October, Toronto, Virtual
13. Devadasan H, Bajpai M, Yadav DK, Sharma S, Yadav R, Mahajan D, Sehgal M, Immunohistochemistry Staining By Anti-Telomerase Reverse Transcriptase Antibody (Tert) As A Marker For Recurrence In Hepatoblastoma: A Pilot Study, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/International
14. Devadasan HK, Sharma S, Kumar A, Gopal G, Bajpai M, Sensitivity And Specificity Of Focussed Assessment With Sonography For Trauma (Fast) In Determining Pediatric Solid Organ Injury Following Blunt Trauma Abdomen, e-IAPSCON 2020, 16th to 18th Oct 2020, Online

15. Devadasan HK, Mahajan D, Sehgal M, Gopal G, Kumar A, Sharma S, Bajpai M, Sensitivity and Specificity Of Focussed Assessment With Sonography For Trauma (Fast) In Determining Pediatric Solid Organ Injury Following Blunt Trauma Abdomen, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/International
16. Devadasan HK, Yadav DK, Goel P, Dhua AK, Bajpai M, Vaginal replacement in Paediatric age- groups: experience from a Tertiary Care Centre, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/International
17. Devdasan H, Bajpai M, Yadav DK, Sharma S, Yadav R, Immunochemistry staining by anti telomerase reverse transcriptase antibody (TERT) as a marker for recurrence in Hepatoblastoma: A Pilot Study, 52 Congress of the International Society of Paediatric Oncology (SIOP 2020), 14-17 October 2020, Toronto, Canada, Online
18. Goel T, Agarwala S, Bakhshi S, Dhua AK, Jain V, Srinivas M, Biswas A, Thulkur S, Jana M, Parthasarthy D, Bisoi AK, Bhatnagar V, Outcome Of Children With Wilms Tumor(Wt) Having Vascular Thrombus (Vt), Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/International
19. Goel T, Agarwala S, Verma A, Jain V, Dhua AK, Bakhshi S, Jana M, Parthasarthy D, Biswas A, Interesting case scenario presentation, 13th SIOP-ASIA Conference 2021, 19 to 21 March, 2021, Mumbai, Virtual
20. Goel T, Anand S, Agarwala S, Jain V, Dhua A, Bakhshi S, Jana M, Parthasarthy D, Outcomes of children with neuroblastoma 4s, 13th SIOP-ASIA Conference 2021, 19 to 21 March 2021, Mumbai, Virtual
21. Goel T, Goel P, Bajpai M, Single Port, Single Instrument, Suture-less Scar-less Intra-umbilical Appendectomy in Pediatric Age-group, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/ International
22. Goswami C, Goel P, Bajpai M, Hepatic Perfusion Index - A Novel Noninvasive Method of Assessing Success of Dean Warren Shunt in Cases of Extra Hepatic Portal Venous Obstruction, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/ International
23. Jadhav S, Devadasan H, Agarwala S, Yadav DK, Jain V, Dhua A, Goel P, Bakhshi S, Jana M, Kandasamy D, Biswas A, Iyer V, Bajpai M, Congenital Mesoblastic nephroma: A Single-Centre Experience, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/ International
24. Jadhav S, Goel P, Jain V, Bajpai M, Spleen Preserving Shunt: Pre-operative Profile and Short-Medium Term Outcomes, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/ International
25. Jha V, Goel P, Bajpai M, Baidya D, Oesophageal Substitution with Iso-Peristaltic Gastric Tube – Report of Results from a Paediatric Surgery Department in a Tertiary Care Centre, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
26. Joseph DT, Goel P, Dhua AK, Bajpai M, Penile Lengthening in Bladder Exstrophy-Epispadias Complex – Experience with a Novel Technique of Epispadias Repair, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
27. Keerthika M, Sharma S, Kumar V, Choudhary P, Kashyap L, Bajpai M. Thoracoscopic Excision of a Cervicomedial Hourglass Ganglioneuroma, E-PESICON, 19-21 March 2021, Online
28. Khanna K, Bajpai M, Goel P, Khanna V, Baidya DK, Bajpai's Single Port-Single Instrument- Lumboscopy Assisted Pyeloplasty: Where have we reached?, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
29. Khanna K, Goel P, Bajpai M, Bladder-Exstrophy Epispadias Complex (BEEC): Does Osteotomy affect Upper and Lower Tract Outcomes?, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
30. Khanna K, Mahajan D, Mitra A, Goel P, Bajpai M. Umbilicocopy: Peeping into the world of Pediatric Laparoscopy, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
31. Krishnan N, Sharma S, Garg P, Kumar A, Bajpai M., Non-Operative management in high grade pediatric pancreatic trauma: A report of 4 cases, e-IAPSCON 2020, 16-18 October 2020, Online
32. Krishnan NS, Jain V, Dhua AK, Kaur K, Kandasamy D, Jana M, Raheja A, Agarwala S, Glioblastoma as a second malignant neoplasm in Wilms' tumor: A case report, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
33. Krishnan NS, Anand S, Goel P, Dhua AK, Jain V, Yadav DK, Bajpai M, Role of Three-Dimensional Printing in Pediatric Extra-Cranial Solid Tumors, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
34. Krishnan NS, Sharma S, Garg P, Kumar A, Bajpai M, Non- Operative management in high grade pediatric pancreatic trauma: A report of 4 cases, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International

35. Mahajan D, Bajpai M, Goel P, Jaryal AK, Role of 3D Printing and Neurophysiological Mapping in Management of Pyopagus Conjoined Twins, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
36. Mahajan D, Goel P, Dhua AK, Malhotra R, Bajpai M, Non-operative Management of Liver Injury during Pediatric Blunt Trauma from a Tertiary Care Center, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
37. Mahajan D, Jain V, Dhua AK, Iyer VK, Kandasamy D, Jana M, Agarwala S, Congenital hepatoblastoma: a diagnostic dilemma, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
38. Maheshwari P, Dhua AK, Jana M, Goel P, Agarwala S, Yadav R, Bhatnagar V, Aspartate Transaminase to Platelets Ratio Index (APRI) and Supersonic Shear Wave Elastography (SSWE) of the liver in patients of biliary atresia as tools to evaluate hepatic fibrosis, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
39. Mukherjee S, Bajpai M, Goel P, Status of Paediatric Surgery During COVID-19 Pandemic: Digital Practices in Education & Health, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
40. Nandan R, Goel P, Yadav DK, Bajpai M, Fogarty Catheter: An Indispensable Tool to Complement the Ingenuity of the Endoscopist for Extraction of Airway 'Foreign Body with a Hole', Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/ International
41. Nandan R, Tyagi S, Dhua A, Jain V, Agarwala S, Bhatnagar V, Teratoma in the hepatoduodenal ligament: a case report, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
42. Nandan R, Yadav DK, Bajpai M, Dhua AK, Goel P, Jain V, Exstrophy variants: the types and associated anomalies, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
43. Nandan R, Yadav DK, Goel P, Jain V, Singh, Dhua AK, What causes the neonatal acute scrotum? Is it always a scrotal pathology?, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
44. Prasad G, Anand S, Jain V, Agarwala S, A large mesenteric lipoblastoma in an 8-month-old infant: a case report, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
45. Prasad G, Harikrishna D, Mitra A, Agarwala S, Duodenal perforation in a 13-year old boy- repair by Roux-en-Y jejunoduodenostomy: a case report, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
46. Prasad G, Khanna K, Anand S, Bajpai M, Goel P\*, A missed diagnosis is no better than a misfortune- Report of a complicated Type IIA Urethral Duplication, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
47. Sehgal M, Bajpai M, Goel P, Agarwala S, Yadav DK, Dhua AK, Jain V, Verma A, Mitra A, Subramaniam R, Sinha R, Kaur M, Jaryal AK, Singhal M, Chauhan S, Ramakrishnan P, A Multi-modality, Interdepartmental Approach to Anatomic Decryption, Investigative Work-up and Surgical Management of Pyopagus Conjoined Twins with a Shared Spinal Cord and Cross-over Limb Vascularity, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
48. Sehgal M, Jain V, Dhua AK, Bakhshi S, Kandasamy D, Mani K, Sharma R, Jain V, Tandon N, Agarwala S, Adrenocortical neoplasms in children: Treatment and outcome, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
49. Sehgal M, Krishnan NS, Anand S, Dhua AK, Goel P, Jain V, Yadav DK, Agarwala S, Bajpai M, An audit of Paediatric Surgery cases during the COVID lockdown period in a non-COVID paediatric surgery facility of a tertiary care public funded hospital in the National Capital Region, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
50. Sehgal M, Subramonian NK, Anand S, Dhua AK, Goel P, Jain V, Yadav DK, Agarwala S, Bajpai M, An audit of Paediatric Surgery cases during the COVID lockdown period in a non-COVID paediatric surgery facility of a tertiary care public funded hospital in the National Capital Region, E-PESICON, 19-21 March 2021, Online
51. Sehgal M, Yadav DK, Kandasamy D, Bajpai M, Jain V, Dhua A, Goel P, Choledochal Cyst of the Cystic Duct – A Supplement to Todani's Classification, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International

52. Sharma K, Sharma K, Sharma S, Gupta DK, Erudition from ten-years follow-up after Neonatal Gastric Transposition for Esophageal atresia, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
53. Sharma K, Sharma S, Gupta DK, Erudition from ten-years follow-up after Neonatal Gastric Transposition for Esophageal atresia., e-IAPSCON 2020, 16-18 October 2020, Online
54. Sharma K, Sharma S, Gupta DK, Progressive pseudo-obstruction of intestine: a fatal entity, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
55. Sharma K, Sharma S, Histopathology of pouch colon: a systematic review, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
56. Sharma K, Sharma K, Bajpai M, Goel P, Chaturvedi P, Jana M, Prenatally diagnosed 'Non-obstructive' Hydronephrosis: Plasma renin activity as an indicator of disease progression, Annual Conference of Indian Association of Paediatric Surgeons, October 16-18, 2020, Virtual Platform/International
57. Sharma K, Tomar S, Sharma S, Bajpai M, Autoamputation of Appendix: A secondary insult in post-trauma post-operated pediatric blunt abdominal trauma., Trauma 2020, 3-5 December 2020, Online
58. Sharma S, Goel T, Singh GP, Sawhney C, Bhoi S. Water Bath Technique Of Ultrasound In Localization Of Missed Sharp Notorious Soft Tissue Foreign Bodies, e-IAPSCON 2020, 16-18 October 2020, Online
59. Sharma S, Gupta DK, Gynaecological turmoils in adulthood with uterus didelphys in anorectal malformation, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
60. Sharma S, Antony VM, Gurung N, Satapathy A, Asit R. Mridha, Iyer VK, Ray R, Barwad A, Agarwal N, Paul VK, Bajpai M, Gupta DK, Surgicopathological Autopsy Of Thoraco-Omphalopagus Conjoint Twins, e-IAPSCON 2020, 16-18 October 2020, Online
61. Sharma S, Caudal duplication syndrome with duplicated cloacal malformation, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
62. Sharma S, Gupta DK, Diverse Presentations of Rectal Duplications: Be Wary of The Unknown Territory, e-IAPSCON 2020, 16-18 October 2020, Online
63. Sharma S, Gupta DK, Ksharsutra (ayurvedic seton tie) for repair of pediatric fistula in ano, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
64. Sharma S, Gupta DK, Martins Modification of Boley Scot Pull Through For Pediatric Colorectal Polypoid Diseases, e-IAPSCON 2020, 16-18 October 2020, Online
65. Sharma S, Gupta DK, Posterior Ectopic Anus- A Curious Complex Congenital Anorectal Anomaly, e-IAPSCON 2020, 16-18 October 2020, Online
66. Sharma S, Mansour SM, Tsang TT, A Modified Technique Using A Spatulated Umbilical Cord Flap Containing Whartons Jelly Stem Cells For Primary Repair Of Gastroschisis, A Multicenter Experience, e-IAPSCON 2020, 16-18 October 2020, Online
67. Sharma S, Sharma K, Gupta DK, Varied parameters and utility of the anal position index: a systematic review, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
68. Singh A, Dhua AK, Yadav DK, Goel P, Bajpai M, Left-Sided Morgagni Hernia with Gastric Outlet Obstruction – An unusual presentation of a rare anomaly, E-PESICON, 19-21 March 2021, Online
69. Singh A, Goel P, Jain V, Yadav DK, Gastric Volvulus in Diaphragmatic Eventration - A Scoping Review, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
70. Singh A, Singh A, Gastric Neobladder: Management Protocol and Preliminary Results, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
71. Singh TR, Agarwala S, Bakhshi S, Dhua AK, Jain V, Srinivas M, Biswas A, Thulkur S, Jana M, Parthasarthy D, Bisoi AK, Recurrent Unilateral Wilms Tumor: Lessons learned based on a prospective cohort study from India, 13th SIOP-ASIA Conference 2021, 19-21 March, 2021, Mumbai, Virtual
72. Singh TR, Bajpai M, Goel P, Early-to-Medium Term Results of Abdomino-Perineal Pull-Through with the Hanging Bowel Technique in Patients of Anorectal Malformations, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
73. Singh TR, Goel P, Bajpai M, Kandasamy D, Malik R, Yadav R, Prakash S, Kalaivani M, Tripathi M, Yadav DK, Dhua AK, Jain V, Agarwala S, Serum MMP-7 as a Diagnostic and Prognostic Biomarker for Extra-Hepatic Biliary Atresia, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
74. Subramonian NK, Goel P, Dhua AK, Kakkar A, Bajpai M, Persistent Müllerian Duct Syndrome with Penoscrotal Hypospadias - A rare case of 46, XY DSD, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International



75. Subramonian NK, Jain V, Dhua AK, Agarwal S, Sharma R, Vandana, Thyroid nodule in a case of congenital, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International
76. Subramonian NK, Jain V, Goel P, Yadav DK, Dhua A, Agarwala S, Bajpai M, Per urethral non optical forceps: A Convenient Aid during Vesicoscopic Ureteric Reimplantation, E-PESICON, 19-21 March 2021, Online
77. Tomar S, Agarwala S, Dhua A, Jain V, Bakhshi M, Jana M, Kandasamy D, Thulkar S, Treatment and outcome of testicular malignant germ cell Tumors (MGCT): A single institution experience, 52nd Congress of International Society of pediatric Oncology (SIOP) and International Society of Pediatric Surgical Oncology (IPSO), 14-17 October Toronto, Virtual
78. Tomar S, Goel P, Bajpai M, Sirenomelia-A rare anomaly, Annual Conference of Indian Association of Paediatric Surgeons, 16-18 October 2020, Virtual Platform/International

## RESEARCH

### Funded projects

#### *Ongoing*

1. Biochemical and enzymatic analysis of bile in choledochal cyst and correlation with histopathological features & expression of immune-modulators, Dr Ajay Verma, AIIMS, 2 years, 2020-2022, Rs 9,98,800
2. Biocompatible dressing for Paediatric hypospadias Repair, Shilpa Sharma, AIIMS-IIT Delhi, 2 years 2019-2021, Rs 10 lakh
3. Centre for advanced research in congenital uropathies & CKD, Dr Minu Bajpai, ICMR, 5 years, 2018-2023, Rs 1.9 crore
4. Cross-sectional Study to establish a normal reference range (nomogram) for Testosterone and Dihydro-testosterone in boys of age group 0-14 year, Prabudh Goel, ICMR, 3 years, 2019-2022, Rs 60 lakhs
5. Development of a portable rapidly adjustable camera holding device to minimize image tremor and fatigue of the camera holding assistant during minimally invasive surgery in children, Vishesh Jain, AIIMS- IIT Delhi, 2 years, 2020-2021, Rs 10 lakhs
6. Development of Technology based Doctor-Patient Interface to Facilitate Patient Care and Health Research in Paediatric Urology, Prabudh Goel, ICMR, 3 years, 2021-2023, Rs 1.25 crores
7. Electromotive administration of Intravesical Botulinum Toxin A in Pediatric Neurogenic Bladder, Shilpa Sharma, AIIMS Intramural, 2 years, 2019-2021, 5 lakhs
8. Establishing Guidelines for Fetal Counseling for Surgical Congenital Anomalies [BT/PR9572/MED/97/210/2013], Shilpa Sharma, Department of Biotechnology, 4.5 years, 2014-2020, Rs 48,36,678
9. Incidence and severity of psychosocial and somatic disorders in survivors of childhood solid malignant tumors, Vishesh Jain, ICME, 2.5 years, 2021-2023, Rs 25 lakhs
10. Patient specific three-dimensional printed models of aberrant anatomy for surgical planning of anorectal malformation, Anjan K Dhua, AIIMS Intramural, 2, 2020, 2022, Rs 3 Lakhs
11. Reference range of serum alpha feto protein in children below three years of age, Devendra Kumar Yadav, AIIMS (intramural), 2 years, Dec 2015, Extended till July 2021, Rs 2.3 lakhs
12. Study of clinical significance of genetic alterations and feasibility of adopting Children Oncology Group (COG) risk stratification of Wilms tumor in Indian Children, Devendra Kumar Yadav, ICMR (Extramural), 3 years, December 2021-2023, Rs 48 lakhs
13. To Evolve Evidence-Based Hypospadias Repair Guidelines for Hypospadias Repair (Urological Condition) in Indian Context, Prabudh Goel, ICMR, 3 years, 2020-2023, Rs 85 lakhs

#### *Completed*

1. A study of molecular basis of hypospadias with respect to testosterone biosynthetic defects, enzyme mutation and SRY gene studies, Minu Bajpai, ICMR Funded, 3 years, 2017-2020, Rs 18 lakhs
2. Effect of Curcumin and its combination with Piperine in experimentally induced Liver fibrosis in rats: A comparative analysis., Shilpa Sharma, AIIMS Institute Research Grant, 2 years 2016-2018, 5 lakhs
3. Role of Bone marrow mononuclear cells and Renal Stem cells in renal preservation in Obstructive Renopathy – An Experimental study in mice, Shilpa Sharma, AIIMS Institute Research Grant, 2 years, 2013-2015, 5 lakhs
4. The study of clinical profile and aetiopathogenesis of Disorders of Sex Development (DSD) – A Pilot Study, Minu Bajpai, ICMR Funded, 3 years, 2017-2020, Rs 18 lakhs



## Departmental projects

### Ongoing

1. A comparative study of smooth muscle characteristics and myofibroblasts in Processus vaginalis of pediatric inguinal hernia, hydrocele and undescended testis
2. A cross sectional study on the detection of Renin Angiotensin System (RAS) and nephrogenic pathway-genetic mutations in children with congenital uropathies for early diagnosis and genetic counselling
3. A prospective study of the short term outcomes of operated cases of distal penile hypospadias in terms of immediate and early complications.
4. A Prospective study on molecular markers in urine which may be useful as early markers of progressive kidney damage and reflect genetic polymorphism in the population of congenital uropathy
5. A study on differential expression of molecular markers in urine with respect to genetic propensity to congenital uropathies
6. An ambispective study on detection of urinary NFkB mRNA in patients with polymorphisms in the renin angiotensin aldosterone axis for early diagnosis of renal impairment in obstructive uropathies in children in AIIMS, New Delhi
7. Animal Models of COVID-19: Systematic Review
8. Assessment of intra-hepatic portal anatomy (left and right portal veins) and anatomical feasibility of Rex shunt surgery on computed tomography portography in pediatric patients with Extra-hepatic Portal Vein Obstruction
9. Assessment of renal function in children with unilateral non-syndromic Wilms' tumor: An ambispective control study
10. Assessment of Ureteric Jets as a Supportive Diagnostic Modality in Unilateral PUJO and it's Utility of Follow-up
11. Choledochal Cyst of the Cystic Duct and the Anomalous Pancreatico-Biliary Junction: Systematic Review
12. Comparative Study of smooth muscle cell characteristics and myofibroblasts in processus vaginalis of paediatric inguinal hernia, hydrocele, and undescended testis
13. Comparing post-operative APRI as a marker of Hepatic fibrosis following Kasai with and without Partial liver resection in biliary atresia
14. Comparison of a novel coaxial technique with conventional technique for Percutaneous Nephrostomy in Children under 5 years of age: A Feasibility Study
15. Compliance to the provisional date of elective surgery allotted to pediatric surgery out-patients of a tertiary-care, public-funded teaching hospital of North India
16. Correlation between hand digit length ratio and severity of hypospadias in pre-pubertal boys in Indian population
17. Development of a Bilingual (Hindi and English) Android Smartphone Application as an Interactive (Patient-Surgeon) Platform with built-in Artificial Intelligence to facilitate disease management and reduce the frequency of hospital visits for patients with Vesico-Ureteric Reflux
18. Development of a genetic panel for hypospadias risk assessment
19. Development of a Hormonal Panel for Prognosticating Isolated Hypospadias and Cryptorchidism: Hypogonadism and Its Implications for Future Fertility
20. Development of Technology based Doctor-Patient Interface to Facilitate Patient Care and Health Research in Paediatric Urology
21. Differences in the Microvessel Density and Growth Factors between the inner and outer preputial skin in Distal Hypospadias
22. Establishment of a normal reference range (nomogram) for Testosterone and Dihydro testosterone in boys of age group 0-14 years
23. Evaluation of cardiotoxicity related to administration of adriamycin in children with solid tumors
24. Fogarty Catheter: An Indispensable Tool to Complement the Ingenuity of the Endoscopist for Extraction of Airway 'Foreign Body with a Hole'
25. Gastric Pull-up by the Retrosternal Route for Esophageal Replacement: Feasibility in a Limited-Resource Scenario
26. H19 long non-coding RNA (lncRNA) and its association with the clinical outcomes in indian pediatric patients of Wilms tumor
27. Hypospadias Outcomes Long-Term Database (HOLD): A Prospective Cohort Study
28. Long term results of abdomino-perineal pull-through by the Hanging Bowel Technique
29. Long term outcome of PSARP in Anorectal malformation
30. Measurement of Stretched Penile Length by the Ruler Method: Estimation of Intra-observer and Inter-observer variations and standardization of the technique

31. Neonatal Anogenital Distance Nomogram and its correlation with anthropometry for North Indian Population
32. Normative values of renal length, parenchymal thickness and renal elastography in Indian Pediatric population
33. Outcome of treatment with ICE (Ifosphamide, carboplatin and etoposide) salvage regime in children with relapsed/ recurrent solid tumors
34. Pediatric surgical point of view on achalasia cardia-an observational study.
35. Prospective study of treatment of children with Hepatoblastoma on treatment with Monotherapy and PLADO regime
36. Prospective study of treatment of children with Rhabdomyosarcoma on treatment with IRS-5 regimen
37. Prospective study of treatment of children with Wilms tumor on treatment with modified NWTS-5 regimen.
38. Prospective study on five drug regimen for the management of Clear Cell Sarcoma of the Kidney
39. Prospective Study to Evaluate the Trend of Serum Procalcitonin Levels in Surgical Neonates and Infants and its Correlation with Events during the Post-Operative Period
40. Prospective, Observational Study to evaluate the vasodilatory effect of caudal block in pediatric patients
41. Quadratus Lumborum block in patients with Pelvi-Ureteric Junction Obstruction in children
42. Quality Improvement (QI) initiative to improve the quality of post-operative discharge instructions to day-care patients operated under Pediatric Surgery in CRHPS, Ballabgarh
43. Randomised Trial to Study the Impact of Simulation-based-Learning over Conventional Training on Knowledge and Self-Efficacy of Nursing Students in Pediatric Medicine and Pediatric Surgery Wards
44. Reference Range of Serum Alpha fetoprotein in Indian children below 3 years of age
45. Retrospective study of the factors that affect the long-term outcome of operated cases of hypospadias
46. Role of F-Dopa Pet-CT in Pediatric and Adult patients with Hyperinsulinemic Hypoglycemia
47. Role of MMP-7 gene expression as a diagnostic marker for Biliary Atresia
48. Role of pulmonary metastatectomy in pediatric solid tumors.
49. Role of Serum Matrix Metalloproteinase 7 Levels in Diagnosis and Prognostication of Infants with Extra-Hepatic Biliary Atresia
50. Sonographic Assessment of Epidural Space Depth and Orientation in Paediatric Patients at Various Vertebral Levels: An Observational Cross-Sectional Study
51. Study on the prevalence of the polymorphism in nephrogenic genes in congenital uropathies and their influence of renal functional outcomes
52. Temporal relationship between early markers of renal injury in children with congenital uropathies with and without genetic propensity to renal injury
53. The AIIMS-Surgi-SCOPES Guideline: The All India Institute of Medical Sciences Surgical Safety Checklist Of Pediatric Surgery Guideline: A Unique Amalgamate of the Use of Custom Smartphone Application with Conventional Consensus Methods of Medical Research from a Developing Country
54. To Evolve Evidence-Based Hypospadias Repair Guidelines for Hypospadias Repair (Urological condition) in Indian Context
55. To study the prevalence of renal developmental gene polymorphisms in congenital uropathies and their role in outcome
56. Urinary biomarkers in children with CAKUT
57. Use of Honey versus Standard Care for Hospital Acquired Pressure Injury in Critically Ill Children- A Multicentre Randomized Controlled Trial
58. Validation of Sliding Scale Penometer for Measurement of Stretched Penile Length in Pediatric Age-Groups
59. Whole Exome Sequencing of Hypospadias Patients-Family Trios for Identification & Validation of Genetic Markers and Development of a Genetic Panel for Hypospadias Risk Assessment

### **Completed**

1. Covid Surg Collaboration: Global Collaboration
2. Long Term outcomes of bladder function in patients treated for posterior urethral valves
3. Outcomes of non-operative management of unilateral pelvi- ureteric junction obstruction
4. Profile of serum Hepatotrophic factors, serum ammonia levels and Quality of life in patients of EHPVO
5. Study on the prevalence of polymorphisms in nephrogenic genes in congenital uropathies in asian indian children– a “two-hit” propensity to renal injury

6. To study the temporal relationship between early markers of renal injury in children with congenital uropathies with and without genetic propensity to renal injury
7. To study the trends and outcomes in children with button Battery ingestion in children

## **Collaborative projects**

### ***Ongoing***

1. A comparative study of smooth muscle cell characteristics and myofibroblasts in processus vaginalis of paediatric inguinal hernia, hydrocele and undescended testis, Anatomy, Pathology
2. Biofabrication of Skin Graft Substitutes using Functionalised Materials for Tissue Regeneration, Stem Cell Facility, Department of CTVS
3. Childhood cancer survivorship program, Medical oncology, CDER, Psychiatry, Orthopedics, Gynecology and Obstetrics, Ophthalmology, Radiodiagnosis, Pulmonary Medicine and sleep disorders
4. Differences in the Microvessel Density and Growth Factors between the inner and outer preputial skin in Distal Hypospadias, Pathology
5. Hepatic regenerative potential of exosomes derived from human Mesenchymal Stem Cells in liver injury model, Stem Cell Facility, Department of CTVS
6. Rare disease modelling using induced Pluripotent Stem Cell, Stem Cell Facility, Department of CTVS
7. Role of MIBG therapy for advanced non-responsive and recurrent neuroblastoma., Nuclear Medicine
8. Study of prognostic factors in thoracic PNET, Medical Oncology, Radiotherapy, Radiodiagnosis
9. To study the long term effects of disease and its treatment in survivors of pediatric solid tumors, Medical Oncology, Reproductive Biology, Obstetrics and Gynecology, Cardiology
10. To validate the FAST score as a CT decision tool in pediatric blunt abdominal trauma, Emergency Medicine
11. Understanding the therapeutic role of adult stem cell derived exosome in combating virus induced neurodegenerative disease, Stem Cell Facility, Department of CTVS

### ***Completed***

1. Efficacy of Hetastarch with ropivacaine in prolongation of duration of ilioinguinal and iliohypogastric nerve blocks in paediatric inguinal hernia repair: a pilot study, Anaesthesia
2. Outcomes of non-operative management of Unilateral Pelvi-ureteric Junction Obstruction, Nuclear Medicine, Radiodiagnosis
3. Profile of serum Hepatotrophic factors, serum ammonia levels and Quality of life in patients of EHPVO, Pediatrics, Biochemistry, Clinical Psychology, Gastroenterology, Radiodiagnosis

## **PUBLICATIONS**

**Journals: 50**

**Abstracts: 38**

**Chapters in books: 8**

## **PATIENT CARE**

### **Outpatient Department**

Pediatric surgery outpatient department is run every day. In addition, specialty clinics are also run to provide more focused attention to few conditions.

### **Various specialty clinics run by the Department and faculty:**

- Monday:** Hydrocephalus Clinic (Afternoon)
- Tuesday:** Antenatal Diagnosis and follow up (Forenoon)
- Wednesday:** Pediatric Urology Clinic (Afternoon)  
Craniosynostosis Clinic (Afternoon)
- Thursday:** GI Hepatobiliary (Forenoon)  
Pediatric Urology, Follow Up Clinic (Afternoon)  
IRCH: Pediatric Solid Tumor Clinic (Afternoon)  
Pediatric Solid Tumor Clinic (Main OPD)
- Friday:** Pediatric Thoracic Surgery Clinic (Forenoon)  
Pediatric Urology Clinic (Afternoon)
- Saturday:** Pediatric Urology, Intersex and Hypospadias (Forenoon)

### Facilities available

- Intensive care unit for neonatal surgical patients
- High dependency area for Pediatric Surgical patients
- Computer based Urodynamic and uroflowmetry study
- Computer based Anorectal manometry
- Computer based Esophageal manometry
- 24 hours pH monitoring for Gastroesophageal reflux
- Impedance Manometry for Gastroesophageal reflux

### Community services

- Weekly outpatient clinic and operative session at CRHSP, Ballabgarh (Suspended during the last year due to COVID)

### Attendance in OPD and Specialty clinics

	New Cases	Old Cases	Total
General OPD	1951	5568	7577
Hydrocephalus clinic	Nil	Nil	Nil
Pediatric urology clinic (W/T/F)			22
Intersex and urology clinic (DSD+ PISU)	Nil	Nil	Nil
Tumor clinic (IRCH)	84	632	716
Tumor Clinic (main hospital)			5
Craniosynostosis clinic	Nil	Nil	Nil
CRHSP, Ballabgarh	Nil		

### Admissions

AB5 ward: 1095 (890 Long admissions; 205 short admissions) AB5/ICU: 68

### Surgical Procedures

#### Main OT:

**Routine:** Major Procedures: 401      Minor Procedures: 108  
**Emergency:** Major Procedures: 88      Minor Procedures: 5

**OPD Procedures (Total):** 1011

Biopsies in OPD: 45

**CRHSP, Ballabgarh:** Cases operated: nil

Minor procedures: nil

### Special Investigations

Urodynamic study: 32

Uroflowmetry: 7

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Sandeep Agarwala** was Executive Board Member for the Asian Association of Pediatric Surgeons; Section Editor for the Indian Journal of Pediatrics; Vice Chairman of the Resource Challenged Nations study group of SIOPEL; Chairman 63rd Annual Report Committee of AIIMS; Co-Chairman Pulse coordination committee for AIIMS 2020; Secretary AIIMSONIANS-The alumni association of AIIMS; Chairman of Messes, shops and establishments committee of AIIMS; Hostel Superintendent for AIIMS Hostels; Member, Committee for selection of Shri Mohan Lal Wig Medal for Clinical Research; Course Instructor for Surgical Oncology Course, Conducted by International Society of Pediatric Surgical Oncology (IPSO), and the European Board of Examination, and European society of pediatric Surgery prior to annual congress of the European society of pediatric Surgery; Examiner for MCh Pediatric Surgery for a number of universities; Expert committee member of faculty selection for a number of universities/Medical colleges.

**Dr Shilpa Sharma** was Awarded Fellowship of National Academy of Medical Sciences 2020; Nominated as Science Academy Member for The Inter-Academy Panel for Women in STEMM 2021-2025; Awarded Nari Gaurav Award 2020 for contribution to Society during the CoviD-19 Pandemic 2020 by Destination Group; Re-Elected for second term as World Council Member

of World Organization of Federation of Associations of Pediatric Surgeons 2020-2022, representing Australiasia; Executive Council Member of International Society of Hypospadias and DSD 2020-22; Elected as Executive Committee member of Indian Association of Pediatric Surgeons 2019-21; Elected President of Delhi Association of Pediatric Surgeons (DAPS) 2020-22; Honorary Secretary of Research Section of IAPS 2019-2021; Editorial Board Member - Pediatric Surgery International, Annals of National Academy of Medical Sciences, India, International Journal of Orthopedic Rheumatology (*stem cells & tissue regeneration*) & Journal of Pediatric and Adolescent Surgery, Pakistan; Member- Expert Group ICMR for formulating Stem cell Treatment Guidelines for Pediatric Surgery 2019/20; Member Standing Selection Committee for faculty recruitment of AIIMS, Patna for 2020; Member, Institute Ethics Committee, Super Specialty Pediatric Hospital & Postgraduate Teaching Institute, Sector 30, Noida; Member, Institute Research Committee, Super Specialty Pediatric Hospital & Postgraduate Teaching Institute, Sector 30, Noida; Member, Medical Specialist Cell constituted by National Health Authority under Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) to provide valuable inputs in their areas on expertise on Health Benefit Packages, Standard Treatment Guidelines, Medical audit and Quality of care etc. for the seamless implementation of the scheme.

**Dr Vishesh Jain** was Felicitated with the ‘Sushruta Medical Science Award (2020-21)’ award by the Samaj Vikas Sansthan, Meerut; Department nodal officer for COVID pandemic; Moderator of a session in International Conference on Hypospadias held on 12 February 2021 on virtual platform; Moderator of a session in International Conference on Hypospadias held on 13 February 2021 on virtual platform; Judge for poster presentation session in E-IAPSCON 2020 held on 18 October 2020 on virtual platform; Moderator of one sessions in national Conference of PESI, PESICON-2021, held on 19-21 March 2021 on virtual platform.

**Dr Anjan Dhua** was Member as External Expert of Technical Specification Committee for procurement of goods for Paediatric Surgery Department in ABVIMS, Dr RML Hospital, New Delhi; Departmental nodal officer for “fire safety drills” & “Contact tracing for COVID-19” at AIIMS, Delhi; Member of Institute’s “Convocation committee” & “Annual report drafting committee”; Moderator of 3 sessions in International Conference on Hypospadias held on 12 February 2021 on virtual platform; Moderator of a session in national Conference of Indian association of Paediatric Surgeons (IAPS), E-IAPSCON-2020; Judge for poster presentation session in E-IAPSCON 2020 held on 18 October 2020 on virtual platform; Moderator of two sessions in national Conference of PESI, PESICON-2021, held on 19-21 March 2021 on virtual platform; Elected as an Executive member (North Zone) of the Surgical Oncology Section of IAPS.

**Dr Prabudh Goel** was Felicitated with the ‘Sushruta Medical Science Award (2020-21)’ award by the Samaj Vikas Sansthan, Meerut; UC Chakraborty Award (2020) for the study: Serum MMP-7 as a Diagnostic and Prognostic Biomarker for Extra-Hepatic Biliary Atresia; KK Sharma Award (2020) for the study: Hepatic Perfusion Index - A Novel Non-invasive Method of Assessing Success Of Dean Warren Shunt In Cases of Extra Hepatic Portal Venous Obstruction; Swapna Dutta Award (2020) for the study: Urinary biomarkers as point-of-care tests for predicting progressive deterioration of renal function in congenital anomalies of kidney and urinary tract: trefoil family factors as the emerging biomarker; Moderator of a session in International Conference on Hypospadias held on 12 February 2021 on virtual platform; Moderator of 3 sessions in International Conference on Hypospadias held on 13 February 2021 on virtual platform; Thesis for 1 MCh (Paediatric Surgery), 1 MD (Nuclear Medicine) and 1 MSc (Nursing) students completed and submitted.

**Dr Ajay Verma** was Elected unopposed at executive member North Zone for PESI-IAPS for 2021-2023.



## 9.29. Pathology

### Professor and Head

Chitra Sarkar  
(September 2020)

Manoj K Singh  
(September 2020 to March 2021)

### Professors

Chitra Sarkar      Ruma Ray      Venkateswaran K Iyer  
MC Sharma      Sandeep R Mathur      Vaishali Suri

### Additional Professors

Deepali Jain      Prasenjit Das  
Sudheer Arava      Geetika Singh      Asit Ranjan Mirdha

### Associate Professors

Rajni Yadav      Seema Kaushal      Shipra Aggarwal  
Saumya Ranjan Mallick      Adarsh Barwad

### Assistant Professors

Aanchal Kakkar      Prashant Ramtake  
Kavneet Kaur      Aruna Nambiranjana  
Madhu Rajeshwari      Ruchi Rathore

### Group A Officers

Himender Singh Tomar      Rajeshwar Khadia

## HIGHLIGHTS

In the year 2020-2021, despite COVID-19 pandemic, Department of Pathology has been able to maintain high-level academics and good clinical services. The department is engaged in routine diagnostic reporting of Histopathology and Cytopathology cases and teaching of undergraduate and postgraduate students. The department provided services to large number of patients by processing approximately 21,747 surgical pathology and 11,007 cytopathology specimens. The department shifted to virtual platforms for online teaching of both undergraduate and postgraduate students, postgraduate seminars, journal clubs and various interdepartmental clinicopathological conferences. Digitized slides were used for postgraduate teaching in weekly slide seminars as well as in interdepartmental conferences. During this period, a monthly webinar series: Under My Scope, AIIMS Pathology Webinar Series was started with National and International guest speakers which is streamed on YouTube (Department of Pathology YouTube channel). The diagnostic immunohistochemical panel has been expanded and a total of 32,298 slides have been stained and studied during this period. The Department is regularly providing reports for Her-2/neu amplification in breast cancers, *EGFR* gene mutations, *ALK* and *ROS* rearrangements in lung cancer, and TCR clonality assay in lymphomas using molecular methods and has started providing *MYCN* amplification in pediatric neuroblastomas. The Department faculty have received funding for 37 extramural projects and 18 intramural projects related to pathology and molecular features of wide spectrum of neoplastic and non-neoplastic diseases. The faculty of the department have presented their research work at various virtual national and international conferences and received awards individually or to their residents. A total of 207 papers have been published in peer reviewed national and international journals. We have many faculty members contributing to World Health Organization (WHO) blue books for classification of tumors of various systems edited by International Agency for Research on Cancer (IARC), Lyon, France.

## EDUCATION

### Postgraduate

**MD students: 33      Senior Residents: 21      PhD students: 13**

### Short term training/Long term training

1. Dr Sheetal Arora has completed Short Term Observership from 16 March 2020 to 19 September 2020
2. Dr Natashahas completed Long Term Observership from 28 December 2018 to 27 December 2020
3. Dr Varun Bajajis currently undergoing Long Term Observership from 17 August 2020 to 16 August 2022

## CMEs /Workshop/Symposia/National and International Conferences

AIIMS Pathology Webinar Series entitled “Under my scope” monthly starting from August 2020 where National and International guest speakers are invited and is streamed on YouTube (Department of Pathology YouTube channel).

### Lectures delivered

<b>Manoj K Singh: 1</b>	<b>ChitraSarkar: 5</b>	<b>Tulika Seth: 20</b>
<b>Mehar C Sharma: 7</b>	<b>Vaishali Suri: 2</b>	<b>Sandeep Mathur: 2</b>
<b>Prasenjit Das: 3</b>	<b>Deepali Jain: 7</b>	<b>Sudheer Arava: 2</b>
<b>Geetika Singh: 4</b>	<b>Rajni Yadav: 5</b>	<b>Saumya Ranjan Mallick: 6</b>
<b>Shipra Agarwal: 1</b>	<b>Aanchal Kakkar: 2</b>	<b>Prashant Ramtake: 1</b>
<b>Kavneet Kaur: 1</b>	<b>Aruna Nambirajan: 2</b>	<b>Ruchi Rathore: 1</b>

### Manoj K Singh

1. Dermatopathology Jugalbandi: A medley of interesting cases, AIIMS Pathology Webinar Series, Under My Scope, 30 January 2021, Online, New Delhi

### Chitra Sarkar

1. General Pathology of CNS: An overview, Online Teaching Programme for Postgraduates in Pathology, 3 February 2021, Online, Mumbai
2. Slide seminar on CNS Tumors, Online Teaching Programme for Postgraduates in Pathology, 8 February 2021, Online, Mumbai
3. Pediatric Gliomas: How molecular genetics has reshaped clinical management, E-international conference of Brain Tumors, 04 February 2021, Online, Aligarh Muslim University
4. Basic Research, Meeting of the National Health Research Policy Committee, 5 February 2021, Online, New Delhi
5. Fifteenth Professor B Ramamurthi Memorial Oration.Titled: Molecular paradigms in Neuro-Oncology: How far have we come? National Brain Research Centre, 21 August 2020, Online, New Delhi

### Mehar C Sharma

1. Histopathology of normal muscle, Juvenile IIM & Mimics, 18th National Conference of Pediatric Rheumatology Society of India. Pediatric Rheumatology, 3 and 4 October 2020, Online (Sir Ganga Ram Hospital), Delhi
2. Role of immunohistochemistry in muscle diseases, AIIMS-PGI Neurology, 28 November 2020, AIIMS, Delhi
3. Recent advances in the diagnosis of pituitary tumors, DNACON, 5 and 6 February 2021, Online, Delhi
4. Clinicopathological correlation of neuronal and mixed glioneuronal Tumour, International Neuropathology, 16 February 2021, Online (Fortis Hospital), Gurugram
5. Interesting Cases presentation, IAPNA-ICP, 4-6 February 2021, Online, (Amrita Institute of Medical Sciences), Cochi, Kerala
6. Clinicopathological correlation (CPC), Neurology CPC 23 February 2021, Online, AIIMS, Delhi
7. Pathological aspects and Role of WHO Classification in prognostication of supra tentorial tumors in children, Webinar Indian Society of Pediatric Neurosurgery, 18 April 2020, Online, Delhi

### Vaishali Suri

1. Diffuse Gliomas in Adults: Setting the stage for 2020, Neuropathology society of India, December 12, 2020, Virtual
2. Histopathology and clinically relevant molecular markers for prognostication, DNACON 2021, 5-7 February 2020, Virtual (AIIMS, Delhi)

### Sandeep Mathur

1. Approach to Serous Effusions “Virtual Cytopathology CME 2020”, UP CYTOCON, 13 December 2020, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly (UP)
2. Pathological Spectrum of DCIS and its clinical correlation, Virtual conference on avoiding over and undertreatment of breast cancer, 5 November 2020, Max Hospital, Delhi

### Prasenjit Das

1. Inflammatory Bowel Disease, Online Teaching Program, Center for Oncopathology, TMH, Mumbai, 17 September 2020, Online Webinar, Online

2. Small bowel biopsies in Malabsorption Syndrome, Invited Speaker in 'Virtual Pathology Week' at Mahatma Gandhi Medical College & Research Institute, Puducherry, 20 November 2020, Online Webinar, Online
3. Demystifying the Whirlpool of Liver Biopsy, Invited Speaker in 'Neelam Pathology Lecture Series' organized by Dr Sayed Mahmood Nadeem, Course Coordinator, Nilam Pathology Lectures, IAPM division of West Bengal, 29 March 2021, Online Webinar, Online

#### **Deepali Jain**

1. Basics of pathology of ILDs for radiologists, SCII interstitial Lung Diseases Certification Course AIIMS New Delhi, 29 August 2020, Online
2. Advances in lung cancer cytology. KAPCON 2020 Karnataka, 3 October 2020, Online
3. Interesting cases in pulmonary and thoracic cytology, Dr MM Roy Memorial CME, West Bengal Cytology Society, 17 October 2020, Online
4. Comprehensive genomics data based on liquid biopsy, Molecular oncology & pathology workshop. 4th Annual year-end review TMH Mumbai, 5 December 2020, Online
5. Overview of lung cancer, Best of Journal of Cytology. Jewel-50 Webinar. Indian Academy of Cytologists, 9 January 2021, Online.
6. Interesting case discussion in respiratory tract. PURSUE series. Nilam Pathology Lecture Series, 10 March 2021, Online Pathology of lung cancer, NBE webinar DNB, 16 March, 2021 Online
7. Clinicopathologic conference, AIIMS Pulmocrit 2021, 20 March 2021, Online

#### **Sudheer Arava**

1. Interesting cardiovascular cases, Cardiovascular pathology group discussion, from 10 October 2020 to 23 January 2021 (Fortnightly, 8 Sessions), Webinar, New Delhi
2. Dermatopathology jugalbandi, AIIMS Webinar, Under my scope, 30 January 2021, AIIMS, New Delhi

#### **Geetika Singh**

1. Introduction to Immunofluorescence, Glomcon Virtual Fellowship, 1 October 2020, Online International
2. Normal histology and introduction to Medical kidney disease pathology, Online teaching program for Postgraduates of Pathology (OTPPGP), 10 December 2020, Online, National
3. Pathology of Membranous Nephropathy, Glomcon Virtual Fellowship, 4 February 2021, Online, International
4. Nephropathology to Nephrogenetics: Interesting cases from my practice, PURSUE, 12 March 2021, Online, National

#### **Rajni Yadav**

1. Non-neoplastic GI Pathology (Speaker), Basic Histopathology with Practical and Medicolegal Safeguards, 7 August 2020, Delhi
2. GI Pathology panel discussion (Panelist), Basic Histopathology with Practical and Medicolegal Safeguards, 5 September 2020, Delhi
3. Webinar "Under my scope" on Appendiceal Pathology (Moderator), AIIMS Pathology Webinar, 26 September 2020, Delhi
4. Slide Seminar of interesting cases (Speaker), SRL MEDTALK UVGH 2020, 10 October 2020, Delhi
5. Webinar "Under my scope" on Appendiceal Pathology (Moderator), AIIMS Pathology Webinar, 27 March 2021, Delhi

#### **Saumya Ranjan Mallick**

1. Mimickers of Lymphoma, Understanding of advances in pathology, 10 December 2020, Virtual, Organized by; AIIMS Bhatinda
2. EBV driven lymphoproliferative lesion AN Approach to diagnosis, Important aspects on Current Updates on Lymphoma" 21 February 2021, Virtual, Organized by Netaji Subhas Chandra BOSE Cancer Hospital, Kolkata
3. Lymphomas: Classification and Mimics by Dr Falko Fend, Mumbai Hematology Group live webinar, 5 December 2020, Virtual, Organized by Mumbai Hematology Group
4. Pathological aspects of aggressive T cell lymphomas that have a clinical impact, Dr Kikkeri Naresh, Mumbai Hematology Group live webinar, 12 December 2020, Virtual, Organized by Mumbai Hematology
5. Pathological aspects of aggressive B cell lymphomas that have a clinical impact, Dr Kikkeri Naresh, Mumbai Hematology Group live webinar, 19 December 2020, Virtual, Organized by Mumbai Hematology

6. Molecular testing in lymphomas/lymphoproliferative disorders: Current status and perspectives” with Dr Neeraj Arora, Mumbai Hematology Group live webinar, 7 February 2021, Virtual, Organized by Mumbai Hematology

#### **Shipra Agarwal**

1. The Pathology of Thyroid disorders, Cancer academy lecture series, 13 January 2021, New Delhi/ Online

#### **Aanchal Kakkar**

1. Salivary Gland Neoplasms: Expect the Unexpected!, Nilam Pathology Lecture series PURSUE 13A Pathology of Head and Neck, 3 March 2021, Webinar
2. Sinonasal Neoplasms: Horses, Zebras and Unicorns. PURSUE Series Head and Neck lectures, Nilam Pathology Lecture series PURSUE 13A Pathology of Head and Neck, 17 March 2021, Webinar

#### **Prashant Ramtake**

1. Case presentation, HEMATOCON Virtual 2020, 21 and 22 November 2020, Online, Online

#### **Kavneet Kaur**

1. Slide Seminar: CNS neoplasms, Online Teaching Program for Post Graduates in Pathology by TMC, Mumbai, 8 February 2021, Online, Webinar

#### **Aruna Nambirajan**

1. Cell Injury, Cell Death, and Adaptations – Molecular mechanisms of cellular adaptations and protein folding and autophagy, “Online Teaching Program for Post Graduates in Pathology” conducted by Centre for Oncopathology, Tata Trusts, 20 October 2020, Online, Webinar
2. Panel discussion on an interesting neurooncology case, Annual Conference of the Delhi Neurological Society (DNACON-2021), conducted by the Department of Neurology, AIIMS, New Delhi, 5 February 2021, Online, New Delhi

#### **Ruchi Rathore**

1. Cervical Cytology, Masterstroke classes on Cervical Cancer Prevention 17 February 2021, online, Haryana and Delhi

#### **List of oral papers/posters presented: 18**

1. Alam S, Goyal A, Kandasamy D, Bansal VK, Asuri K, Agarwal S, Khadgawat R. Resistant hypertension due to familial hyperaldosteronism type III: first report from Indian sub-continent, ENDO 2021, 20-23 March 2021, San Diego, USA/Online
2. Bajaj V, Bharadwaj N, Barwad A, Sinha A, Hari P, Bagga A, Dinda A, Singh G. Histomorphological and genetic spectrum of diffuse mesangial sclerosis: a description of three cases 4th International Renal Pathology Conference, 19-21 November 2020, Online, Warsaw, Poland
3. Chauhan J, Kharghoria G, Khaitan BK, Agarwal S, Shamim SA. Peripheral T-cell, lymphoma masquerading as pyoderma gangrenosum: virtual Annual Conference of Dermatopathology Society of India 2021, 15 and 16 January 2021, Vellore, India/Online
4. Dandapath I, Suri V, Sharma MC, Sarkar C. Molecular characterization of Idh wild type diffuse astrocytoma's: potential of the Cimpact-now guidelines, 5-7 February 2021, Virtual, Delhi
5. Devadasan H, Bajpai M, Yadav D, Sharma S, Yadav R, Mahajan D, Sehgal M. Immuno histochemistry staining by anti-telomerase reverse transcriptase antibody (TERT) as a marker for recurrence in hepatoblastoma: a pilot study, SIOP 2020, 14-17 October 2020, Canada (online) Online
6. Jain S, Goswami A, Ramteke P, Sharma MC, Gogia A, Sharma A, Agarwal M, Sahoo R, Bakhshi S, Dhawan R, Mallick S. Clinicopathological profile of peripheral T cell lymphoma, nos, and angioimmunoblastic T-cell lymphoma, SOHO Texas 2020, 9-12 September 2020, Texas, USA, Online
7. Jain S, Lone MR, Goswami A, Mandal T, Panda AK, Ramteke P, Srivastav T, Sharma MC, Gogia A, Sharma A, Bakhshi S, Mohapatra M, Kumar L, Mallick S. Updated purview of Lymphomas in India: a Tertiary care centre review, SOHO Texas 2020, 9-12 September 2020, Texas, USA, Online
8. Jain S, Mallick S, Ramteke P, Gogia A, Agarwal M, Dass J, Yadav R, Sharma MC. Pandora box of lymphomas in spleen, SOHO Italy 2020, 22-24 September 2020, Rome, Italy, Online
9. Jain S, Mallick S, Ramteke P, Soneja M, Dey AB, Gogia A, Bakhshi S, Sharma MC. The benign masquerader: two case reports of chronic epstein barr virus infection- related lymphoproliferative disease, HEMATOCON 2020, 21 and 22 November 2020, India, Online

10. Kakkar A, Roy D, Kaur K, Birua N, Chatterjee P, Thakar A, Evaluation of Head and Neck Paragangliomas using Immunohistochemical Surrogates for *SDHx* and *ATRX* Molecular Testing, USCAP 2021, 110th Annual Meeting, 13-18 March 2021, Virtual Interactive mode, Online
11. Kaur K, Suri V, Sharma MC, Suri A, Sarkar C. A clinicopathological study of immunogenicity and immune evasion mechanisms among molecular subgroups of medulloblastoma, The 19th International Symposium on Pediatric Neuro-Oncology (ISPNO 2020), 13-16 December 2020, virtual conference, (Nagano, Japan), Online
12. M Akgul, N Pattnaik, S Mishra, Kaushal S....Mohanty S, et al. Utility of GATA3 expression in Clear Cell Adenocarcinoma of the urinary bladder, USCAP 2021, 17 March 21, virtual conference
13. Mondal T, Mallick S, Ramteke P, Jain S, Bakshi S, Pushpam D, Sharma MC. Rare case of histiocytic disorder presenting as neck swelling in a young girl: a case report, HEMATOCON 2020, 21 and 22 November 2020, India, Online
14. Nambirajan A, Sharma A, Rajeshwari M, Boorgula M, Doddamani R, Garg A, Suri V, Sarkar C, Sharma MC. EZH2 inhibitory protein (EZHIP/Cxor67) expression is highly concordant with H3K27me3 loss and is a promising surrogate marker for posterior fossa type A ependymomas, ISPNO (International Society of Pediatric Neurooncology Meeting), 2020, in Karuizawa, Nagano, Japan, 13-16 December 2020, virtual interactive mode, Online
15. S Kaushal, H Khandakar, H Jangir, A Seth, R Sahoo, A Dinda. Prognostic stratification of molecular subtypes and their correlation with PDL1 Expression and tumor infiltrating lymphocytes in muscle invasive bladder cancer. USCAP 2021, 17 March 21, Virtual Conference
16. Singh J, Suri VS, Sharma MC, Sarkar CS. Gene expression based profiling of Pleomorphic Xanthoastrocytoma highlights two prognostic subgroups, DNACON, 5-7 February 2021, Virtual, Delhi
17. Singh TR, Goel P, Bajpai M, Kandasamy D, Malik R, Yadav R, Prakash S, Kalaivani M, Tripathi M, Yadav DK, Dhua AK, Jain V, Agarwala S. Serum MMP-7 as a diagnostic and prognostic biomarker for Extra-Hepatic Biliary Atresia, IAPSCON 2020, 16-18 October 2020, Online
18. Yadav D, Mahajan S, Khandpur S, Pandey S, Agarwal S. Diagnostic accuracy of transverse versus serial vertical sectioning in histopathological evaluation of alopecia: a prospective comparative study. Virtual Annual Conference of Dermatopathology Society of India 2021, 15 and 16 January 2021, Vellore, India/Online

## RESEARCH

### Funded projects

#### Ongoing

1. Assessment of hypoxia inducible factor- 1 alpha pathway activation and its correlation with tumor immune microenvironment and markers of tumor invasiveness in myxopapillaryependymomas, ArunaNambirajan, AIIMS Intramural, 2 years, 2021 and 2022, Rs 10 lakhs
2. Clinicopathological and serological assessment of adult-onset idiopathic inflammatory myopathies(IIM) aimed at improved characterization of sporadic inclusion body myositis, Professor MC Sharma, ICMR, 3years, 2020-2023, Rs 50 lakhs
3. Comparative analysis of the activation of EGFR/MAPK/SHH/NFKB pathways and mutation status of USP8/ USP48/BRAF genes in clinically functioning and silent corticotroph pituitary adenomas to identify pharmacological targets for medical management of Cushing's disease, ArunaNambirajan, ICMR, 3 years, 2021-2023, Rs 27 lakhs
4. Comparison of various diagnostic modalities for identification of refractory celiac disease in a cohort of patients with celiac disease unresponsive to gluten -free diet, Dr P Das, ICMR, New Delhi, 3 years, 2019-22, Rs 38,29,570 lakhs
5. Correlation of Immunologic Milieu and PD-L1 in Non-Small Cell Lung Carcinoma, Deepali Jain, Research section, AIIMS, New Delhi, 2 years, 2018-2020, Rs 8 lakhs
6. Detection of SARS-CoV-2 nucleocapsid protein and evaluation of histological changes in tissue specimens for insights into COVID-19 pathogenesis. AanchalKakkar, AIIMS COVID Intramural Project, 1 year, 2020-2021, Rs 10 lakhs
7. Development of labyrinth based mechanical and fast isolation technique for identifying circulating tumor cells of colorectal carcinomas for metastasis evaluation, AsitRanjanMridha, DHR, 3 years, 2019-2022, Rs 30 lakhs
8. Development of Labyrinth based mechanical and fast isolation technique for identifying circulating tumor cells of colorectal carcinomas for metastasis evaluation, Dr Asir R Mridha, DHR, 3 years, 2019-2022, Rs 30 lakhs
9. DHR-ICMR Advance Medical Oncology Diagnostic Services (DIAMONDS) under HTAInpiot research project, Professor Chitra Sarkar, DHR-ICMR, 3 years, 2020-2023, Rs 1.7 crores
10. Dissecting the molecular pathogenetic mechanisms of Covid-19 by RNA-sequencing of lung tissue from deceased patients, Deepali Jain, Research Section AIIMS, 1 year, 2020-2021, Rs 10 lakhs



11. Establish robust and economical blood-based panel of diagnostic biomarkers for early diagnosis, detection of tumor progression and its recurrence in gliomas. Professor V Suri, ICMR, 3 years, 2021-2024, Rs 1 Crore
12. Evaluation of Artificial Intelligence as a diagnostic tool for automated detection and grading of Colorectal Cancer, Dr Rajni Yadav, AIIMS-IIT Delhi, 2 years, 2018-2021, Rs 20 lakhs
13. Evaluation of EGFR mutations, HPV status and PD-L1 expression in pathogenesis of sinonasal squamous neoplasms, AanchalKakkar, AIIMS Intramural, 2 years, 2019-2021, Rs 10 lakhs
14. Evaluation of machine learning techniques including deep learning for identification of malignancy in Tissue Samples
15. Evaluation of potential diagnostic value of circRNA in meningiomas for riskstratification and its role in therapeutic intervention, Professor V Suri, ICMR, 3 years, 2020-2023, Rs 78 lakhs
16. Explainable deep learning for automated evaluation andgrading of duodenal biopsies, Dr P Das and Dr Mausam, AIIMS – IIT Delhi Collaborative Research Project for the year 2019 – 2020, 2 years, 2019-20 and 2020-2021, Rs 10 lakhs
17. Gene expression profile of Alk Positive Anaplastic Large Cell
18. Identification of novel molecular subtypes of prostate cancer as potential therapeutic targets for immunotherapy, Dr Seema Kaushal, ICMR, 3 Years, 2020-2023, Rs 45 lakhs
19. Imaging BioBank for Cancer, Dr Manoj Kumar Singh, DBT and TATA CANCER HOSPITAL, 3 years, 29 February 2020 to 28 February 2023, Rs 39,92,640 lakhs
20. Immunomodulators in small cell lung cancer: basis for implementation of cancer immunotherapy, Deepali Jain, Department of Science & Technology, 3 years, 2019-2022, Rs 40 lakhs
21. Immunohistochemical characterization of four common viruses in a clinically suspected cases of viral myocarditis, SudheerArava, AIIMS. Research section Intramural, 2 years 2018-2019, Rs 10 lakhs
22. Immunophenotypic profile of tumour infiltrating cells of the immune system and expression of PDL1 in triple negative/Her-2 neu positive breast cancer patients and their correlation with response to neoadjuvant chemotherapy, Dr Sandeep R Mathur, DST, 3 years, 2017-2020
23. Incidental Gall Bladder Carcinoma: A prospective multicenter study, P Das (ICMR appointed External Quality Coordinator), NCDIR, ICMR, Bangalore 2019-2022, 3 years, 2019-2022, Rs 6 lakhs
24. Integrative transcriptome analyses of different histological and molecular subgroups of meningiomas to identify prognostic signature and therapeutics, Professor V Suri, ICMR, 3 years, 2019-2022, Rs 62 lakhs
25. JC Bose Research Fellowship, Professor Chitra Sarkar, Department of Science & Technology, 5 years, 2016-2020, Rs 19 lakhs, per year
26. miRNA as disease modifier in HLA-DQ2/DQ8 matched first-degree relatives of patients with celiac disease' Dr P Das, DST, India, 3 years, 2018-2021, Rs 45 lakhs
27. Molecular characterization of Endometrial Cancer and its correlation with, clinicopathological features, Dr Sandeep R Mathur, AIIMS, 2 years, 2018-2021, Rs 10 lakhs
28. Molecular characterization of olfactory neuroblastomas for classification into prognostically and therapeutically relevant subgroups, AanchalKakkar, Science and Engineering Research Board (SERB), 3 years, 2020-2023, Rs 47 lakhs (Approx.)
29. Molecular characterization of Salivary Gland Carcinomas: a comparative study between AIIMS and North-East regions of India. AanchalKakkar and Evarisalin Marbaniang, DBT, 2 years, 2021-2023, Rs 86 lakhs (Approx.)
30. Molecular subtyping of Muscle Invasive Bladder Cancer on the basis of IHC markers, Dr Seema Kaushal, AIIMS, 2 Years, 2019-2021, Rs 4.9 lakhsper year
31. Molecular sub-typing of Small Cell Lung Carcinoma (SCLC) to unravel the biological heterogeneity in clinical settings: an observational study, Deepali Jain, ICMR, 3 years, 2020-2023, Rs 26 lakhs
32. MUC1 Pulsed DC-derived exosomes for cancer immunotherapy. AdarshBarwad, DBT funded, 3 years, 2019-2021, Rs 62,27,000
33. Normal superior and inferior parathyroid glands: molecularly similar or dissimilar? Dr Shipra Agarwal, AIIMS, New Delhi, 2 years, 2019-2021, Rs 10 lakhs
34. Novel minimally invasive implants for Reconstructive surgery using Materials providing mechanical instruction and prepared by 3D printing. Dr AK Dinda, DBT, (Indo-Dutch), 18.06.2018 – 17.06.2021, Rs 50,88,400.00
35. Novel Molecular Subtypes of Uterine sarcoma, Dr Ruchi Rathore, AIIMS Intramural Grant, 2 years, December 2020, Rs 10 lakhs
36. P53 mutation and its relevance to treatment in patients with advanced soft tissue sarcoma: a Pilot Study. Asit Ranjan Mridha, AIIMS, New Delhi, 2 year, 2018-2020, Rs 10 lakhs

37. Pharmacological effects vitamin D in diabetic cardiomyopathy via ACE2/Angiotensin (1-7)/Mas receptor axis in experimental diabetic rats (Collaborative research), Asit Ranjan Mridha/Dr Harlokesh Narayan Yadav, AIIMS, New Delhi, 2 years, 2019-2021, Rs 20 lakhs
38. Proposal for “developing (creating and testing) training modules on self breast examination (sbe) and clinical breast examination (cbe) for accredited social health activists (asha) and auxillary nurse midwives (anm) and translate it into different regional languages”. Dr Manoj Kumar Singh, Ministry of Health & Family Welfare Govt. of India, and Director, National Health Mission, Nirman Bhawan, New Delhi, 2 years, 23 September 2019 to 22 September 2021, Rs 5 lakhs
39. Proposal for Creating and Testing Virtual Teaching Modules (MOOCs) in various areas of Healthcare” Dr Manoj Kumar Singh, SWAYAM & SWAYAM PRABHA (Ministry of HRD), 3 years, 9 October 2018 to 8 October 2021, Rs 3.15 lakhs
40. Relook at adult low grade glioneuronal tumors of central nervous system beyond 2016 WHO classification, KavneetKaur, AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs
41. Sequencing target genes aimed at neuromuscular disorders in India (STAND-INDIA), Professor MC Sharma, ICMR, 3 years, 2018-2021, Rs 50 lakhs,
42. Study of HPV association in sino-nasal epithelial tumors, Deepali Jain
43. Study of inherited mismatch repair deficiency and its correlation with tumor mutations burden and immune microenvironment in pediatric and adult gliomas (2020-5232), KavneetKaur, ICMR, 3 years, 2020-2023, Rs 37 lakhs
44. Study of Urinary Exosome as a predictive biomarker for podocytic injury in childhood idiopathic nephrotic syndrome, Geetika Singh, DBT, 3 years, 2018- 2021, Rs 76,17,160
45. Sudden cardiac death; Histopathological and molecular study to identify the course SudheerArava, ICMR, 3 years, 2019-2021, Rs 69 lakhs
46. Targeted genomic-epigenomic analysis to develop a novel approach for routine molecular subgrouping and identification of actionable targets in meningioma, Professor VSuri, DST, 3 years, 2018-2021, Rs 40 lakhs (approx.)
47. Technology Mediated Delivery of Courses in Medical Science Education for NER Medical Colleges, Dr Manoj Kumar Singh, Technology Mediated Delivery of Courses in Medical Sciences Education for NEF Medical Colleges, 3 years, 1 April 2020 to 31 March 2023, Rs 44.19 lakhs
48. The Genetic Landscape of Alport Syndrome in India with Phenotypic Correlation, Geetika Singh, ICMR, 3 years, 2020-2023, Rs 50,50,000
49. To analyse the molecular profile of paediatric gliomas and establish robust and economical methods for molecular subgrouping and risk stratification, Professor V Suri, DBT, 3 years, 2021-2024, Rs 1 crore
50. To evaluate the molecular subtypes of peripheral T Cell Lymphomas, Dr Saumyaranjan Mallick, AIIMS, 2 years, 2019-2020, Rs 10 lakhs
51. To evaluate the role of R2TP complex as a novel regulator of PI3K/Akt/mTOR and AR signalling pathway in prostate cancer, Dr Seema Kaushal, DHR, 3 Years, 2020-2023, Rs 46 lakhs
52. Tumorimmune landscape: PDL1 expression and evaluation of tumor immune interplay by investigating the immune cell infiltration in supratentorial ependymoma and its correlation with survival outcomes, Professor MC Sharma, ICMR, 3 yeras, 2020-2023, 35 lakhs
53. Tumor mutation burden in advanced non-small cell lung carcinomas: Implications for planning treatment strategies, Deepali Jain, DST-SERB, 3 years, 2021-2024, Rs 30 lakhs
54. Unravellingthe functional relevance of Snail paralogs in the pathogenesis of pediatricependymomas, Professor MC Sharma, DST, 3years, 2018-2020, Rs 45 lakhs
55. Utility of Artificial Intelligence in differentiating Non-invasive Follicular Thyroid Neoplasm with Papillary like Nuclear Features from other follicular-patterned thyroid benign and malignant lesions, Dr Shipra Agarwal, DBT, 3 years, 2020-2023, Rs 17,54,844

### **Completed**

1. A comprehensive analysis of mammalian target of rapamycin (mTOR) and mitogen activated protein (MAP) Kinase signaling pathways in non- small cell lung carcinoma, Deepali Jain, Lady Tata Memorial Trust, Young Researcher Award, 5 years, 2015-2020, Rs 29 lakhs
2. A multi-centric study to develop comprehensive molecular genetic panels for glioblastoma personalized therapy. Dr Chitra Sarkar, Department of Biotechnology, 5 years, 2016-2021, Rs 50 lakhs (approx.)
3. Analysis of circulating DNA for BRAF (T1799A) mutation as a futuristic non-invasive tool for diagnosis of papillary thyroid cancer. Dr Shipra Agarwal, ICMR, 3 years, 2018-2020, Rs 8,12,645

4. Identification of non-coding RNA panel as novel biomarker for stratification of meningiomas and evaluation of its prognostic therapeutic significant, Prof. V Suri, Multi-Institutional Faculty Interdisciplinary Research Project with IIT Delhi, 3 years, 2018-2020, Rs10 lakhs
5. Molecular signature of protumorigenic inflammation in the context of the WHO 2016 classification of glioma, Professor V Suri, AIIMS inter departmental collaborative project, 3 years, 2018-2020, Rs 20 lakhs
6. Study of clinical, laboratory and pathological profile of pediatric patients with persistent cholestasis, Dr Rajni Yadav, AIIMS, Delhi, 2 years, 2018-2020, Rs 9,90,000
7. Surrogate molecular and Immunohistochemical markers to categorize the colorectal carcinomas as per the comprehensive molecular subtypes and its clinical relevance, Dr P Das, AIIMS, New Delhi, 2 years, 2019-2021, 10 lakhs
8. The Virtual Skills Laboratory, Dr Manoj K Singh, Deity (Department of Electronics and Information Technology, 2 years, 10 October 2014 to 9 October 2016 and extended upto 8 October 2018, Rs262.5 lakhs
9. Unraveling the role of miRNA clusters (C14MC & C19MC) in oligodendrogliomas: study using genetic and functional approach with clinicopathological correlations, Professor Chitra Sarkar, ICMR, 3 years, 2017-2020, Rs 10 lakhs per year

## **Departmental projects**

### ***Ongoing***

1. A study to develop nano-LAMP based detection for BK virus in post-renal transplant individuals.
2. Assess molecular and immune profile of PXA
3. Assess molecular profile of meningiomas
4. Assessment of differences of molecular pathogenesis in right and left colonic aberrant crypt foci and carcinomas
5. Clinico- pathological profile of anaplastic large cell lymphoma
6. Clinico pathological study of post-transplant endomyocardial biopsies
7. Development of quick and specific detection system of EWS-FLI-1 fusion protein
8. Diagnosis of NIFTP using molecular criteria and nuclear characteristics evaluated by artificial intelligence: a preliminary study
9. Effect of environmental particulate matter (urban pollutants) and gaseous (SO<sub>2</sub>) pollutants on placental trophoblast invasion and differentiation: an insight into the role of pollution in placental insufficiency and maternal and child health.
10. Evaluation of chromatin remodeling, mTOR pathway and SSTR expression in pancreatic neuroendocrine neoplasms
11. Evaluation of EGFR mutations and AKT/ mTOR pathway in sinonasal squamous neoplasms
12. Evaluation of MSI and PDL1 expression in upper tract urothelial carcinomas
13. Expression of PD-L1 in conventional osteosarcoma and high-grade undifferentiated sarcoma of bone and PD 1 in tumour infiltrating lymphocytes its correlation with disease progression
14. Genetic changes of TP53 and its role in treatment management of patients with advanced soft tissue sarcoma
15. Heterogeneity of histological findings across biopsy fragments taken from patients with celiac disease
16. Histopathological evaluation of surgically excised rheumatic heart valves
17. IDH mutation assessment by Sanger sequencing and ddPCR
18. Immune microenvironment of anaplastic thyroid carcinoma
19. Immunoblot for dysferlin and calpain
20. Immunofluorescence for dysferlinopathy
21. Immunohistochemical characterization of sinonasal undifferentiated carcinoma into IDH2 mutant and SMARCA4 (BRG1) deficient carcinoma
22. Line immuno assay for myositis specific and myositis associated autoantibody detection
23. Molecular profile of IDH wildtype and mutant gliomas
24. PD-1 and PD-L1 interaction in undifferentiated pleomorphic sarcoma of soft tissue.
25. Programmed death ligand -1 expression in molecular subtypes of muscle invasive bladder cancer
26. Role of mpMRI in grading of SOFT TISSUE SARCOMA
27. Study of exostosin, NELL1 and semaphorin 3B in membranous nephropathy
28. Study of EZH2 and MYD88 gene mutation in DLBCL, NOS
29. Study of histopathological characteristics, C-KIT, PDGFRA mutations and SDHB expression in gastrointestinal stromal tumors

30. Study of intra-tumoral heterogeneity in surgically resected gall bladder adenocarcinoma
31. Study of p53 immunoeexpression and Ki67 LI in patients with advanced soft tissue sarcoma
32. Study of PD-L1 expression and correlation with mutational profiling in thyroid carcinomas
33. Study of WNT and Sonic hedgehog signaling pathways in olfactory neuroblastoma
34. Study on the activation of lectin pathway of complement in membranoproliferative glomerulonephritis
35. Study to assess feasibility of creating a tissue engineered trachea in wistar rat model.
36. Sudden cardiac death in young: an histopathological and molecular study to identify the cause
37. The modulation of insulin resistance and HDL quality by adipose tissue ABCA1 and metabolic status.
38. To analyse immune microenvironment of different grades of gliomas
39. Ultrastructure level mechanism of nanoparticle interaction, internalization and trafficking at cellular level.

### ***Completed***

1. A comparative study of efficacy and composition of various cell populations of extracted hair follicle outer root sheath cell suspension prepared using a single enzyme (trypsin) and multiple enzymes (trypsin, collagenase and dispase) for transplantation in vitiligo
2. An immunohistochemical and ultrastructural study of glomerular capillary endothelial injury in cellular rejection
3. Analysis of EGFR downstream pathways in NSCLC and elucidating mechanisms for TKI resistance
4. Clinicopathological study of infant gliomas
5. Diagnosis of NIFTP using molecular criteria and nuclear characteristics evaluated by artificial intelligence: A Preliminary Study
6. Differential expression of apoptosis related miRNA in diagnosis and Prognosis of Wilms Tumor and Neuroblastoma (co-guide)
7. DNA methylation array for molecular subgrouping of medulloblastomas
8. Expression of Matrix Metalloproteinase-2, Matrix Metalloproteinase-9, Tissue Inhibitor Metalloproteinase-1, Tissue Inhibitor Metalloproteinase-2, Collagen I and IV Expression in Thoracic Aortic Aneurysms
9. Fibrillin 1 gene mutation and TGF beta in TAAA of non marfanoid individuals
10. Histological analysis and subcategorisation of progressive familial intrahepatic cholestasis
11. Immune microenvironment of Anaplastic Thyroid Carcinoma
12. Membranous Nephropathy: a study of immunofluorescence, electron microscopy and PLA2R profile with clinical correlation
13. Molecular characterization of Endometrial Cancer and its correlation with Clinicopathological Features
14. p53 mutation and its relevance to treatment in patients with advanced soft tissue sarcoma – A pilot study
15. Ras homolog gene family (RHOA) and Isocitrate dehydrogenase 2 (IDH2) mutation in Angioimmunoblastic T cell Lymphoma (AITL)
16. Study of galactose deficient IgA1 in glomerular diseases
17. Study of PD-L1 expression and correlation with mutational profiling in thyroid carcinomas
18. Subtyping of primary muscle invasive bladder carcinoma into basal and luminal types on the basis of immunohistochemical markers
19. Targeted sequencing of IDH negative gliomas
20. Utility of a panel of surrogate immunohistochemical and molecular markers to classify human colorectal carcinomas according to the consensus molecular subtypes and clinical correlation

### **Collaborative projects**

#### ***Ongoing***

1. A clinico-histopathological review of cases diagnosed histologically as sarcoidal tissue reaction: A retrospective descriptive study. Department of Dermatology, AIIMS, New Delhi
2. A prospective comparison of mri-inbore targeted biopsy with 12-core systematic transrectal ultrasound biopsy in the diagnosis of prostate cancer, Radiology, AIIMS, New Delhi
3. A prospective observational study comparing CT scan vs PET CT scan in carcinoma ovary for determining the preoperative disease burden and resectibility. Surgical Oncology
4. A Prospective study to determine early predictive factors of hypocalcemia in patients undergoing total or completion thyroidectomy. Department of ENT, AIIMS, New Delhi

5. A prospective study to evaluate the accuracy of axillary staging using ultrasound guided fine needle aspiration cytology (fnac) in early breast cancer patients, Surgical Oncology
6. A Study of immune pathways in the pathogenesis of chronic pancreatitis, gastroenterology
7. A study to develop nano-LAMP based detection for BK virus in post-renal transplant individuals. Anatomy, AIIMS, New Delhi
8. Assessment of disease severity in patients with epithelial ovarian cancer by EMT related protein expression and micro RNA 200a,b,c”
9. Autoantibody associated alternative complement pathway dysregulation in nephrotic syndrome secondary to membranoproliferative glomerulonephritis, Division of Pediatric Nephrology, Department of Pediatrics, AIIMS, New Delhi
10. Autologous non cultured dermal cell suspension transplantation in treatment of facial volume loss, Dermatology, AIIMS
11. Bio statistical aspects of prognostic factors including molecular parameters in breast cancer patients: An epidemiological appraisal
12. Biochemical and enzymatic analysis of bile in choledochal cyst and their correlation with histopathological features and expression of immune modulators, pediatric surgery
13. Biomarkers based early diagnosis and understanding of breast cancer metastasis by infrared imaging
14. BRCC3 expression as a prognostic marker in oropharyngeal squamous cell carcinoma patients and its effects on radiotherapy resistance, Otorhinolaryngology and Head Neck Surgery, AIIMS
15. Cancer stem cells in colon carcinoma, Biochemistry, AIIMS, New Delhi
16. Cellular and immunomodulatory functions of Dipeptidylpeptidase III in esophageal cancer, Biochemistry
17. Comparative evaluation of MicroRNA profiling and cytokine profiling analysis in patients with pulmonary sarcoidosis and mediastinal tuberculosis, pulmonary medicine. AIIMS
18. Comparative evaluation of miRNA in mediastinal sarcoidosis and tuberculosis
19. Comparison of quality of life between patients undergoing endoscopic thyroidectomy and conventional open thyroid surgery, Department of surgical disciplines, AIIMS, New Delhi
20. Comparison of standard 12 cores systematic TRUS guided biopsy and MRI-fusion biopsy in the detection of prostate cancer-a prospective randomized study. Urology, AIIMS, New Delhi
21. Correlation of barrel index determined by MRI in early cervical cancer with operability, lymph node status and local extension of disease, Gynaecology and Obstetrics
22. CT texture analysis of renal masses for prediction of histopathology, radiology, AIIMS, New Delhi
23. Development of a new formulation and packaging for reducing adverse effects and injection pain of mycobacterium vaccine and its clinical trial in recalcitrant anogenital and extra-genital (common) warts, Dermatology, AIIMS, New Delhi
24. Development of non-invasive diagnostic kit for ovarian cancer: A new walk on old path, Biophysics
25. Development of quick and specific detection system of EWS-FLI-1 fusion protein, anatomy, AIIMS, New Delhi
26. Differences in the microvessel density and growth factors between the inner and outer preputial skin in distal hypospadias, pediatric surgery, AIIMS, New Delhi
27. Differential expression of apoptosis related miRNA in diagnosis and prognosis of wilmstumor and neuroblastoma, department of pathology, AIIMS, New Delhi
28. Dynamic contrast enhanced MR perfusion in the assessment of angiogenesis in juvenile nasopharyngeal angiofibroma (JNA), radiology, AIIMS
29. Effect of environmental particulate matter (urban pollutants) and gaseous (SO<sub>2</sub>) pollutants on placental trophoblast invasion and differentiation: An insight into the role of pollution in placental insufficiency and maternal and child health. Biochemistry, AIIMS, New Delhi
30. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Department of Microbiology, AIIMS, New Delhi
31. Electron microscopic and genetic study in primary ciliary dyskinesia, Pediatric pulmonology, AIIMS, New Delhi
32. Establish robust and economical blood-based panel of diagnostic biomarkers for early diagnosis, detection of tumor progression and its recurrence in gliomas. IGIB, Delhi
33. Estrogen Related Receptor gamma (ERR $\gamma$ ) as a potential biomarker and therapeutic target for thyroid cancer and its correlation with iodine handling genes in thyroid cancer. Department of Medical Oncology Lab, AIIMS, New Delhi
34. Etiological and clinical profile of patients with Ectopic ACTH syndrome: Ambispective study, Department of Endocrinology, Metabolism and Diabetes, AIIMS, New Delhi



35. Evaluation of Coronavirus in tears and conjunctival secretions of patients with SARS COVID19
36. Evaluation of genetic profile of olfactory neuroblastomas, Otorhinolaryngology and Head Neck Surgery, AIIMS
37. Evaluation of immune checkpoint in tumor microenvironment of osteosarcoma, AIIMS Intramural with Dept of Orthopaedics and Pathology
38. Evaluation of Immune escape mechanism in RCC, Biochemistry, AIIMS New Delhi
39. Evaluation of potential diagnostic value of circRNA in meningiomas for riskstratification and its role in therapeutic intervention, IIT, New Delhi,
40. Evaluation of renal cell carcinoma with C11-Methionine PET/CT and comparison with 18FFlourodeoxyglucosw PET/CT Nuclear Medicine, AIIMS, New Delhi
41. Evaluation of unknown head and neck primaries metastatic to cervical lymph nodes, Otorhinolaryngology and Head Neck Surgery, AIIMS
42. Exploring the phenotypic and functional role of  $\gamma\delta$  T cell subsets along with Pattern recognition receptors (PRRs) in the immunopathogenesis of Pemphigus Vulgaris". Pharmacology, AIIMS
43. Exploring the role of adipose tissue ABCA1 in determining serum HDL cholesterol, Biochemistry, AIIMS, New Delhi
44. Fat gene in gliomas, Department of Biochemistry
45. FBXO4 as a novel Ubiquitin Ligase that targets cyclin D1 in pathogenesis of breast cancer. Biochemistry
46. Finding the correlation of toll like receptors (TLRs) with inflammation in patients with chronic heart failure, Cardiology. Safdarjung hospital
47. Genetic study on sertolicell only syndrome, Reproductive Biology, AIIMS, New Delhi
48. Histomorphological and clinical study in patients of ENL reactions, Dermatology, AIIMS, New Delhi
49. Histomorphological study of post-transplant endomyocardial biopsies, Pathology. AIIMS
50. Identification of glucose related protein 78(GRP78) as a biomarkerfor tumorbehaviorin patients of renal cell carcinoma. Urology, AIIMS, New Delhi
51. Identification of potential molecular markers (PRL3 phosphatase, CAV2, LAMA4) in renal cell carcinoma for predicting tumour behaviour, Urology, AIIMS, New Delhi
52. Imaging BioBank for cancer (DBT 2020-2023), Tata Memorial Hospital and 4 other Centres
53. Metabolic associated liver disease (MAFLD) in lean and obese: Search for disease and progression biomarkers, Gastroenterology
54. Morphometric study of pulmonary blood vessels in cases of tetralogy of fallot
55. MUC! Pulsed DC-derived exosomes for cancer immunotherapy. AIIMS and IIT, Delhi
56. Mycobacterium paratuberculosis in human Crohn's disease and Jone's disease: A multicenter Indian study, Gastroenterology, AIIMS
57. Neutrophil Dysfunction in Acute-on-Chronic Liver Failure is Linked to ELANE, MPO andCD177, Biochemistry, AIIMS
58. Optical characterization of breast cancer, Surgery
59. Pharmacological effects vitamin D in diabetic cardiomyopathy via ACE2/Angiotensin (1-7)/Mas receptor axis in experimental diabetic rats (Collaborative research), Pharmacology, AIIMS, New Delhi
60. Phase II study of hypo-fractionated accelerated radiotherapy with concurrent and maintenance temozolomide in newly diagnosed IDHwt Anaplastic Astrocytoma (NCI-R-01-HyRAA), Radiation Oncology, AIIMS
61. Phenotypic and molecular characterization of Th17 and Treg cells in renal cell carcinoma, Biochemistry, AIIMS, New Delhi
62. Prevalence and characteristics of multiple endocrine neoplasia in cases with primary hyperparathyroidism admitted in Endocrine ward in the last 5 years: A retrospective study, Department of Endocrinology, Metabolism and Diabetes, AIIMS, New Delhi
63. Prevalence of circulating tumour cells (CTC) in patients with periampullary carcinoma and its correlation with recurrence-free and overall survival, Department of GI surgery and Liver Transplant
64. Prospective evaluation of diagnostic imaging methods and its impact on surgical decision-making algorithm in the management of nodal disease in recurrent differentiated thyroid cancer and audit of the thyroid cancer database for evaluation of clinical and surgical spectrum and outcomes
65. Retrospective analysis of testicular germ cell tumours at IRCH, AIIMS
66. Role of advanced MRI techniques in Non-alcoholic fatty liver disease, Radiology, AIIMS

67. Role of B Cells in urinary bladder carcinoma, Biochemistry, AIIMS, New Delhi
68. Role of circulating tumour cells and CXCR1 expression in patients with metastatic RCC, Urology, AIIMS, New Delhi
69. Role of integrated 18 F-Fluorocholine PET/4DCT in the localization of culprit lesions in patients with primary hyperparathyroidism, Department of Nuclear Medicine, AIIMS, New Delhi
70. Role of micro RNA in identifying benign versus malignant variety of cystic neoplasm of pancreas, Gastroenterology
71. Role of MRI in evaluation of residual tumor burden following neoadjuvant chemotherapy in patients with breast cancer, Radiodiagnosis
72. Role of PAQosomecomplex in the regulation of beta oxidation during prostate cancer progression, Biochemistry, AIIMS, New Delhi
73. Role of phosphofructokinase-P (PFKP) in breast cancer, Med Oncology BRA-IRCH
74. Role of shearwave elastography and multiparametric MRI in the assessment of endometrial pathology, Radiodiagnosis
75. Study of autophagy associated HMGB-1 and its related molecules in urothelial carcinoma of bladder. Biochemistry, AIIMS, New Delhi
76. Study of cardiac markers, gross findings and histopathological Changes in heart in cases of suspected cardiac death, Forensic Medicine. AIIMS
77. Study of heavy metals as etiology for carcinoma of gallbladder, Surgical Oncology
78. Study of histomorphological, proteomics and collagen in rheumatic heart valve specimens, CTVS, New Delhi
79. Study of intestinal stem cell niche in celiac disease, Gastroenterology, AIIMS and RCB, Faridabad
80. Study of miRNA profile in Sertoli Only Syndrome (SCOS), Reproductive Biology, AIIMS, New Delhi
81. Study of PKC $\alpha$  signaling in ovarian serous carcinoma. Med Oncology BRA-IRCH
82. Study of sesamol in bleomycin induced pulmonary toxicity in rat, Pharmacology, AIIMS
83. Study on a mice model of NAFLD, Pharmacology, AIIMS
84. The clinicopathological evaluation of cholesteatoma aggressiveness, Otorhinolaryngology and Head Neck Surgery, AIIMS
85. The Role of 68Ga-PSMA-PET/CT scan as a single staging modality in prostate cancer, Nuclear Medicine, AIIMS, New Delhi
86. To analyse the molecular profile of paediatric gliomas and establish robust and economical methods for molecular subgrouping and risk stratification, NEIGRMS, GNRC Assam,
87. To characterize immune landscape of SCLC in tumor and peripheral blood circulation, Department of Pathology, AIIMS, New Delhi
88. To identify unique differential signatures for the diagnosis of stage-specific Non alcoholic fatty liver disease using the multi-omics approach: A pilot study, Gastroenterology
89. To Study the clinical profile, investigations and outcome of patients undergoing parathyroidectomy: A Retrospective and Prospective Experience. Department of Surgical Oncology, AIIMS, New Delhi
90. To the study the etiopathogenesis of Halo nevus, Dermatology, AIIMS New Delhi
91. Tumor dynamics and immune cell interactions in Anaplastic thyroid carcinoma, Department of Biochemistry, AIIMS, New Delhi
92. Ultrastructure level mechanism of nanoparticle interaction, internalization and trafficking at cellular level. Anatomy, AIIMS, New Delhi
93. Use of cancer testis antigen POTE-E in preoperative diagnosis of epithelial ovarian tumors: A Pilot Study
94. Utility of radiolabeled antibiotics as imaging agents in establishment of a decision support algorithm in patients with Pyrexia of Unknown Origin (PUO) caused by infection and its impact on short term and long term clinical outcomes

### ***Completed***

1. A comparative evaluation of HPV E6/E7 mRNA Assay and High Risk HPV DNA test for the Diagnosis of High Grade Cervical Intraepithelial Neoplasia, Gynaecology & Obstetrics
2. A study of colorectal cancer patients – clinical Profile, treatment and relapse patterns and learning basic laboratory techniques of molecular, Biology for mirna extraction in colon and rectal, Cancer patients, Surgical Oncology, AIIMS
3. Brain metastasis in lung cancer, Medical oncology

4. Efficacy of Neoadjuvant chemotherapy in carcinoma Esophagus-A pilot study comparing Cisplatin+5-FU with Paclitaxel+Carboplatin Surgical Oncology, AIIMS
5. Molecular classification of breast cancer using FDG PET CT, MRI and NMR: A pilot study, Surgery
6. PanGI involvement in patients with celiac disease: Proof of casualty by IgA anti-TG2 antibody deposits, Gastroenterology, AIIMS
7. Prevalence of Refractory celiac disease: A prospective study on hospital based population, Gastroenterology, AIIMS
8. Role of shear wave elastography and multiparametric MRI in the assessment of endometrial pathology, Radiodiagnosis
9. Role of sono-elastography in the assessment of uterine pathology, Radiodiagnosis
10. Studies on the effect of Roxithromycin in an experimental model of prostatitis, Pharmacology, AIIMS, Delhi
11. Thymictumors and VATS, Laparoscopic Surgery
12. To study correlation of TIRADS and cytological grading with final histopathology in solitary thyroid nodule.
13. Utility of a Panel of Surrogate Immunohistochemical and Molecular Markers to classify human colorectal carcinomas according to the Consensus Molecular Subtypes and Clinical Correlation, Gastroenterology, AIIMS

## PUBLICATIONS

**Journals: 160                      Abstracts: 12                      Books: 26                      Books/Monographs: 1**

## PATIENT CARE

### Laboratory services

#### Surgical Pathology Laboratory

Specimens processed	21,747
Special stains	20,200

#### Cytopathology Laboratory

Total specimens	11,007
FNAC (out patient)	3,210
Exfoliatives routine	4,800
Cervical smears (PAP smears)	2,997
Autopsies performed	9
Electron microscopy	310

#### Immunohistochemistry Laboratory

Diagnostic	32,087
Research	211

## NEUROPATHOLOGY LAB

Total Specimen	540
Frozen Section	32

### Immunohistochemistry

Routine IHC	3,851
Research IHC	2,310
Muscle IHC	460
Total Muscle Received	56
Muscle Enzyme-histochemistry	151

### Fluorescence in situ hybridization

Diagnostic	244
Research	228

### EM Facility

Total muscle sample	56
Total nerve sample	15
Immunoblot sample	17
ImmunoFluorescence	5

**Tissue Culture Lab**

H&E Staining	7618
Special Stains	600 + H-Pylori 5,840
Immunohistochemistry	3,840
Frozen Sections	1,789
Unstained	2,998
Coated slides	23,976
Research Block Cutting	1,689

**Renal pathology services**

Urine sediment analysis	911
Immunofluorescence of kidney biopsy	354
Electron microscopy of kidney biopsy	350

**Cardiac pathology****Specimens**

Routine	-	165
Research	-	196

**Others works**

Immunohistochemistry-	296 slides
H & E stain-	383 slides
Special stains-	143 slides
Manual processing of post-transplant biopsies -	34 cases
Cutting of blocks (unstained sections)-	753 slides
Skin biopsy cutting	130 Cases
Renal biopsy cutting	200 Cases
Frozen cutting	80 Cases
Coated slides	3000 Slides

**AWARDS, HONOURS AND SIGNIFICANT EVENTS****Resident Awards**

Iman Dandapath Awarded First Prize for oral presentation in DNACON 2021 at AIIMS, New Delhi

Jyotsna Singh Awarded Second Prize for Oral presentation in DNACON 2021 at AIIMS, New Delhi

**Professor Chitra Sarkar** was appointed as President, AIIMS, Guwahati by Ministry of Health & Family Welfare; appointed by Ministry of Health & Family Welfare as Member of Core Committee of National Health Research Policy; Member of working committee of cIMPACT-NOW: WHO [The Consortium to inform Molecular and Practical Approaches to CNS Tumor Taxonomy]; invited to Co-author two chapters in the 2021 WHO textbook on Classification of Tumors of the Central Nervous System, to be published in 2021 by International Agency for Research on Cancer, Lyon [5th edition] entitled: Glioblastoma; Parangliomas; invited to Co-author of a chapter in the 2021 WHO textbook on Classification of Pediatric Tumors to be published in 2021 by International Agency for Research on Cancer, Lyon [5th edition] entitled: Medulloepithelioma; invited to Co-author a chapter in the 2021 edition of WHO textbook entitled: WHO Classification of Endocrine and Neuroendocrine Tumors; nominated as President Elect, Neuropathology Society of India; appointed by DBT as Member of the Review Committee for review of Regional Rajiv Gandhi Centre for Biotechnology, Trivandrum; Member of ICMR Selection Committee of Emeritus Scientists; appointed by DST (SERB) as member of committee for MFCS Promotion (Level-2); Member of Selection Committee of University of Delhi for faculty promotions in Pathology; appointed by Ministry of Health & Family Welfare as Member of Committee on Central Health Service issues; Member of the Vaibhav Summit India Panel discussion on Cancer Genomics; Chairperson of CSIR committee for Headquarter coordinated projects; appointed by DST (SERB) as member of the Selection Committee of "SUPRA" projects; appointed by DST (SERB) Member of Selection Committee of "POWER" projects; Member of ICMR Committee for Guidance document for Innovation and Entrepreneurship for Medical Professionals; Member of the Executive Committee of the National Science Centre. Continuing as: President, AIIMS, Kalyani by Ministry of Health & Family Welfare; Member of the Committee constituted by Ministry of Health & Family Welfare and DHR to suggest recommendations regarding Bhopal Memorial Hospital and Research Centre (BMHRC); Member, Governing Body of Institute of Medical Sciences, Banaras Hindu University; Member, THSTI Society Committee; Selection committee member for Ranbaxy Awards; Member of the Governing Body and Scientific Advisory Committee of National Brain Research Centre, Manesar; Member of the Scientific Advisory Committee of Institute of Pathology, New Delhi.

**Professor Sandeep R Mathur** extended as Secretary of the Delhi Chapter of Indian Academy of Cytologists.

**Dr Deepali Jain** was Editorial Board Member World Health Organization IAC-IARC Cytopathology Reporting Systems, 1st Edition - International System for Reporting Lung Cytopathology; Author invitation World Health Organization Classification of Endocrine and Neuroendocrine tumors, Head and Neck tumors; Member of International Collaboration on Cancer Reporting (ICCR) Thymic Epithelial Tumors dataset authoring committee; DST-SERB POWER Fellowship March 2021.

**Dr Prasenjit Das** was invited as Associate Editor for Special Edition of the Indian Journal of Pathologists & Microbiologists on the Gastrointestinal, Hepatic and Pancreatobiliary Pathology, 2020- 21; appointed as Associate Editor of the Indian Journal of Pathologists & Microbiologists for the year 2021; moderated Online Webinar on Appendiceal tumors by Dr Rifat Mannan, Assistant Clinical Professor, City of Hope National Medical Centre, California; Webinar series by department of Pathology, AIIMS, New Delhi; moderated Online Webinar on Pancreatobiliary Diseases by Dr Vikram Deshpande, Webinar series by department of Pathology, AIIMS, New Delhi.

**Dr Geetika Singh** was invited to be part of Renal Pathology Society, Case of the Month working group for the year 2021; invited to be part of the Renal Pathology working group, International society of Nephrology; invited to be part of the Editorial board of international journal - Glomerular Diseases; invited to be part of the Editorial board of Indian Journal of Nephrology; contributing author to the South Asian edition of Robbins Textbook of Pathology in the section – Kidney.

**Dr Seema Kausal** has been awarded authorship for various chapters in the upcoming WHO Blue Book on Classification of GU Tumors (5th Edition) 2021.

**Dr Adarsh Barwad** was awarded Long term international fellowship for young scientist under ICMR/DHR 2019-2020 scheme at University of Pittsburgh PA, USA .

**Dr Aanchal Kakkar** was invited to contribute to three chapters in the upcoming 5th edition of WHO Classification of Head and Neck Tumors 2021 (1. Nasal cavity, paranasal sinuses and skull base: Meningioma 2. Soft tissue tumours: Solitary fibrous tumour 3. Melanocytic tumours: Mucosal Melanoma), as well as one chapter in the 5th edition of WHO Classification of Endocrine Tumors 2021 (Haematolymphoid tumours: MALT Lymphoma), which are published by International Agency for Research on Cancer, Lyon.

**Dr Asit R Mridha** has filed a patent on a new machine: “An Automatic Tri-axial Rotary Ultrasonic Bone Drilling Machine” using our novel technology in collaboration with IIT, Delhi and (Patent Application Number: 201911031205, Publication Date (U/S 11A) 05/02/2021).

**Dr Prashant P Ramteke** passed Fellowship of Royal College of Pathology (FRCPath) Histopathology Examination.

**Dr Kavneet Kaur** was invited to co-author a chapter in the upcoming 5th edition of WHO Classification of Tumors of Central Nervous System 2021, published by International Agency for Research on Cancer, Lyon; invited to co-author a chapter in the upcoming WHO Classification of Pediatric Tumors 2021, published by International Agency for Research on Cancer, Lyon.

**Dr Aruna Nambirajan** received AIIMS Oncology Award (Basic Research Category) First Place for Nambirajan A, Malgulwar PB, Sharma A, Boorgula MT, Doddamani R, Singh M, Suri V, Sarkar C, Sharma MC. Clinicopathological evaluation of PD-L1 expression and cytotoxic T-lymphocyte infiltrates across intracranial molecular subgroups of ependymomas: are these tumors potential candidates for immune check-point blockade? Brain Tumor Pathol 2019; 36, 152-161 – 65th AIIMS Foundation Day Celebrations, AIIMS, New Delhi, 25 September 2020.



## 9.30. Pharmacology

### Professor and Head

VL Kumar

### Professors

NR Biswas          SK Maulik          DS Arya  
Jatinder Katyal      Surender Singh      KH Reeta  
Jagriti Bhatia

### Associate Professors

Pooja Gupta          Harlokesh Narayan Yadav          Sudhir Chandra Sarangi

### Assistant Professor

NS Raj

### Scientists

Thomas Kaleekal          Amita Srivastava          Madhuri Gupta  
Sunder Singh Samuel                                  Swati Sharma

### EDUCATION

The department is engaged in the teaching programmes of BSc Nursing (Hons), BSc OT Technician, MBBS, MSc (Medical Pharmacology), MD, PhD and DM (Clinical Pharmacology) courses.

### Lectures delivered

**Harlokesh Narayan Yadav: 2                                  Sudhir Sarangi: 2**

### Harlokesh Narayan Yadav

1. Cardiovascular risks among post menopausal women: Role of vitamin D, Webinar on role of pharmacy in women's health care, 8 March 2021, Birla Institute of Technology, Ranchi, Jharkhand
2. Role of ACE 2 and vitamin D in global fight against COVID-19 pandemic, Webinar on pharmacologic treatments for covid 19: what next, 21 July 2020, Central university of South Bihar, Gaya, Bihar

### Sudhir Sarangi

1. Documentation and SOP in Good Laboratory Practice, Sensitization Workshop on GLP, 4 March 2021, National Good Laboratory Practice Compliance Monitoring Authority, Department of Science and Technology, New Delhi
2. Life threatening Adverse effects of AEDs, "Emergencies in Epilepsy II" Webinar organized by Indian Epilepsy Society, 19 June 2020, AIIMS, New Delhi

### Oral papers/posters presented: 3

1. Sharma H, Reeta KH, Perampanel alleviates post-stroke damage after focal cerebral ischemia reperfusion injury in Wistar rats., Pharmacology 2020; Annual Conference of British Pharmacological Society, 14-18 December 2020, Virtual, UK
2. Vanidassane I, Malik P, Gupta P, Sharma J, Kumar S, Gunasekar S, Jain D, VS, Mohan A, Ramavath D, A study to determine the association of trace elements and Heavy metals with lung cancer and their correlation with Smoking, IASLC 2020 World Conference on Lung Cancer, 28-31 January 2021, Virtual, Singapore
3. Wasan H, Singh D, Joshi B, Sharma U, Jagannathan NR, Reeta KH, Safinamide ameliorates cerebral ischemia reperfusion mediated injury in rats by attenuating oxidative stress and inflammation, Joint European Stroke Organisation and World Stroke Organization Conference (ESO-WSO 2020), 7-9 November 2020, Virtual, Vienna, Austria

## RESEARCH

### Funded Projects

#### Ongoing

1. Ameliorative potential of vinpocetine in streptozotocin induced diabetic cardiomyopathy in wistar rats (I-1135), funded by ICMR, HN Yadav, Indian Council of Medical Research, 3 years, 2019-2022, Rs 16.80 lakhs
2. Assessment of awareness, perception and KAP (Knowledge, Attitude and Practices) related to common poisons and development of scientific communication modules for lifestyle modulation and year-round strategy for public awareness towards prevention of poisoning, Swati Sharma, Department of Science and Technology, 1.5 years, 2021-2022, Rs 42,57,771
3. Association of social cognition and behavioral impairment in persons with epilepsy on antiepileptic drug monotherapy: Correlation with neuroimaging findings and trace elements status, Sudhir Ch. Sarangi, Department of Science and Technology, 3 years, 2020-2023, Rs 37,89,000
4. Depression in persons with epilepsy (PWE): Correlation with Serum biomarkers and CYP2C19 polymorphism, a pilot study, Jatinder Katyal, AIIMS, New Delhi, 2.9 years, 2018-2021, Rs 7,87,000
5. Development of Reinforced nano dispersed Denture base resin with improved thermoconductive, biocompatible and radio-opacity, Madhuri Gupta, Indian Council of Medical Research, 3 years, 2020-2023, Rs 36,15,570
6. Early biomarkers for chemotherapy induced cardiotoxicity in patients with hematological malignancies, Shalini Rawal (Mentor: Pooja Gupta), Department of Science and Technology, 3 years, 2019-2022, Rs 30,24,561
7. Effect of antidepressants on neurodegeneration and neuroplasticity in patients with depression, Sudhir Ch. Sarangi, Indian Council of Medical Research, 3 years, 2019-2022, Rs 29,03,000
8. Effect of sildenafil monotherapy versus vitamin D and sildenafil combination in experimental model of pulmonary hypertension in rats (A-711), funded by AIIMS, New Delhi., HN Yadav, AIIMS, New Delhi, 2 years, 2019-2021, Rs 10,00,000
9. Evaluation of effect of asiaticoside and medicoside on pharmacodynamics and pharmacokinetics of azathioprine in rat model of colitis, Thomas Kaleekal, AIIMS, New Delhi, 2 years, 2019-2021, Rs 9,96,000
10. Evaluation of Safinamide in Experimental Model of Stroke and Post Stroke Seizure Behaviour in Rats, KH Reeta, Department of Science and Technology, 3 years, 2018-2021, Rs 27,61,440
11. Genomic and Biochemical Correlation of "Prakriti" Stratified Patients diagnosed with Coronary Artery Disease (CAD): An Integrative Approach towards Personalized CAD Management, Pamila Dua (Mentor: KH Reeta), Department of Science and Technology, 3 years, 2019-2022, Rs 31,21,000
12. ICMR Task force Centre on Rational use of drugs, Pooja Gupta, Indian Council of Medical Research, 3 years, 2019 - 2022, Rs 30,25,679
13. ICMR-Product Development Centre, D. S. Arya, Indian Council of Medical Research, 5 years, 2019-2024, Rs 14,82,130
14. Modulation of AMPA receptor: Effect on post-stroke damage after focal cerebral ischemia reperfusion injury in rats, KH Reeta, Indian Council of Medical Research, 3 years, 2019-2022, Rs 54,07,560
15. Pharmacodynamic and pharmacokinetic interactions of the ayurvedic formulation (BGR-34) with glibenclamide in experimental model of diabetes in rats., Sudhir Ch. Sarangi, AIMIL Pharmaceuticals, 3 years, 2019-2022, Rs 27,00,000
16. Pharmacological and Molecular approaches to investigate the effect of *Adhatodavasica* in experimental models of bleomycin induced pulmonary fibrosis., Jagriti Bhatia, Central Council for Research in Unani Medicine, Department of AYUSH, 3 years, 2018-2021, Rs 55,42,932
17. Pharmacological; and Molecular approaches to investigate selected drug in model of Ischemia-Reperfusion Injury in streptozotocin induced diabetic rats, D. S. Arya, Bristol Myers Squibb, USA, 3 years, 2018-2021, Rs 47,51,640
18. Role of GSK3 $\beta$  in modulating autophagy and apoptosis in permanent and transient model of ischemic stroke in rats, Devendra Singh (Mentor: KH Reeta) Indian Council of Medical Research, 3 years, 2019-2022, Rs 21,58,000
19. Study of vitamin D receptor expression and their correlation with seizure control in persons with drug resistant epilepsy after supplementation of vitamin D, Sudhir Ch. Sarangi, AIIMS, New Delhi, 1 year, 2020-2021, Rs 4,97,000
20. Surface engineered Silver (Ag) nanoparticles and Peptide conjugate for angiogenesis based animal wound management, HN Yadav, Department of Biotechnology, 3 years, 2018-2021, Rs 87,36,000
21. Targeted Co-delivery of P53 modulator and anti-cancer drugs to achieve synergistic effect for cancer therapeutics, HN Yadav, Department of Science and Technology, 5 years, 2016-2021, Rs 35,00,000
22. To evaluate the effect of topical urea in secondary prophylaxis of hand foot skin reaction in cancer patients undergoing sunitinib chemotherapy, Pooja Gupta, AIIMS, New Delhi, 2 years, 2019 - 2021, Rs 8,00,000
23. To study the influence of CYP2C19 polymorphism on bortezomib blood concentration and clinical response in myeloma patients, Pooja Gupta, Department of Science and Technology, 3 years, 2017 - 2020, Rs 25,31,073

### **Completed**

1. Development of solid lipid nanoparticles for oral delivery of liraglutide, an anti-diabetic drug, H N Yadav, Department of Biotechnology, 2 years, 2018-2020, Rs 14,75,000
2. Effect of antiepileptic drug monotherapy with levetiracetam and valproate on metabolic status in persons with epilepsy, Sudhir Ch. Sarangi, AIIMS, New Delhi, 2 years, 2018-2020, Rs 10 lakhs
3. Molecular and Pharmacological investigation on efficacy of combination of seabuckthorn oil and ramipril vis-a-vis ramipril alone in experimental models of myocardial infarction in STX-induced diabetic rats, D S Arya, Department of Biotechnology, 4 years, 2017-2021, Rs 47,82,608
4. Pharmacological effects of vitamin D in diabetic cardiomyopathy via Ace-2/Angiotensin (1-7)/ Mas receptor axis in experimental diabetic rats, H N Yadav, AIIMS, New Delhi, 2 years, 2018-2020, Rs 20 lakhs

### **Departmental projects**

#### **Ongoing**

1. A prospective cohort study on effect of atypical antipsychotics on chemokine levels in patients with schizophrenia
2. Ameliorative potential of vitamin D in experimental diabetic cardiomyopathy in rats
3. An evaluation of cognitive impairment in persons with epilepsy (PWE) on Levetiracetam versus Sodium Valproate monotherapy
4. Berberine nanoparticles for protection against 5-Fluorouracil induced Cardiotoxicity – an *in vitro* and *in vivo* study
5. CYP2C19 polymorphism in Persons with Epilepsy on Levetiracetam
6. Depression in persons with epilepsy (PWE): Correlation of Serum BDNF and Zinc levels
7. Effect of add on zinc with Levetiracetam in seizure induced depression in rats
8. Effect of add-on alpha lipoic acid in patients with treatment resistant schizophrenia: A randomized double-blind, placebo-controlled trial
9. Effect of atorvastatin on methotrexate induced liver and kidney toxicity in rats
10. Effect of vitamin D in monocrotaline induced pulmonary hypertension in rats
11. Effect of vitamin-D3 supplementation with newer antiepileptic drug on seizure control and neuronal injury in status epilepticus model in rats
12. Evaluation of effect of oral hypoglycaemic agents on cognitive function in young and middle-aged type 2 diabetes mellitus patients
13. Fenofibrate as adjuvant therapy in persons with active epilepsy: a double-blind, randomized, placebo-controlled study
14. Pharmacological and Molecular Approaches to Investigate Selected Drug in Model of Ischemia-Reperfusion Injury in Streptozotocin Induced Diabetic Rats
15. Pharmacological and molecular characterization of the cardioprotective effect of teriflunomide in experimental models of myocardial infarction and diabetic I/R-injury in rat heart
16. Pharmacological studies to delineate the effect of nilotinib in experimental models of Non Alcoholic Fatty Liver Disease (NAFLD)
17. Studies on the effect of artesunate in experimental model of sepsis
18. Studies on the effect of roxithromycin in an experimental model of prostatitis
19. Studies on the effect of roxithromycin in experimental model of sepsis
20. Study to delineate and characterize the potential cardioprotective effect of *Cinnamomum zeylanicum* extract in experimental model of doxorubicin induced cardiomyopathy
21. To study the effect of sesamol in bleomycin induced pulmonary toxicity in rats

#### **Completed**

1. Correlation of serum Amyloid A1, Interleukin 1beta with response to anti-tubercular drug therapy in pulmonary and extra-pulmonary Tuberculosis: A pilot study.
2. Development of nanoparticles based oral formulation of liraglutide and evaluation of its effect in high fat diet induced obesity in mice
3. Markers of Chemotherapy-induced Cardiotoxicity in Hematological Malignancy Patients Receiving Doxorubicin-containing Regimens
4. Pharmacological investigations of Erdosteine in Isoproterenol induced cardiac Hypertension.
5. Prescribing Pattern in Advanced Non-small Cell Lung Cancer (NSCLC) at IRCH, AIIMS with Quality of Life and Cost Analysis
6. VEGF-A as a biomarker for diagnosis and therapeutic monitoring in patients with extra-pulmonary tuberculosis: A pilot study

## Collaborative projects

### Ongoing

1. Design and development of nanoscale integrated system along with conformal antenna as capsule prototype for wireless capsule endoscopy, JNU, New Delhi
2. Effectiveness of Cranberry Extract Mouth- Rinse compared to Sodium Fluoride Mouth Rinse on Microbial Counts in Caries Active Children-A Randomized Controlled Trial, Pedodontics and Preventive Dentistry CDER, AIIMS, New Delhi
3. Prevention of radiotherapy induced xerostomia by intraductal administration of N-acetyl cysteine in patients with oropharyngeal malignancies: a randomized clinical trial, ENT, AIIMS, New Delhi
4. Prospective double blind randomized controlled clinical study on Ayurvedic intervention (Sarpagandha Mishran) vs Amlodipine in the management of stage-I Primary hypertension, Central Ayurveda Research Institute, CCRAS, New Delhi

## PUBLICATIONS

**Journals: 35**

**Abstracts: 3**

## PATIENT CARE

### Hospital services

Faculty, residents and staff actively participated in discharging hospital related covid duties as assigned.

## National Poison Information Centre (NPIC)

The National Poisons Information Centre (NPIC) in the Department of Pharmacology has completed 26 years of service in imparting information on management of poisonings. Round the clock service is rendered by Faculty, Scientists, Senior residents and Junior residents of the department. The NPIC receives calls from all parts of the country and plays a vital role in providing relevant information on management of poisonings. The services of NPIC is availed by treating physicians, government agencies, NGOs, and general public. In spite of the Covid-19 pandemic, the Centre was functional 24 × 7 and received 7153 calls from 1 April 2020 to 31 March 2021, which is significantly higher than that in the past. 98 % of the calls were poisoning calls and 2% were information calls (where a patient is not involved). 59.6% of poisonings involved male patients, 39.6% were females and in 0.7% cases gender information was not available. The poisoning calls that were received were regarding household products (44.3%), industrial chemicals (6.9%), Agricultural pesticides (16.8%), Drugs (25%), bites and stings (1.6%), plants (2%), miscellaneous (2.4%) and unknown products (1.1%). The month-wise distribution of calls received by NPIC is given below.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor DS Arya** was Member, Subject Committee meetings at Central Drugs Standard Control Organization (CDSCO), (New Drug Division), DGHS, Government of India; Medical Member, Anti-Doping Disciplinary Panel (ADDP), National Anti-Doping Agency, Ministry of Youth Affairs and Sports, Government of India; Chairperson, Clinical Research Project on COVID-19, Data and Safety Monitoring Board (DSMB), RRA Podar Central Ayurveda Research Institute, Mumbai; Member and Expert in Pharmacology, Scientific Advisory Committee, Central Council of Research in Unani Medicine (CCRUM), Government of India; Member, Central Ethics Committee, Central Ethics Committee, Central Council of Research in Unani Medicine (CCRUM), Government of India.

**Dr Pooja Gupta** was Member Secretary: Institute Ethics Subcommittee for monitoring of adverse events in clinical trials at AIIMS, New Delhi; Coordinator: Adverse Drug Reaction (ADR) Monitoring Centre at AIIMS under Pharmacovigilance Program of India; Medical Device Monitoring Centre at AIIMS under Materiovigilance Program of India; Member: Working Committee, clinical research unit at AIIMS, New Delhi; Causality assessment subcommittee and media and advocacy subcommittee under National AEFI (Adverse Events Following Immunization) Committee, MoHFW, Government of India; Ethics Committee, National Institute of Malaria Research, ICMR; Pulse coordination committee; AIIMS Institute day subcommittee for cultural programme; Chairperson in panel discussion on “Evaluation in Science Education under National Education Policy” in the National Science Teachers Congress (NSTC), 6th India International Science Festival (IISF-2020) on 23rd December 2020 at Council of Scientific and Industrial Research – National Institute of Science, Technology and Development Studies, New Delhi; Jury member for video competition on “Innovative Science Teaching during Pandemic” in the National Science Teachers Congress (NSTC), 6th India International Science Festival (IISF-2020) on 25 December 2020 at Council of Scientific & Industrial Research – National Institute of Science, Technology and Development Studies, New Delhi.

## 9.31. Physical Medicine and Rehabilitation

### Professor and Head

U Singh (Upto 31 December 2020)

Sanjay Wadhwa (from 1 January 2021)

### Professors

SL Yadav

Gita Handa

### Associate Professor

Srikumar V

### Assistant Professor

Asem Rangita Chanu

### Superintendent Physiotherapist

Smita Das

OP Yadav

### Superintendent Occupational Therapist

Raman Kumar Singh

Lily Farhat Parveen

### Senior Technical Officer

Ajay Babbar

### HIGHLIGHTS

Many faculties and residents of the department attended the 15th Annual Conference of Indraprastha Association of Rehabilitation Medicine “Delhi PMR Con.2021” held in virtual mode on the 6 and 7 February 2021 on the theme - “Rehabilitation in COVID-19 and Beyond”. The event was attended by eminent faculties who interacted to share their experiences and enriched their knowledge. There was also active participation by the department in IAPMR Mid-Term CME (31 October –1 November 2020) held in Patna (virtual), 49th Annual National Conference of Indian Association of Physical Medicine and Rehabilitation (21-24 January 2021) held in Chennai (Virtual) on the theme – “Emerging Trends & Concepts in Rehabilitation Medicine”; and many webinars and conferences. Many of the residents and faculties also contributed towards COVID-19 Management Pool.

### EDUCATION

Under-graduate teachings for the 8th Semester and 6th Semester were undertaken by the department as per schedule. Twelve post-graduate students are doing MD (PMR). Postgraduate and fellowship training for Palliative Care and Onco-Anesthesiology, Pediatric Neurology, and Pain Fellows, was conducted in the department.

### Lectures delivered

Sanjay Wadhwa: 10

U Singh: 1

Srikumar V: 3

### Sanjay Wadhwa

1. Strategies to be physically fit during lockdown, Seminar on Physical and Mental Strategies to Remain Fit during Lockdown, 19 April 2020, Delhi, Virtual
2. Global situation of PM and R during Covid-19 pandemic – Report from India, ISPRM Webinar, 29 May 2020, Virtual
3. Keynote address: SCI and COVID-19 - Issues and Challenges, CME on Spinal Cord Injury Amidst COVID-19, 5 September 2020, AIIMS, Gorakhpur, Virtual
4. COVID-19: Physical activity and exercise - PMR Perspective, IAPMR National Mid-Term CME2020, 1 November 2020, AIIMS, Patna, Virtual
5. Community inclusion for persons with SCI during and after a pandemic (Moderator), International Spine and Spinal Injuries Conference – ISSICON 2020, 11 December 2020, Delhi, Virtual
6. COVID and SCI – Experience in ASCoN Countries (Chairperson), ISSICON 2020, 12 December 2020, Delhi, Virtual



7. Challenges posed by bladder management in SCI in emerging countries and evidence based options of management strategies to overcome the challenge (Panelist), ISSICON 2020, 13 December 2020, Delhi, Virtual
8. Strengthening rehabilitative care – Challenges and Opportunities, National Expert Group Meeting for strengthening the Daycare services (Chemotherapy, Palliative and Rehabilitative Care) at District Level, 22 December 2020, NCDC, Delhi, Virtual
9. Emerging Trends in PMR – A Global Perspective, 49th Annual Conference of IAPMR (IAPMRCON2021), 21-24 January 2021, Chennai, Virtual
10. Mainstreaming rehabilitation in continuum of care and promoting multi-sectoral coordination for NCDs, 6th International Course on Public Health Approaches to Noncommunicable Diseases (NCDs), 3 March 2021, PGIMER, Chandigarh, Virtual

### **U Singh**

1. Obscurity to Enlightenment, IAPMR Mid-Term CME, 31 October-1 November 2020, Patna, Virtual

### **Dr Srikumar V**

1. Moderator: The challenge posed by pressure ulcers in SCI in emerging countries and the evidence based optimum management strategies to overcome the challenge, International Spine and Spinal Injuries Conference 2020, 12 December 2020, Delhi, Virtual
2. Chronic low back pain: from spine to brain, 49th Annual National Conference of Indian Association of Physical Medicine and Rehabilitation, 24 January 2021, Chennai, Virtual
3. COVID-19 associated neurological disease, 15th Annual Conference of Indraprastha Association of Rehabilitation Medicine, 6 February 2021, Delhi, Virtual

### **LIST OF ORAL PAPERS/POSTERS PRESENTED: 4**

1. Aravind PR, Chanu AR, Srikumar V, Singh U. A cross sectional study to observe the prosthetic usage and functional status of upper limb amputees, 15th Annual Conference of Indraprastha Association of Rehabilitation Medicine, 7 February 2021, Delhi, Virtual
2. Benny R, Srikumar V, Singh U, Chanu AR, Devasenathipathy K, Raghavendra L. A randomized controlled trial to compare the effect of single dose platelet rich plasma and corticosteroid injection in patients with carpal tunnel syndrome, 11th World Congress for Neurorehabilitation and 35th Congress of the French Society of Physical and Rehabilitation Medicine, 7-11 October 2020, France, Virtual
3. Krishna B, Handa G, Yadav SL, Srikumar V, Chanu AR. Randomized control trial to compare the effect of ultrasound guided platelet rich plasma and dextrose prolotherapy in chronic plantar fasciitis, 15th Annual Conference of Indraprastha Association of Rehabilitation Medicine, 7 February 2021, Delhi, Virtual
4. Sahu S, Srikumar V, Chanu AR, Singh U. A randomized controlled trial to compare effectiveness of electrical stimulation of foot and oxybutynin in overactive bladder in persons with spinal cord injury, International Spine and Spinal Injuries Conference 2020: Virtual, 12 December 2020, Delhi, Virtual

### **RESEARCH**

#### **Funded projects**

##### ***Ongoing***

1. Smart dynamic fabric actuator for prolonged standing professionals for management of chronic leg pain, Srikumar Venkataraman, AIIMS-IIT Delhi Collaborative Research Project, 3 years, 2018-2021, Rs 10 lakhs

#### **Departmental projects**

##### ***Ongoing***

1. A case control study to assess correlation between chronic low back pain and spino-pelvic parameters
2. A cross sectional study to assess dual task interference in postural control in lower limb amputation
3. A cross Sectional Study to assess the Clinical, Occupational, and Environmental Barriers in Patients with Spinal Cord Injury
4. A cross sectional study to assess the functional status in children with juvenile idiopathic arthritis and its correlation with their quality of life and burden of caregivers
5. A Randomized Control Trial to Compare the Efficacy of Caregiver Directed Home Based HABIT With and without Tele-rehabilitation in Cerebral Palsy Children

6. A randomized controlled trial to compare effectiveness of smart dynamic fabric actuator with exercises in chronic musculoskeletal leg pain associated with prolonged standing
7. Damper control in Lower Limb Prosthesis. (DC Member).
8. Effect of Transcranial Magnetic Stimulation on Pain Modulation Status in Fibromyalgia Patients.
9. Evaluation of efficacy of sensory integration therapy as an adjunct to standard care versus standard care alone in improving gross motor skills in children with cerebral palsy GMFCS I-III with sensory processing abnormalities: A single blinded randomized study.
10. Hirayama Disease: Clinic radiological features and long neck hypothesis
11. Telephonic screening of COVID-19 survivors of severe or critical illness to assess post discharge symptoms and rehabilitation needs: A Prospectivestudy

### **Completed**

1. A cross-sectional study to assess balance impairment and risk of fall in patients with Ankylosing Spondylitis.
2. A cross sectional study to observe the prosthetic usage and functional status of upper limb amputees

### **Collaborative projects**

#### **Ongoing**

1. Assessment of workload and musculoskeletal symptoms among minimal access surgeons – a prospective study, Department of Surgical Disciplines, AIIMS, New Delhi
2. Design, development and validation of ergonomically enhanced surgical instruments, Department of Surgical Disciplines, AIIMS, New Delhi Designing a 3D printed bespoke neck collar with embedded sensors for real time monitoring in people living with Motor Neurone Disease (plwMND), University College of London, IIT Delhi
3. Effect of fMRI-based neurofeedback guided motor imagery training on cortical excitability and pain status in rheumatoid arthritis, Department of Physiology, AIIMS, New Delhi
4. Effect of yoga on pain and corticomotor excitability in chronic low back pain, Department of Physiology, AIIMS, New Delhi
5. Electrophysiological analysis of cognitive load during locomotion and balancing and to investigate the improvement in gait and balance in lower limb amputees after using tactile feedback, Department of Biomedical Engineering, AIIMS/IIT Delhi
6. Force Myography (FMG) driven affordable active lower limb prosthesis for resource-limited countries, IIT Delhi, University of Oregon
7. Impact of upper body exercise on body composition and weight in obese patients with knee osteoarthritis, Department of Medicine, AIIMS, New Delhi
8. Recover study: A cross-sectional observational study to identify rehabilitation need in post-discharge COVID-19 survivors, Department of Critical and Intensive Care and Department of Anaesthesiology, AIIMS, New Delhi
9. SonoNeuro: A Multimodal Sonomyograph Electromyography based System for Biomechatronic Control, Center for Biomedical Engineering, and Department of Electrical Engineering, IIT Delhi

### **Completed**

1. A study of pain status and corticomotor excitability in chronic low back pain patients: effect of transcranial magnetic stimulation, Department of Physiology, AIIMS, New Delhi

### **PUBLICATIONS**

**Journal: 4**

**Abstracts: 4**

### **PATIENT CARE**

OPD (Physician Consultations)	3054
OPD CRHS, Ballabgarh	138
OPD visit (P & O Clinic)	392
<b>Total New Cases</b>	<b>3584</b>

## Old Cases

OPD (Physiatrists Consultations)	4652 (+ 1394 Telephonic Consults between 23/03/2020 to 31/07/2020)
OPD CRHS, Ballabgarh	41
OPD visit (P & O Clinic)	898
Disability Evaluation Clinic	20
Railway Concession Certificates	28
OPD visits (PT Section)	1639
OPD visits (OT Section)	830
OPD visits (MSW)	1198
Minor OT procedures	63
<b>Total old Cases</b>	<b>10,763</b>

**Grand Total for the Year: 14,347**

**Special Clinics of the department:** Many activities/Clinics remained suspended due to Covid-19 Pandemic related restrictions and disruptions

## Ongoing Clinics

1. Musculoskeletal ultrasound guided interventions
2. Custom molded insoles in Foot Clinic
3. Wheelchair prescription and checkout clinic for customized wheelchair delivery as per WHO Guidelines
4. Musculo-skeletal laboratory: Computerized evaluation and exercise equipments
5. Foot lab/Clinic
6. Disability Evaluation & Certification Clinic
7. Rehab. Appliances Check-Out Clinic: checking Orthotic and Prosthetic devices made in PMR Workshop before final delivery to the patients.
8. Case Conference: Discussion of long-term rehabilitation patients for goal setting and treatment evaluation.

## Community Services

**Patient Care: Mass Media:** Public Awareness Lectures and TV Health Programmes

**Dr Sanjay Wadhwa:** Participated as an expert during TV Health Programmes(e.g., Total Health, Doctors Speak, Kids and Adolescents etc.) on DD News, DD India, DD Sports etc.; Actively involved in Training of AIIMS Nurses, Officers and Staff Members in different batches in JL Auditorium as a part of Covid-19 HICC Team.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Sanjay Wadhwa** was President, Indian Association of Physical Medicine and Rehabilitation (IAPMR), till 31 March 2021; Vice-President, National Academy of Medical Sciences (NAMS); Convenor, International Standards Organisation (ISO) Technical Committee 173, Working Group 12; Conferred the Inaugural Dr KK Singh Memorial Award by the Bihar Association of PMR on 22 December 2020; Chairman, Sectional Committee MHD-09 under Bureau of Indian Standards (BIS); Member, Academic Committee, National Institute of Locomotor Disability (NILD), Kolkata; Member, Editorial Board, Annals of NAMS (India); Member, Technical Working Group for the development of the WHO 'Post-COVID-19 Case Report Form'; Member, Committee for framing Guidelines to identify individuals with co-morbidities that enhance the risk of mortality in COVID-19 disease for possible priority vaccination.

**Professor U Singh** was Member, Academic Committee, National Institute for the Orthopaedically Handicapped, Kolkata; Expert for the Research Degree Committee in MYAS-GNDU, Department of Sports Sciences and Medicine in the subject of Sports Sciences and Medicine; Emeritus Editor, Indian Journal of Physical Medicine and Rehabilitation; Editorial Board Member, Spinal Cord Series and Cases, Journal of International Spinal Cord Society (ISCoS), UK; Consulting Editor and Reviewer, Journal of Rehabilitation Council of India Locomotor and Associated Disabilities; Reviewer for journals: Annals of Indian Academy of Neurology; Indian Journal of Neuro-surgery; Journal of Spinal Cord Medicine; Journal of American Academy of Physical Medicine and Rehabilitation; Leprosy Review; Editorial Board Member, Indian Journal

of Physiotherapy and Occupations Therapy; Honorary member of the editorial board for the International Journal of Bio Sciences and Technology (IJBST); Senior Editor: Astrocyte, Multispecialty Journal by National Board of Examinations, New Delhi, from December 2013.

**Dr Srikumar V** was reviewer for SN Comprehensive Clinical Medicine; Scientific Reports; He was awarded by IPARM Gold Medal for best PGT platform paper (co-author) presentation at 15th Annual Conference of Indraprastha Association of Rehabilitation Medicine, 6-7 February 2021, Delhi, Virtual; Second prize, Team - Dynamic Defibrillators, AIIMS-Faculty Cricket League, 5-7 March 2021, Delhi; Member, Development Group, Traumatic Brain Injury - Package of Rehabilitation Interventions, World Health Organization (WHO), Geneva; Co-ordinator, Bowel care and management module, www.eleranSCI.org (2nd Edition), an initiative of International Spinal Cord Society; Member, Technical Committee, Wearable Electronic Devices and Technologies (LTD-33), Bureau of Indian Standards, Ministry of Consumer Affairs, GOI; Judge, Spinal Cord Society Gold Medal Award for Best Poster Presenter -Rehabilitation, International Spine and Spinal Injuries Conference 2020: Virtual, 11-13 Dec 2020, Delhi, Virtual; Chairperson, PGT Award Paper Session, 49th Annual National Conference of Indian Association of Physical Medicine and Rehabilitation, 21-24 January 2021, Chennai, Virtual; Member, Technical Support and Coordination Committee, 15th Annual Conference of Indraprastha Association of Rehabilitation Medicine, 06-07 February 2021, Delhi, Virtual; Member Secretary, Internal Committee for the welfare of the differently-abled at AIIMS, New Delhi; Chairperson, Civil Services Examination - 2019 AIIMS Review Medical Board for Person's with Benchmark Disabilities (Locomotor Disability), Department of Personnel & Training, Ministry of Personnel, Public Grievances and Pensions, GOI; Non-examiner coordinator, Practical Examination, Diplomate of National Board (Physical Medicine and Rehabilitation), 25-26 Sep 2020, AIIMS, New Delhi; Member, EHS Screening COVID 19 management team (November 2020); Member, Indents of Machinery and equipment under plan and GeM, Department of PMR; National representative, International Society of Physical and Rehabilitation Medicine (2019-21); Treasurer, Indian Association of Physical Medicine and Rehabilitation (2019-21); Secretary-elect (2021-23), Indraprastha Association of Rehabilitation Medicine, declared at the Annual General Body Meeting (Virtual) held on 7 February 2021; Joint Secretary, Indraprastha Association of Rehabilitation Medicine (2019-21).

**Dr Asem Rangita Chanu** was reviewer, Journal of Medical Society; Co-ordinator in Equal Opportunity Cell for implementation of Schemes passed in the WP (C) No. 292/06 titled "Disabled Rights Group and ANr. Vs. UOI & Ors, AIIMS, New Delhi; Central Assistant Public Information Officer for PMR under the Right to Information Act at AIIMS, New Delhi; Joint Organising Secretary in the 15th Annual Conference of Indraprastha Association of Rehabilitation Medicine "Delhi PMR Con. 2021" in Virtual mode held on the 6-7 February 2021; IPARM Gold Medal award for best platform paper (co-author) presentation at 15<sup>th</sup> Annual Conference of Indraprastha Association of Rehabilitation Medicine, 6-7 February 2021, Delhi, Virtual; Nodal officer for PMR Physical verification of the Assets and Stores.

#### **Resident doctors**

IPARM Gold Medal award for best resident platform paper presentation at 15th Annual Conference of Indraprastha Association of Rehabilitation Medicine, 7 February 2021, Delhi (Virtual) was won by Dr Krishna B, Senior Resident.

Dr Raktim Swarnakar, Junior Resident, PMR - Clinical image submitted by him was selected (25 August 2020) for publication in Indian Journal of Medical Research (IJMR) under SYMPOSIUM - CLINICAL IMAGES COMPETITION 2019. <https://www.ijmr.org.in/headofprint.asp>; his application was approved for Training and Skill Internship (VRITIKA) under Skill Development (ABHYAAS) in Accelerate Vigyan Program from Science and Engineering Research Board (SERB), Govt. of India; he passed 13th EULAR 2-year online course on Rheumatic Diseases (2018-2020).

#### **Other Staffs:**

Mr. Ajay Babbar, STO and Mr. Anil Kumar, T.O. completed their Masters in Prosthetic and Orthotic Two year course in 1st division for which study leave was granted by AIIMS New Delhi; they also continued as Members of the BIS Sectional Committee, MHD-09.

## 9.32. Physiology

### Professor and Head

Kishore Kumar Deepak

### Professors

Debabrata Ghosh		Kanwal Preet Kochhar
Ratna Sharma	Nalin Mehta	Suman Jain
Ashok Kumar Jaryal	Raj Kumar Yadav	Anjana Talwar

### Additional Professors

Asmita Patil	Renu Bhatia
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### Associate Professors

Simran Kaur	Prashant Tulsidas Tayade
Dinu Santha Chandran	Nasreen Akhtar

### Assistant Professors

Ritesh Kumar Netam	Akanksha Singh
Geetanjali Gokarn Bade	Suriya Prakash Muthukrishnan

## HIGHLIGHTS

The Department of Physiology has been involved in undergraduate and post graduate teaching in addition to the doctoral program. The faculty also undertook to train manpower for undergraduate, postgraduate teaching and research techniques in house by holding workshops and symposia at AIIMS and other institutions. A number of extramural and intramural research projects were taken up by the faculty in various areas such as neurophysiology (including autonomic nervous system), cellular and molecular physiology, nutrition, vascular physiology, reproduction, respiration, sleep, cognition, transcranial magnetic stimulation and yoga. The research outcomes were presented in various national and international scientific forums and published in indexed journals. On the basis of its original research, the department has provided significant support in patient care by utilizing cutting-edge technologies in autonomic and vascular function assessments, pain management, intraoperative monitoring during corrective surgeries, and yogic intervention. Several awards and honors have been received by faculty members and the students of the department in appreciation of their innovative contributions in research and medical education. The department organized a virtual workshop- “Techniques in Physiological Sciences-2020: Application to Translation”, the workshop for SAARC Nations from 1 - 3 December 2020 and shared their expertise with the scientists abroad.

## EDUCATION

### List of All Academic activities:

**1. Undergraduate teaching:** Lecture 200 hours and Practical 240 hours, UG students:

Total number of students: 132

**2. Post Graduate teaching:** Total Number of PG students:

MSc students: 10

MD students: 19

PhD scholars: 27

**3. Nursing and allied courses:** Total number of students: 196

### CMEs/Workshops/Symposia/National and International Conferences

1. Virtual workshop - “Techniques in Physiological Sciences- 2020: Application to Translation”, the workshop for SAARC Nations, 1 - 3 December 2020
2. Webinar: Research in experimental Physiology, under the aegis of Association of Physiologists of India, 22 May 2020



## Lectures delivered

**Kishore Kumar Deepak: 17**

**Nalin Mehta: 4**

**Anjana Talwar: 1**

**Simran Kaur: 1**

**Geetanjali Gokarn Bade: 1**

**Kanwal Preet Kochhar: 1**

**Suman Jain: 5**

**Asmita Patil: 4**

**Dinu S Chandran: 3**

**Suriya Prakash Muthukrishnan: 3**

**Ratna Sharma: 1**

**Kumar Yadav: 5**

**Renu Bhatia: 2**

**Nasreen Akhtar: 2**

### Kishore Kumar Deepak

1. Fitness protocols for teachers and parents online, National webinar on Indian Fitness Protocols, SAI Trivandrum, 1 June 2020, Thiruvananthapuram, online
2. Yoga for improving health during COVID-19, Yoga for COVID-19; online symposium, Department of Sports Sciences, Faculty of Medicine, Punjabi University, 21 June 2020, Patiala, online
3. Physical and mental fitness during covid 19: Yoga and exercise, Webinar on Physical and mental fitness, NIT, 22 June 2020, Jalandhar, online
4. Physiology is omnipresent in medicine, National webinar on Pivotal role of Physiology in clinical practice, ESIC Medical College, 1 July 2020, Hyderabad, online
5. Physical and mental fitness during COVID-19 pandemic, Socio-Economic and Health Challenges due to COVID-19 & Mitigation Strategies, NIT, 23 October 2020, Jalandhar, online
6. Introduction to Fit India, Importance of exercise during Covid Time, AIIMS, 28 November 2020, Bhopal, online
7. Assessment of cardiovascular autonomic function, Techniques in Physiological Sciences - 2020: Application to Translation, 1 - 3 December 2020, New Delhi, online
8. Achieving positive health during covid time, National Physiology webinar, Govt. Medical College, Bhawnagar, 26 December 2020, Bhawnagar, online
9. Physiologists' role and participation in WHO global action plan for physical activity, Institutional Symposium, MGM Institute of Health Sciences, 12 February 2021, Mumbai, online
10. Teaching physiology using simulations, National Seminar on Education and Explore with empathy, AIIMS Nagpur, 20 February 2021, Nagpur, online
11. Overview of autonomic research in India, Webinar Symposium Basic and Clinical Aspects of Autonomic Function Testing, AIIMS, Deoghar, 27 February 2021, Deoghar, online
12. Exercise and yoga in space, Earth-based Microgravity Research in Space Biology Biology, AU-KBC Research Centre, 15 March 2021, Chennai, online
13. Physiological adaptations to changing profiles of bio-mechano-sensing: Some applications to yoga & space, D-Health Symposium 2021, IISc, 19 March 2021, Bangalore, online
14. Physiological perspective of consciousness, "Consciousness 360 degree", WCSC-Directorate of Research & Development, 20 March 2021, Chennai, online
15. Basic and translational research in pre and para clinical departments, Inculcation of Research and Innovation Spirit in Medical Students and Faculties, IMS, BHU, 21 March 2021, Varanasi, online
16. Physiologists' role and participation in WHO global action plan for physical activity 2018-2030, Physiological Sciences for betterment of health, Virtual Biennial SAAP VII & PSI Conference 2021, Jamia Hamdard, 24 March 2021, New Delhi, online
17. Cardiovascular health and air pollution, Air pollution and Health Hazards (APHH-2021), NIT Jalandhar, 31 March 2021, Jalandhar, online

### Kanwal Preet Kochhar

1. Addressing gender issues in higher educational institutions: challenges and perspectives, Webinar on gender issue by internal complaints committee (harassment), JNU, Delhi, 27 October 2020, Delhi, Online

### Ratna Sharma

1. QEEG: A tool to assess brain function in neurodevelopmental disorders "Modern interventional tools for persons with disability, SNCI 34th Annual Meeting 2020, 11-13 December 2020, Online

### Nalin Mehta

1. Ethics in orthodontics research "Basic Research Methodology Course in Orthodontics", 23 April 2020, New Delhi, Online

2. Ethics in biomedical research, Interaction Programme for PhD Research Scholars/Post-Doctoral Fellows, 10 January 2021, Amritsar, Online
3. Review of literature and referencing, Interaction Programme for Ph.D Research Scholars/Post-Doctoral Fellows, 11 January 2021, Amritsar, Online
4. Scientific misconduct, Interaction Programme for PhD Research Scholars/Post-Doctoral Fellows, 12 January 2021, Amritsar, Online

#### **Suman Jain**

1. Nanotechnology in medicine, Public Webinar for faculty, graduate, postgraduate and PhD students, 7 May 2020, New Delhi, Online
2. Synaptic plasticity and Neuroregeneration, Neuro Eunoia 2020: A neuroscience affair 16-17 October 2020 New Delhi, Online
3. Basic physiology of TMS practice, 5th National CME and 2nd Hands on training workshop on rTMS, 17-18 December 2020, New Delhi, Online
4. Pain assessment in animals and humans, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, Online
5. Non-invasive brain stimulation by TMS in animal models and human subjects, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, Online

#### **Raj Kumar Yadav**

1. Yoga for health promotion, Online national conference for Principals and School management on awareness of yoga, Central Board of Secondary Education (CBSE), 16 June 2020, New Delhi, Online
2. Meditation: Neural mechanisms, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, Online
3. Yoga-meditation: Genomic techniques, Techniques in Physiological Sciences - 2020: Application to Translation, 1 – 3 December 2020, New Delhi, Online
4. Mind, meditation and medicine, Principles of Physiology and its practical aspects, Ayurvedic and Unani Tibbia College and Hospital, 21 December 2020, New Delhi, Online
5. Obesity, cardiovascular diseases and yoga, Webinar-Orientation lecture, Morarji Desai National Institute of Yoga, 12 February 2021, New Delhi, Online

#### **Anjana Talwar**

1. Pulmonary function testing by spirometry, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, Online

#### **Asmita Patil**

1. An overview of reproductive physiology, Invited lecture, Chettinad Academy of Research & Education, 16 September 2020, Chettinad
2. Pollution and reproductive health, International Conference on Environment, health and sustainable development, 25 September 2020, New Delhi
3. Application of expression microarray in research, Techniques in Physiological Sciences - 2020: Application to Translation, 2 December 2020, New Delhi, Online
4. Pollution and reproductive health: Tomorrow's children, National Workshop on "Air Pollution and Health Hazards", 31 March 2021, New Delhi, Online

#### **Renu Bhatia**

1. Pain assessment in animals and humans, Techniques in Physiological Sciences - 2020: Application to Translation, 1 December 2020, New Delhi, Online
2. Transcranial magnetic stimulation for pain management, Techniques in Physiological Sciences - 2020: Application to Translation, 3 December 2020, New Delhi, Online

#### **Simran Kaur**

1. Introduction to cognitive function assessment, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, Online

### **Dinu S Chandran**

1. Physiology and biophysics of transmission of respiratory infections: Implications in the context of COVID-19, COVID-19 Training Course for Physiology Residents, 1 June 2020, New Delhi, online
2. Introduction to non-invasive assessment of vascular function, Techniques in Physiological Sciences - 2020: Application to Translation, 1 - 2 December 2020, New Delhi
3. Imaging free ultrasound to study arterial dynamics: Technological innovation through collaboration, Techniques in Physiological Sciences - 2020: Application to Translation, 1 - 2 December 2020, New Delhi

### **Nasreen Akhtar**

1. COVID-19: Role of different masks and their physiological effects, Covid-19 Training Course for Physiology Residents, 1 June 2020, New Delhi, online
2. Principles of polysomnography, Techniques in Physiological Sciences - 2020: Application to Translation, 1 December 2020, New Delhi, online

### **Geetanjali Gokarn Bade**

1. Pulmonary function testing by impulse oscillometry and measurement of diffusing capacity of lungs, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, online

### **Suriya Prakash Muthukrishnan**

1. Implications of atypical manifestations of COVID-19, COVID-19 Training Course for Physiology Residents, 1 June 2020, New Delhi, online
2. Introduction to dense array EEG acquisition, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, online
3. Introduction to QEEG analysis, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, online

### **List of Oral / Poster presentation: 13**

1. Bade G, Talwar A, Trivedi A, Chanu A, Singh U, Evaluation of respiratory impedance in patients with ankylosing spondylitis, European Respiratory Society International Congress 2020, 7-9 September 2020, Online
2. Badhwar S, Chandran DS, Jaryal AK, Narang R, Patel C, Deepak KK, Differential 'mediators' of 'low-flow' mediated constriction in healthy vs patients of ischemic heart disease., Annual conference of Association for Research into Arterial Structure and Physiology (ARTERY) 2020, Virtual Conference, 23 – 24 October 2020, Online
3. Chandran DS, Jayaraj J, Sen S, Raj K, Nabeel PM, Deepak KK, Feasibility evaluation of imaging-free ultrasound technology to measure diameters of brachial and radial arteries for assessment of endothelial function, ARTERY 2020 Virtual Conference, 23 – 24 October 2020, Online
4. Kaur S, Rastogi S, Sharma R, Bakhshi S, Tayade P, Muthukrishnan SP, Neural correlates of chemotherapy induced cognitive deficits in non- metastatic osteosarcoma, 2nd Annual Meeting of Indian Association of Supportive Care in Cancer, 3-4 October 2020, Online
5. Patil SG, Edmin C, Chandrasekaran AM, Singh K, Patil S, Roy A, Deepak KK, Jaryal A, Kinra S, Prabhakaran D, Does yoga based cardiac rehabilitation (Yoga-CaRe) programme improve endothelial function and reduce oxidative stress in patients with acute myocardial infarction?, AHA Scientific meeting, 17 November 2020, Online
6. Raj KV, Nabeel PM, Joseph J, Chandran D, Sivaprakasam M, Measurement of pressure-dependent intra-beat changes in carotid pulse wave velocity using image-free fast ultrasound\*, Annual conference of Association for Research into Arterial Structure and Physiology (ARTERY – 20), 23-24 October 2020, Online
7. Sen S, Chandran DS, Jaryal AK, Deepak KK, Differential low-flow mediated constriction (LFMC) responses in radial and brachial arteries are attributed to occlusion induced flow changes, ARTERY 2020 Virtual Conference, 23 – 24 October 2020, Online
8. Sharma A, Chandran DS, Jaryal AK, Deepak KK, Flow mediated slowing of pulse wave velocity as a measure of endothelial function, ARTERY 2020 Virtual Conference, 23 – 24 October 2020, Online
9. Singh A, Badhwar S, Chandran DS, Jaryal AK, Deepak KK, Distal arterial occlusion at different grades of supra-systolic pressures differentially modulates flow velocity and shear rates in radial artery, ARTERY 2020 Virtual Conference, 23 – 24 October 2020, Online
10. Talwar A, Bade G, Sampath M, Madan K, Assessment of oxidative stress in exhaled breath condensate of stable chronic obstructive pulmonary disease patients of Indian origin, European Respiratory Society International Congress 2020, 7-9 September 2020, Online

11. Trivedi A, Talwar A, Sampath M, Ghosh D, Guleria R, Bade G, Copy number variation (CNV) in chronic obstructive pulmonary disease (COPD) with and without ongoing smoking, European Respiratory Society International Congress 2020, 7-9 September 2020, Online
12. Vishwajeet, Kumar K, Singh D, Deepak KK, Gupta R, Simulation of human blood capillary model for head down tilt position, Sustainable Research in Energy and Environment, 15-16 January 2021, Online
13. Vishwajeet, Singh D, Deepak KK, Human renal artery blood flow modeling and simulation for weightlessness environment, IOCSRT-2020, 24-25 September 2020, Online

## RESEARCH

### Funded Projects

#### *Ongoing*

1. A novel combinatorial approach for neuroregeneration in an in-vivo spinal cord injured rat model: Neurotrophic factors coated iron oxide nanoparticles impregnated in a biocompatible hydrogel system, Suman Jain, DST, 3.2 years, 2017-2021, Rs 32.24 lakhs
2. A randomised controlled trial to evaluate the efficacy of yoga in modifying gene expression of stress, inflammation, and ageing in Indian obese subjects, Raj Kumar Yadav, ICMR SRF, 3years, 2019-2022, Rs 14 lakhs
3. A study of EEG microstates and source connectivity as state and trait markers in schizophrenia with depression, Ratna Sharma, ICMR RA, 3 years, 2019-2022, Rs 21.58 lakhs
4. Acute effects of slow breathing on cardiovascular variability during head up tilt, head down tilt and lower body negative pressure in naïve healthy subjects and trained yoga practitioners, KK Deepak, AYUSH, 3 years, 2016 - 2021, Rs 66.76 lakhs
5. Characterization of thermosensitive neurons of preoptic area, Nasreen Akhtar, AIIMS, 2years, 2018-2021, Rs 9.97 lakhs
6. Clinical research to assess efficacy of repetitive transcranial magnetic stimulation along with implantation of neurotrophic coated nanoparticles in complete spinal cord injury patients, Suman Jain, DBT, 3 years, 2020-2023, Rs 88.35 lakhs
7. EEG microstates as a biomarker in addictive disorders, Simran Kaur, AIIMS, 2 years, 2019-2022, Rs 8.06 lakhs
8. Effect of acute changes in ambient air pollutants on pulmonary variables and inflammatory markers in healthy subjects and asthmatics, Geetanjali Gokarn Bade, AIIMS, UG research mentorship scheme, 1 year, 2020-2021, Rs 2 lakhs
9. Effect of acute stress on resting and recruitable endothelial function, Dinu S Chandran, AIIMS, UG research mentorship scheme, 2 years, 2019-2021, Rs 2 lakhs
10. Effect of chronic exposure to low intensity magnetic field on streptozotocin induced synaptic dysfunction and amyloid precursor protein processing in rats, Suman Jain, ICMR SRF, 3 years, 2019-2022, Rs 13.2 lakhs
11. Effect of endocannabinoid at septal nuclei on sleep wakefulness in rats, KK Deepak, ICMR SRF, 3 years, 2018-2021, Rs 16.22 lakhs
12. Effect of functional magnetic resonance imaging neurofeedback-guided motor imagery training on corticomotor excitability and pain status in rheumatoid arthritis, Renu Bhatia, ICMR, 3 years, 2019-2022, Rs 26 lakhs
13. Effect of probiotic supplementation on cognitive functions and motor responses in fluctuating Parkinson's disease: A randomized controlled trial, KP Kochhar, DST, 3 years, 2019 - 2021, Rs 57 lakhs
14. Effect of repetitive transcranial magnetic stimulation on pain status and corticomotor excitability in chronic low back pain patients, Renu Bhatia, AIIMS, 1 year, 2019-2021, Rs 5 lakhs
15. Effect of sleep deprivation on glucose sensitive neurons in arcuate nucleus in rats, Ritesh Kumar Netam, AIIMS, 2 years, 2020-2022, Rs 8.78 lakhs
16. Effect of sleep deprivation on regional brain and body temperature in rats, KK Deepak, ICMR RA, 3 years, 2018-21, Rs 17.68 lakhs
17. Effect of yoga on pain status and corticomotor excitability in chronic low back pain patients, Renu Bhatia, DST, 3 years, 2017-2021, Rs 22.63 lakhs
18. Effect of yogic intervention on pain status in fibromyalgia patients, Renu Bhatia, DST, 3 years, 2019-2022, Rs 59 lakhs
19. Efficacy of a yoga-meditation based lifestyle intervention in patients with obesity and major depressive disorder: A randomized controlled trial, Raj Kumar Yadav, DST, 3years, 2018-2021, Rs 79 lakhs
20. Formulation of phantom brain to establish dosimetry of magnetic fields following repetitive transcranial magnetic field stimulation, Suman Jain, AIIMS, UG research mentorship scheme, 2 years, 2019-2021, Rs 5 lakhs

21. Functional and morphological study of antigravity muscle in spinal cord transected rats: Combinatorial effect of electromagnetic field exposure and iron oxide nanoparticle implantation, Suman Jain, ICMR SRF, 3 years, 2019-2022, Rs 13.2 lakhs
22. Gender differences in phase relationship between circadian rhythm and sleep: A spindle architecture and spectral analysis study, Nasreen Akhtar, AIIMS, UG research mentorship scheme, 1 year, 2019-2021, Rs 1.99 lakhs
23. Immunophenotyping and functional characterisation of peripheral and in-vitro induced T regulatory cells: putative role in pathogenesis of COPD, Anjana Talwar, AIIMS, 4 years, 2018-2022, Rs 20 lakhs
24. Mapping the effective human brain connectome of visual object recognition, Suriya Prakash M, AIIMS, 1 year, 2020-2021, Rs 4.78 lakhs
25. Microstate signatures and resting EEG sources of meditation and stress, Ratna Sharma, DST, SATYAM, 3 years, 2020-2023, Rs 52.86 lakhs
26. Neural correlates of chemotherapy induced cognitive deficits in Non- Metastatic osteosarcoma, Simran Kaur, Indian Association of Supportive Care in Cancer, 2 years, 2021-2023, Rs 3 lakhs
27. Neurohormonal response to mild haemorrhage using the model of blood donation, Akanksha Singh, AIIMS, 3 years, 2018-2021, Rs 9 lakhs
28. Neuromodulation of cortical excitability and plasticity by low frequency repetitive transcranial magnetic stimulation in infantile hemiplegic cerebral palsy patients, Suman Jain, ICMR, 3 years, 2019-2022, Rs 51.35 lakhs
29. Prognostic value of endothelial dysfunction and arterial stiffness for major adverse cardiovascular events in patients with Non-ST elevation Acute coronary syndromes, Dinu S Chandran, AIIMS, 2 years, 2019-2021, Rs 9.93 lakhs
30. QEEG correlates of default mode network activity and its correlation with cognitive deficits in multiple system atrophy-Parkinsonian type and multiple system atrophy cerebellar ataxia type, Ratna Sharma, ICMR RA, 3 years, 2019-2022, Rs 20.7 lakhs
31. Quantification of systemic inflammatory biomarkers and immunophenotyping of immunecells in post tuberculosis sequelae patients, Geetanjali Gokarn Bade, AIIMS, 3 years, 2019-2022, Rs 10 lakhs
32. Study of EEG microstates and cortical sources in visuo-spatially complex Hindi language, Prashant Tayade, AIIMS, 1 year, 2020-2021, Rs 4.92 lakhs
33. To investigate the biochemical and functional alterations by novel diagnostic tool GluCEST and prevention of progression of Alzheimer's disease by non-invasive magnetic field stimulation therapy in streptozotocin (STZ) induced rat model, Suman Jain, ICMR RA, 3 years, 2019-2022, Rs 21.58 lakhs
34. To study effect of exposure to diesel biodiesel and biodiesel blend fuel-engine exhaust on testicular morphology and spermatogenesis in male Wistar rats, Asmita Patil, AIIMS-IIT, 3 years, 2019-2021, Rs 10 lakhs
35. To study the relationship between resting retrograde shear and atherogenic profile in peripheral, central and coronary arteries in patients of myocardial infarction, Dinu S Chandran, ICMR, 3 years, 2018-2021, Rs 10.68 lakhs
36. Ultrastructural, synaptic and neuromuscular changes in sleep and sleep deprivation in rats, KK Deepak, ICMR SRF, 3 years, 2019-22, Rs 16.22 lakhs

### ***Completed***

1. Correlation of cortical sources and brain iron during rest and visuospatial working memory in attention deficit hyperactive disorder, Simran Kaur, DHR, 2.5 years, 2017-2020, Rs 17.74 lakhs
2. Effect of extremely low frequency magnetic field on neuro-regeneration in severely injured spinal cord in rat model, Suman Jain, ICMR, SRF, 3 years, 2017-2020, Rs 12.5 lakhs
3. Molecular basis of estrogenism in endometriosis, Debabrata Ghosh, SERB, 5 years, 2016 - 2021, Rs 49.72 lakhs
4. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker, Simran Kaur, CSRI, DST, 1.5 years, 2017-2020, Rs 11.97 lakhs
5. Study of EEG microstates in om chanting, Prashant Tayade, AIIMS, 1year, 2019-2020, Rs 4.63 lakhs
6. Transcriptomic landscaping for endometriosis from genome-wide analysis (GWA) of expression arrays, Debabrata Ghosh, DST, 5 years, 2015 - 2020, Rs 47.37 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Correlation of cortical sources and brain iron during rest and visuospatial working memory in attention deficit hyperactive disorder, Simran Kaur, DHR, 2.5 years, 2017-2020, Rs 17.74 lakhs
2. Effect of extremely low frequency magnetic field on neuro-regeneration in severely injured spinal cord in rat model, Suman Jain, ICMR, SRF, 3 years, 2017-2020, Rs 12.5 lakhs



3. Molecular basis of estrogenism in endometriosis, Debabrata Ghosh, SERB, 5 years, 2016 - 2021, Rs 49.72 lakhs
4. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker, Simran Kaur, CSRI, DST, 1.5 years, 2017-2020, Rs 11.97 lakhs
5. Study of EEG microstates in om chanting, Prashant Tayade, AIIMS, 1 year, 2019-2020, Rs 4.63 lakhs
6. Transcriptomic landscaping for endometriosis from genome-wide analysis (GWA) of expression arrays, Debabrata Ghosh, DST, 5 years, 2015 - 2020, Rs 47.37 lakhs

### ***Completed***

1. A study of pain status and corticomotor excitability in chronic low back pain patients: Effect of transcranial magnetic stimulation
2. A study of pulmonary functions and inflammatory biomarkers in post-pulmonary tuberculosis sequelae
3. Acute cardio-autonomic responses to graded head down tilt in long term Sirsasana yoga practitioners
4. Acute effects of slow breathing on cardiovascular variability during head up tilt, head down tilt and lower body negative pressure in naïve subjects and trained yoga practitioners
5. Association of cardiorespiratory parameters during cardiopulmonary exercise testing with spirometric measurements, anthropometry, physical activity and sleep quality
6. EEG microstates topography and sources during om chanting
7. Effect of age on motor conduction using intraoperative transcranial motor evoked potentials
8. Effect of countermeasure gravity loading body gear on anti-gravity muscle activity and autonomic function
9. Effect of electrolytic and neurotoxic lesion of VLPO on sleep and wakefulness in rats
10. Effects of short-term yoga-based lifestyle intervention on hypothyroidism: A randomized controlled trial
11. Evaluation of autonomic function in different types of achalasia patients diagnosed by high resolution manometry
12. Evaluation of protein expression of microchimeric Y chromosome in ovarian endometriosis
13. Hemodynamic correlates of retrograde shear augmentation in brachial artery by lower body negative pressure (LBNP)
14. Neuroregeneration following implantation of iron oxide nanoparticle along with magnetic field exposure in spinal cord injured rats
15. Prospective randomized controlled trial comparing the effects of intraoperative dexmedetomidine and lignocaine administration over the incidence of post-operative cognitive decline in the elderly
16. Student's feedback on effectiveness of web based versus live conduct of postgraduate academic sessions in physiology
17. Study on association between pain and neurotrophins in ovarian endometriosis
18. To study the effect of simulated microgravity on the baroreflex sensitivity and carotid artery structure in rats
19. To study the mechanism of altered spontaneous baroreflex sensitivity during blood donation
20. To study the role of vascular function and pain sensitivity in post myocardial patients
21. To study the vascular mechanisms contributing to augmentation of brachial artery retrograde shear in response to graded cuff pressure over forearm

### **Collaborative projects**

#### ***Ongoing***

1. A cross sectional study to assess the severity of chronic pruritus and its effect on quality of life using the 12 item pruritus severity scale and the 5-D itch scale Dermatology and Venereology
2. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with, incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG, Surgery
3. A randomised controlled trial of 6 months yogic exercise vs regular physical activity on body composition, multiple metabolic measures in North India individuals with non-alcoholic fatty liver disease and obesity, Medicine
4. A randomised controlled trial of adjunctive incremental pregabalin therapy vs placebo for pain management in chronic pancreatitis, Gastroenterology and Human Nutrition
5. A randomised sham controlled trial of targeted low frequency repetitive transcranial magnetic stimulation therapy in childhood and adolescent with focal onset refractory epilepsy, Paediatrics
6. A randomised, double-blind, placebo-controlled, split-head trial to study the effects of autologous platelet-rich plasma on hair growth and lesional T-helper and T-regulatory cells expression markers in alopecia areata, Dermatology and Venerology

7. Analysis of anti-neurotoxicity of amyloid Beta (A $\beta$ ) in Alzheimer's disease (AD) pathology targeting lipoxygenase, Biophysics, AIIMS Delhi
8. Change in sleep pattern, perceived stress and coping strategies at the end of first year among first year medical undergraduate students: A prospective study, Medicine
9. Circulatory exosomal microRNA (miRNA) as marker of endometriosis: A pilot study, Obstetrics & Gynecology
10. Comparative study of effects of lignocaine vs dexmedetomidine administration on the incidence of post-operative cognitive dysfunction in the elderly, Anesthesiology, Pain Medicine and Critical Care
11. Cortical excitability in children with electrical status epilepticus in sleep compared to non-epileptic healthy children using Transcranial magnetic stimulation, Paediatrics
12. Delhi glaucoma epidemiology study, RPC for ophthalmic Sciences
13. Effect of '365 breathing technique' on intraocular pressure and autonomic functions in glaucoma patients: A randomized control trial, RPC for Ophthalmic Sciences
14. Effect of acute changes in ambient air pollutants on pulmonary variables and inflammatory markers in healthy subjects and asthmatics, Pulmonary, critical care and sleep medicine
15. Effect of an integrated yoga program on stress, sleep quality, symptoms, severity, quality of life and clinical outcome in covid 19 positive patients undergoing conventional treatment: A multicentric trial, Anesthesia and palliative care, IRCH, Central Council of Yoga and Naturopathy (CCRYN)
16. Effect of suryanamaskara practice on physiological variables: A pilot study, Centre for integrative medicine and Research
17. Effect of vitamin D on monocrotaline induced pulmonary artery hypertension in rats, Pharmacology
18. Effect of Yoga on maternal and perinatal outcome on Pregnancy, Obstetrics and Gynecology
19. Effect of yoga-based lifestyle intervention on biomarkers of cellular aging in patients with depression, Anatomy
20. Efficacy of a family based comprehensive yoga program for weight reduction among overweight children and adolescents, Pediatrics
21. Endometrial neurotrophic factors and nerve fibres in endometriosis-associated pain, Obstetrics & Gynecology
22. Evaluation of immediate and occlusal pattern changes and their influence on electromyographic activity of jaw muscles in growing patients treated with rapid maxillary expansion for posterior crossbite- A prospective clinical study, Orthodontics and dentofacial deformities, CDER
23. Evaluation of pulmonary functions in ankylosing spondylitis, Physical medicine and rehabilitation
24. Evaluation of repetitive transcranial magnetic stimulation as an adjunct to modified constraint induced movement therapy in improving upper limb function in children with hemiparetic cerebral palsy aged 5 – 18 years - A randomized controlled trial, Paediatrics
25. Exploring graphene functionalized 3D scaffolds for enhanced neuronal differentiation of human mesenchymal stem cells and use in rat Parkinson's disease model, Stem Cell facility, IRCH
26. Exploring valence coding in decision making using the rodent Iowa gambling task (rIGT), IIT Delhi
27. Expression of erbB receptor family and estrogen receptor (ER) in endometrium and ectopic lesion during ovarian endometriosis, Obstetrics & Gynecology
28. Heat and thermal regulation of human body, IIT Madras
29. Immunophenotyping and functional characterisation of peripheral and in-vitro induced T regulatory cells: Putative role in pathogenesis of COPD, Pulmonary, critical care and sleep medicine
30. Impact of supervised diet and lifestyle modifications on weight loss, body fat distribution and insulin resistance in adult Indian obese patients, Surgical disciplines
31. Impact of transcendental meditation on stress and immunity of healthcare providers involved in COVID-19 patient care at AIIMS, New Delhi Surgical disciplines, DST
32. Impact of yoga and meditation on epigenetic profile in rheumatoid arthritis, Anatomy
33. Interventions for stigma for persons with epilepsy in India, Neurology
34. Is central sensitization is a characteristic feature of chronic nonspecific neck arm pain? - a comparison with fibromyalgia and healthy individuals Neurosurgery
35. Longitudinal changes in EMG activity of masseter and temporalis muscles of patients undergoing temporomandibular joint replacement, Oral & maxillofacial surgery, CDER
36. MR and other techniques based phenotyping and correlation with prakruti type in healthy population, NMR
37. Neurobiological basis of early life stress induced aggressive behavior, Institute of Genomics and Integrative Biology, Delhi

38. Prospective study to evaluate the etiology of voiding lower urinary tract symptoms in young male patients, Urology
39. Quantification of systemic inflammatory biomarkers and immunophenotyping of immune cells in post tuberculosis sequelae patients, Pulmonary, critical care and sleep medicine
40. Questionnaire based survey of musculoskeletal dysfunction among general surgeons and comparison of muscle activity and fatigue among expert and novice surgeons during laparoscopic surgery using surface electromyography, Surgery
41. Repetitive transcranial magnetic stimulation to the inferior parietal lobule in task specific focal hand dystonia: A randomized cross over blinded outcome assessment study, Neurology
42. Role of selective neuropeptides in the spinal cord of morphine treated rats, Anatomy
43. Role of yoga based intervention as an adjunct in improving quality of life of glaucoma patients, RPC for ophthalmic Sciences
44. Smartphone applications-based intervention to reduce body mass index and improve health related behaviour among school children with overweight/obesity: A controlled clinical trial, Paediatrics
45. Spatio-temporal photoplethysmography (PPG), IIT Madras
46. Study of the effects of exposure to diesel, biodiesel and blend fuel engine exhaust on testicular morphology and spermatogenesis in male wistar rats, IIT Delhi
47. The neurophysiological effect of pranayama in comparison to slow breathing, Centre for integrative medicine and Research
48. The study of synaptic plasticity in rat model of chronic post-surgical pain, Anatomy
49. Therapeutic intervention of small molecule based novel activator of sirtuin on rat model of Alzheimer's disease, Biophysics, AIIMS Delhi
50. To compare diaphragmatic thickness fraction in patients undergoing VATS with erector spinae plane block vs with local infiltration, Anesthesiology
51. To study the effectiveness of repetitive transcranial magnetic stimulation (rTMS) on activities of daily living, behavioral and cognitive ability (A-B-C) of Parkinson disease patients, Neuropsychology
52. Unique aspects of idiopathic hypoparathyroidism, Endocrinology and Metabolism, AIIMS Delhi
53. Valence processing and decision making deficit in rodent Iowa Gambling task: The nature of PFC-atrophy and cognitive deficits in Alzheimer's dementia, IIT Delhi

### **Completed**

1. A cross-sectional study to assess autonomic nervous system imbalance and its correlation with cutaneous manifestations in patients with systemic sclerosis, Dermatology
2. A study of autonomic functions in adolescents with specific learning disorder (dyslexia) with and without ADHD, Psychiatry
3. Development of countermeasure gravity loading bodysuit and its potential association with cardiovascular and muscular system, Dr B. R. Ambedkar National Institute of Technology| Jalandhar
4. Endothelial dysfunction in young patients with non-alcoholic fatty liver disease, Medicine
5. Evaluation of effect of mindfulness based stress reduction on optic disc perfusion using OCT-angiography in glaucoma patients: A randomized controlled trial, RPC for ophthalmic Sciences
6. Identification of biomarkers in Parkinson's disease using NMR, NMR
7. Investigation of heart-brain interactions during internally operative versus externally operative attention regulatory mechanisms, Dr B. R. Ambedkar National Institute of Technology| Jalandhar
8. Isolation and molecular characterization of colorectal cancer stem cells, Biochemistry
9. Study of clock genes in rat model of mania-like behavior, Neurology
10. To study the effect of collagen-based scaffolds on the functional recovery in complete spinal cord injured rats, NIPER, Ahmedabad

### **PUBLICATIONS**

**Journals: 51**

**Abstracts: 11**

**Chapters in books: 8**

### **PATIENT CARE**

**Autonomic Function lab and Vascular Function lab** provide diagnostic facility for referred patients. The labs provide routine test of autonomic reactivity along with autonomic tone quantification. A total number of 109 of humans have been tested for autonomic function test this year, which included 81 patients and 28 healthy subjects.

**Gastrointestinal Physiology:** Provided diagnostic facility with High resolution upper GI manometry for 10 patients and 24-hour pH monitoring for 7 patients from Department of Surgery.

**Intraoperative Neurophysiology** Intraoperative neuro-monitoring support was provided to patients from departments of neurosurgery, orthopedics, trauma center, CTVS, and pediatric surgery.

**Integral Health Clinic (IHC)** is a facility for mind, medicine & meditation integration, primarily for health promotional activities. IHC is an outpatient facility which is used not only for therapeutic gains but also as part of a developing health consciousness. As a de-stressor facility, the IHC is a supportive facility to de-stress AIIMS employees including faculty, students, residents and staff. A total of 1188 subjects (on daily basis/ day-wise) were trained & benefited during the year 2020 - 2021, including online & physical training & practice of yoga to enhance their health & wellness. This includes our AIIMS healthcare providers involved in the COVID -19 patient care as well as patients of chronic diseases (like obesity, fibromyalgia) and referrals from RPC ophthalmic center etc.

**Respiratory Physiology lab** provided cardiopulmonary exercise testing (CPET) for pre-operative assessment of patients for Lung resection.

**Pain Research and TMS laboratory** 30 rTMS (Repetitive Transcranial Magnetic Stimulation) sessions given at Motor cortex/ Dorsolateral Prefrontal cortex, 10 supervised Yoga sessions with flexibility assessment in 4 patients and 4 motor imagery sessions to chronic pain patients were given. Pain and Somatosensory assessment of 22 chronic pain patients and healthy volunteers were done. EMG recordings of pericranial, epigastric, abdominal and cervical muscles done for 35 patients. Corticomotor excitability measurement and evaluation of 11 chronic pain patients and 10 healthy volunteers was also conducted. Quantitative sensory testing was performed for 36 patients. The chronic pain patients included patients with chronic low back pain, fibromyalgia, rheumatoid arthritis, chronic neck and shoulder pain, chronic pruritus, hypothyroidism and young children undergoing orthodontic therapy. Patients were referred from various clinical departments of AIIMS namely Rheumatology, Physical Medicine and Rehabilitation, Orthopaedics, Neurosurgery, Oral and maxillofacial surgery, Orthodontics, Dermatology, Endocrinology, Anesthesiology and Neurology.

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor KK Deepak** is the Dean (Examination), AIIMS, New Delhi; Member, Advisory Board of American Academy of Yoga and Medicine (AAYM), USA; Executive Editor, Indian Journal of Physiology and Pharmacology of India; Member, Pulse Coordination Committee, AIIMS, ND; Expert, NRDC Expert screening committee, National Research development Council (NRDC), ND; Chairman, Main Negotiation committee-I, AIIMS, ND; Chairman, Stores Purchase Committee, AIIMS, ND; Member, committee for selection cum screening for Physiology-Dr BR Ambedkar State Institute of Medical Sciences, IMS, BHU, VPCI Delhi University, and AIIMS Raipur; Member, committee to suggest various changes in Administration with names, AIIMS, ND; Professor In-charge (for Faculty Development of & Basic Sciences), CMET, AIIMS, ND; Co- Chairman, Ethics committee ESIC Medical College Faridabad 2020; Expert invitee to discuss WHO Guidelines on physical activity and sedentary behaviors and participate in the first technical discussion on drafting a road map for GAPP implementation, 17 December 2020, 21 December, 2020; Judge for All India online Physiology Festival, LHMC, New Delhi, 10 December, 2020; PhD thesis examiner, Maastricht University, The Netherlands and Calcutta university; Organizer, Advanced workshop (6th in the series) Techniques in Physiological Sciences – 2020, Department of Physiology, AIIMS, ND; Dept coordinator for all Covid activities and participated in combined morning meetings; Expert for research committee for IIT Delhi PhD students for the title “Virtual Reality Applications for Stroke Rehabilitation”; Member of NRDC national innovation awards, national societal innovation awards & national budding innovators awards; Member, Biomedical device and technology development (BDTD) Expert advisory group (EAG), DST; Member, Initial screening committee (ISC) meeting for national award-2020 applications, Technology development board, Department of science & technology; Member, Science and technology for yoga and meditation (SATYAM), DST; Member of the advisory panel at national academy of medical sciences (NAMS); Chairman, Teaching schedule committee for the (Phase-I) 2020-2021; Filed 3 Patents listed below: (1) “An Isometric Exercise Device”, Indian Patent Office with application no. 202011038613, dated 07 September 2020, Mumbai Office of Controller General of Patents. In: Designs and Trade Marks, Intellectual Property India, Government of India. 2020. Principal inventor (Inventors: Deepak KK, Sharma Barun H), filed by AIIMS, New Delhi; (2) “Air cooled and breathable single piece bodysuit for personal protection”, Indian Patent Office with application number: 202011034189 (Under examination after filing in August 2020), Co-inventor, filed by Dr BR Ambedkar National Institute of Technology, Jalandhar; (3) “Controlled artificial gravity generating bed”, Indian Patent Office with application number: 202111001877, Jan 2021, Co-inventor, filed by Dr B. R. Ambedkar National Institute of Technology, Jalandhar. DD *urdu* channel, “*Yehhai India*”, discussed on Yoga, fitness & health; Panelists: Prof CS Pandav, Prof KK Deepak & Prof Raj Kumar Yadav, 21 June 2020, 22 June 2020, 9 to 9.30 pm, 1 to 1.30 pm

**Professor KP Kochhar** is the recipient of poster award for paper “Sudoku differentially activates Prefrontal cortex: an FNIRS Study” at E-conference Neuroeunoia 2020: A Neuroscience Affair; Prof Navnendra Mathur Memorial Award 2020 by IAPMR for the paper presentation ‘A Cross-Sectional Study on Central Sensitization and Autonomic Changes in Fibromyalgia’



**Professor Nalin Mehta** is the UG Expert, Medical Assessment and Rating Board (MARB), National Medical Commission (NMC), New Delhi; Convenor, Specialty Board in Physiology, National Board of Education, New Delhi; External Expert Member for the Selection Committee for recruitment of Faculty (Physiology), UCMS, Delhi; External Expert Member on the Screening Committee for promotion under DACP scheme for Faculty (Physiology), UCMS, Delhi; External Expert Member on the Screening-cum-Selection Committee for promotion under DACP scheme for Faculty (Physiology) at V P Chest Institute, Delhi; External Expert Member (Physiology), Standing Selection Committee for Selection of Faculty at AIIMS, Jodhpur; External Expert Member (Physiology), Standing Selection Committee for Selection of Faculty at AIIMS, Gorakhpur; External Member, Research Advisory Committee, AIIMS, Gorakhpur; Member, Independent Ethics committee, International Clinical Epidemiology Network (INCLIN), New Delhi.

**Professor Suman Jain** is the Member of Review committee, ICMR to look into projects on optic nerve regeneration and nerve transplant; Member of Fact-finding Committee to look into plagiarism issue by NIPER Ahmedabad; Member of committee constituted for appointment of Nurses officer for temporary post at AIIMS, New Delhi; Member for counseling of Non-Academic Junior residents, AIIMS Delhi; Trained health care professionals in Hindi and English during COVID pandemic, for prevention of COVID and maintaining physical and mental health, 2020; Faculty mentor of e-Student Welfare Club, AIIMS Delhi, encouraged and supported students and doctors during COVID pandemic. 2020; Faculty volunteer actively participated in preparation and distribution of PPE kits to specific cadres of hospital staff, at AIIMS Delhi 2020; Chaired a session on “Neurodegeneration” during XXXVIII Annual Meeting of Indian Academy of Neurosciences held virtually from 4-7 October at Hyderabad, Telangana; Judge to evaluate oral presentations for the awards “Tulsabai Somani Educational Trust Award and D M Kar Prize” during XXXVIII Annual Meeting of Indian Academy of Neurosciences held virtually from 4-7 October at Hyderabad, Telangana; PhD thesis examiner from North Eastern Hill University, Shillong, India; Member, Editorial Board: Annals of Neurosciences; Secretary, Delhi-NCR Chapter of Indian Academy of Neurosciences; Vice President, Indian Academy of Neurosciences; Member Feedback Committee, North American Spine Society; Member IUPS-IUPHAR Committee, INSA.

**Professor Raj Kumar Yadav** is the Editor: International Journal of Clinical and Experimental Physiology; Member, Editorial board: Annals of Yoga and Physical Therapy; Examiner, MD thesis (5 Nos), King George’s Medical University, Lucknow, UP, March 2021; Examiner, PhD thesis, Jawaharlal Institute of Postgraduate Medical Education & Research (JIPMER), Puducherry, September 2020; External Expert Member, Peer review/ assessment of faculty under Assessment Promotion Scheme (APS): North Eastern Indira Gandhi Regional Institute of Health & Medical Sciences, Shillong, Meghalaya, March 2021; External expert member, Board of Studies, MD Physiology curriculum, AIIMS, Rishikesh; Nodal officer, Hostels, AIIMS Delhi for infection control amongst hostelers/ residents during Covid 19 pandemic; Member: Technical cum Experts Committee, Indian Council of Medical Research (ICMR), New Delhi; Reviewer/ Domain Expert: Dept of Science & Technology (DST)/ SATYAM, Govt of India, research proposals/ projects; Deputy Hostel Superintendent, AIIMS, New Delhi; Finance Secretary, TIPS Advanced 2020, Techniques in Physiological Sciences for SAARC nations, AIIMS, New Delhi, Dec 1-3, 2020; Secretary, Association of Physiologists & Pharmacologists of India (APPI), Delhi chapter; Secretary, Faculty Club, AIIMS, New Delhi; Member, AIIMS Students Benevolent Fund Committee for UG students; Member, Oversight Committee, AIIMS Power Grid Vishram Sadan, JPNA Trauma Centre, AIIMS, New Delhi; Organizer, Inauguration of ‘Integral Health & Wellness Clinic’ by Director Prof Randeep Guleria with Prof Ramesh Bijlani on 12 February 2021, 10 am.; in the live show ‘TOTAL HEALTH’ discussing on “Yoga and Health” on DD NEWS channel, 14 June 2020, 8.30 to 9.30 am DD urdu channel, “Yehhai India”, discussed on Yoga, fitness & health; Panelists: Prof CS Pandav, Prof KK Deepak & Prof Raj Kumar Yadav, 21 June 2020, 22 June 2020, 9 to 9.30 pm, 1 to 1.30 pm

**Dr Renu Bhatia** is the Member, International Association for Study of Pain (IASP); Member AIIMS UG Curriculum organizing group, AIIMS New Delhi; Member, Women in Brain Stimulation

**Dr Simran Kaur** was Panelist, Cognitive disorders in adolescents and young adults cancers, 2nd Annual Meeting of Indian Association of Supportive Care in Cancer, 27 September 2020; Chairperson, Brain Health During Covid-19 Pandemic: Help from Herbs, Indian Academy of Neuroscience 2020, 4-7 October 2020, Hyderabad.

**Dr Dinu S Chandran** is the recipient of AIIMS Excellence Research Award – 2019 (awarded in 2020), Second Prize in the Basic Science category for the publication titled: Contribution of systemic vascular reactivity to variability in pulse volume amplitude response during reactive hyperemia; Associate Editor, Indian Journal of Physiology and Pharmacology The official journal of the Association of Physiologists and Pharmacologists of India; Editorial member, e-newsletter and the e-grants update committee of Research section, AIIMS, New Delhi; Coordinator – Procurement from GEM portal, Department of Physiology, AIIMS, New Delhi; Member, Store purchase committee, Department of Physiology, AIIMS, New Delhi

**Dr Nasreen Akhtar** is the participating faculty in COVID-19 Training Course for Physiology Residents; Senior Editor for Indian Journal of Medical Specialties; Reviewer for journals (Indian Journal of Physiology and Pharmacology and Sleep and Vigilance); Project reviewer for SERB.



**Dr Suriya Prakash M** is the Member, Committee for MBBS Curricular Reforms, AIIMS, New Delhi; Nodal officer for Annual Report, AIIMS, New Delhi.

### **Social outreach Programmes**

#### **Media coverage**

#### **Major academic activity not included under teaching research and patient care activities**

COVID-19 literature appraisal for AIIMS Covid portal - <https://covid.aiims.edu/literature-appraisal/>

1. Nonpharmaceutical measures for pandemic influenza in nonhealthcare settings—personal protective and environmental measures, Dinu Chandran, KK Deepak, Sarita Mahapatra, Sidhartha Satpathy
2. Turbulent Gas Clouds and Respiratory Pathogen Emissions: Reducing Transmission of COVID-19 Dinu Chandran, Sidhartha Satpathy
3. Respiratory virus shedding in exhaled breath and efficacy of surgical face masks, Dinu Chandran, KK Deepak, Sidhartha Satpathy
4. Face masks for the public during the COVID-19 crisis, Dinu Chandran, Sarita Mahapatra, KK Deepak, Sidhartha Satpathy
5. The airborne lifetime of small speech droplets and their potential importance in SARS-CoV-2 transmission, Dinu Chandran, KK Deepak, Asmita Patil, Sidhartha Satpathy
6. Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: A systematic review and meta-analysis, Dinu Chandran, Asmita Patil, Sidhartha Satpathy

## 9.33. Plastic, Reconstructive and Burns Surgery

### Professor and Head

Maneesh Singhal

### Assistant Professors

Raja Tiwari  
Rajkumar Manas

Shashank Chauhan  
Rakesh Dawar

### HIGHLIGHTS

The Department of Plastic, Reconstructive & Burns Surgery at AIIMS, New Delhi, was established in July 2015. There are now 5 faculty members, 12 MCh senior residents, 8 post-MCh senior residents, 4 non-academic senior residents, and 5 non-academic junior residents working in the department. Over the last year, the monthly inflow of patients into our outpatient department, as well as admissions, has consistently climbed. We have clinics dedicated to hand and cleft surgery. Oncosurgery, Neurosurgery, Cardiothoracic Surgery, Orthopedic, Paediatric Surgery, General Surgery, Ocular Surgery teams, and other departments collaborate with us for the reconstruction of various challenging and complex tissue defects. At Jai Prakash Narayan Apex Trauma Center post-conversion into COVID care center, we have contributed to the COVID task force with faculty and residents. The department has conducted various national and international webinars over online platforms. Department has successfully conducted the MCh exams of 11 candidates till date. On the 18th of January 2021, we participated in the Inauguration of the Burns and Plastic Block by the Ministry of Health and Family Welfare, Government of India. This block houses a dedicated burns and plastic surgery ward as well as an intensive care unit (ICU) that has the capacity to treat 50000 burn emergencies and 5000 admissions per year. A 20-bed ward has also been established for acute emergencies. We also have the world's largest 6 operation theatres, each with a dumb waiter system. To improve the health care system, the new block also has future provisions for skin banking service, a fully equipped physiotherapy unit, and custom-made pressure garments store. During Corona pandemic, we also began telecommunication for new and follow-up patients.

### Infrastructure Development

The Burns and Plastic Block was established and made functional. The department's long-term goals include establishing a cutting-edge Center for Burn Care and Reconstructive Surgery, a specialized skin bank, and a composite tissue allotransplantation programme for hand and face transplantation.



### Lectures delivered

Maneesh Singhal: 4      Raja Tiwari: 4      Raj Kumar Manas: 1

### Kishore Kumar Deepak

1. Fitness protocols for teachers and parents online, National webinar on Indian Fitness Protocols, SAI Trivandrum, 1 June 2020, Thiruvananthapuram, online
2. Yoga for improving health during covid-19, Yoga for Covid -19; online symposium, Department of Sports Sciences, Faculty of Medicine, Punjabi University, 21 June 2020, Patiala, online
3. Physical and mental fitness during covid 19: Yoga and exercise, Webinar on Physical and mental fitness, NIT, 22 June 2020, Jalandhar, online

4. Physiology is omnipresent in medicine, National webinar on Pivotal role of Physiology in clinical practice, ESIC Medical College, 1 July 2020, Hyderabad, online
5. Physical and mental fitness during covid – 19 pandemic, Socio-Economic and Health Challenges due to COVID-19 & Mitigation Strategies, NIT, 23 October 2020, Jalandhar, online
6. Introduction to Fit India, Importance of exercise during Covid Time, AIIMS, 28 November 2020, Bhopal, online
7. Assessment of cardiovascular autonomic function, Techniques in Physiological Sciences - 2020: Application to Translation, 1 - 3 December 2020, New Delhi, online
8. Achieving positive health during covid time, National Physiology webinar, Govt. Medical College, Bhawnagar, 26 December 2020, Bhawnagar, online
9. Physiologists' role and participation in WHO global action plan for physical activity, Institutional Symposium, MGM Institute of Health Sciences, 12 February 2021, Mumbai, online
10. Teaching physiology using simulations, National Seminar on Education and Explore with empathy, AIIMS Nagpur, 20 February 2021, Nagpur, online
11. Overview of autonomic research in India, Webinar Symposium Basic and Clinical Aspects of Autonomic Function Testing, AIIMS, Deoghar, 27 February 2021, Deoghar, online
12. Exercise and yoga in space, Earth-based Microgravity Research in Space Biology Biology, AU-KBC Research Centre, 15 March 2021, Chennai, online
13. Physiological adaptations to changing profiles of bio-mechano-sensing: Some applications to yoga & space, D-Health Symposium 2021, IISc, 19 March 2021, Bangalore, online
14. Physiological perspective of consciousness, "Consciousness 360 degree", WCSC-Directorate of Research & Development, 20 March 2021, Chennai, online
15. Basic and translational research in pre and para clinical departments, Inculcation of Research and Innovation Spirit in Medical Students and Faculties, IMS, BHU, 21 March 2021, Varanasi, online
16. Physiologists' role and participation in WHO global action plan for physical activity 2018-2030, Physiological Sciences for betterment of health, Virtual Biennial SAAP VII & PSI Conference 2021, Jamia Hamdard, 24 March 2021, New Delhi, online
17. Cardiovascular health and air pollution, Air pollution and Health Hazards (APHH-2021), NIT Jalandhar, 31 March 2021, Jalandhar, online

#### **Kanwal Preet Kochhar**

1. Addressing gender issues in higher educational institutions: challenges and perspectives, Webinar on gender issue by internal complaints committee (harassment), JNU, Delhi, 27 October 2020, Delhi, Online

#### **Ratna Sharma**

1. QEEG: A tool to assess brain function in neurodevelopmental disorders "Modern interventional tools for persons with disability, SSCI 34th Annual Meeting 2020, 11-13 December 2020, Online

#### **Nalin Mehta**

1. Ethics in orthodontics research "Basic Research Methodology Course in Orthodontics", 23 April 2020, New Delhi, Online
2. Ethics in biomedical research, Interaction Programme for PhD Research Scholars/Post-Doctoral Fellows, 10 January 2021, Amritsar, Online
3. Review of literature and referencing, Interaction Programme for Ph.D. Research Scholars/Post-Doctoral Fellows, 11 January 2021, Amritsar, Online
4. Scientific misconduct, Interaction Programme for PhD Research Scholars/Post-Doctoral Fellows, 12 January 2021, Amritsar, Online

#### **Suman Jain**

1. Nanotechnology in medicine, Public Webinar for faculty, graduate, postgraduate and PhD students, 7 May 2020, New Delhi, Online
2. Synaptic plasticity and Neuroregeneration, Neuro Eunoia 2020: A neuroscience affair 16-17 October 2020 New Delhi, Online
3. Basic physiology of TMS practice, 5th National CME and 2nd Hands on training workshop on rTMS, 17-18 December 2020, New Delhi, Online

4. Pain assessment in animals and humans, Techniques in Physiological Sciences - 2020: Application to Translation, 1 – 3 December 2020, New Delhi, Online
5. Non-invasive brain stimulation by TMS in animal models and human subjects, Techniques in Physiological Sciences - 2020: Application to Translation, 1 – 3 December 2020, New Delhi, Online

#### **Raj Kumar Yadav**

1. Yoga for health promotion, Online national conference for Principals and School management on awareness of yoga, Central Board of Secondary Education (CBSE), 16 June 2020, New Delhi, Online
2. Meditation: Neural mechanisms, Techniques in Physiological Sciences - 2020: Application to Translation, 1 – 3 December 2020, New Delhi, Online
3. Yoga-meditation: Genomic techniques, Techniques in Physiological Sciences - 2020: Application to Translation, 1 – 3 December 2020, New Delhi, Online
4. Mind, meditation and medicine, Principles of Physiology and its practical aspects, Ayurvedic and Unani Tibbia College and Hospital, 21 December 2020, New Delhi, Online
5. Obesity, cardiovascular diseases and yoga, Webinar-Orientation lecture, Morarji Desai National Institute of Yoga, 12 February 2021, New Delhi, Online

#### **Anjana Talwar**

1. Pulmonary function testing by spirometry, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, Online

#### **Asmita Patil**

1. An overview of reproductive physiology, Invited lecture, Chettinad Academy of Research & Education, 16 September 2020, Chettinad
2. Pollution and reproductive health, International Conference on Environment, health and sustainable development, 25 September 2020, New Delhi
3. Application of expression microarray in research, Techniques in Physiological Sciences - 2020: Application to Translation, 2 December 2020, New Delhi, Online
4. Pollution and reproductive health: Tomorrow's children, National Workshop on "Air Pollution and Health Hazards", 31 March 2021, New Delhi, Online

#### **Renu Bhatia**

1. Pain assessment in animals and humans, Techniques in Physiological Sciences - 2020: Application to Translation, 1 December 2020, New Delhi, Online
2. Transcranial magnetic stimulation for pain management, Techniques in Physiological Sciences - 2020: Application to Translation, 3 December 2020, New Delhi, Online

#### **Simran Kaur**

1. Introduction to cognitive function assessment, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, Online

#### **Dinu S Chandran**

1. Physiology and biophysics of transmission of respiratory infections: Implications in the context of COVID-19, Covid-19 Training Course for Physiology Residents, 1 June 2020, New Delhi, online
2. Introduction to non-invasive assessment of vascular function, Techniques in Physiological Sciences - 2020: Application to Translation, 1 - 2 December 2020, New Delhi
3. Imaging free ultrasound to study arterial dynamics: Technological innovation through collaboration, Techniques in Physiological Sciences - 2020: Application to Translation, 1 - 2 December 2020, New Delhi

#### **Nasreen Akhtar**

1. Covid 19: Role of different masks and their physiological effects, Covid-19 Training Course for Physiology Residents, 1 June 2020, New Delhi, online

2. Principles of polysomnography, Techniques in Physiological Sciences - 2020: Application to Translation, 1 December 2020, New Delhi, online

#### **Geetanjali Gokarn Bade**

1. Pulmonary function testing by impulse oscillometry and measurement of diffusing capacity of lungs, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, online

#### **Suriya Prakash Muthukrishnan**

1. Implications of atypical manifestations of covid-19, Covid-19 Training Course for Physiology Residents, 1 June 2020, New Delhi, online
2. Introduction to dense array EEG acquisition, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, online
3. Introduction to QEEG analysis, Techniques in Physiological Sciences - 2020: Application to Translation, 1-3 December 2020, New Delhi, online

#### **List of oral papers/posters presented: 5**

1. Bade G, Talwar A, Trivedi A, Chanu A, Singh U, Evaluation of respiratory impedance in patients with ankylosing spondylitis, European Respiratory Society International Congress 2020, 7-9 September 2020, Online
2. Badhwar S, Chandran DS, Jaryal AK, Narang R, Patel C, Deepak KK, Differential 'mediators' of 'low-flow' mediated constriction in healthy vs patients of ischemic heart disease., Annual conference of Association for Research into Arterial Structure and Physiology (ARTERY) 2020, Virtual Conference, 23 – 24 October 2020, Online
3. Chandran DS, Jayaraj J, Sen S, Raj K, Nabeel PM, Deepak KK, Feasibility evaluation of imaging-free ultrasound technology to measure diameters of brachial and radial arteries for assessment of endothelial function, ARTERY 2020 Virtual Conference, 23 – 24 October 2020, Online
4. Kaur S, Rastogi S, Sharma R, Bakhshi S, Tayade P, Muthukrishnan SP, Neural correlates of chemotherapy induced cognitive deficits in non- metastatic osteosarcoma, 2nd Annual Meeting of Indian Association of Supportive Care in Cancer, 3-4 October 2020, Online
5. Patil SG, Edmin C, Chandrasekaran AM, Singh K, Patil S, Roy A, Deepak KK, Jaryal A, Kinra S, Prabhakaran D, Does yoga based cardiac rehabilitation (Yoga-CaRe) programme improve endothelial function and reduce oxidative stress in patients with acute myocardial infarction?, AHA Scientific meeting, 17 November 2020, Online
6. Raj KV, Nabeel PM, Joseph J, Chandran D, Sivaprakasam M, Measurement of pressure-dependent intra-beat changes in carotid pulse wave velocity using image-free fast ultrasound\*, Annual conference of Association for Research into Arterial Structure and Physiology (ARTERY – 20), 23-24 October 2020, Online
7. Sen S, Chandran DS, Jaryal AK, Deepak KK, Differential low-flow mediated constriction (LFMC) responses in radial and brachial arteries are attributed to occlusion induced flow changes, ARTERY 2020 Virtual Conference, 23 – 24 October 2020, Online
8. Sharma A, Chandran DS, Jaryal AK, Deepak KK, Flow mediated slowing of pulse wave velocity as a measure of endothelial function, ARTERY 2020 Virtual Conference, 23 – 24 October 2020, Online
9. Singh A, Badhwar S, Chandran DS, Jaryal AK, Deepak KK, Distal arterial occlusion at different grades of supra-systolic pressures differentially modulates flow velocity and shear rates in radial artery, ARTERY 2020 Virtual Conference, 23 – 24 October 2020, Online
10. Talwar A, Bade G, Sampath M, Madan K, Assessment of oxidative stress in exhaled breath condensate of stable chronic obstructive pulmonary disease patients of Indian origin, European Respiratory Society International Congress 2020, 7-9 September 2020, Online
11. Trivedi A, Talwar A, Sampath M, Ghosh D, Guleria R, Bade G, Copy number variation (CNV) in chronic obstructive pulmonary disease (COPD) with and without ongoing smoking, European Respiratory Society International Congress 2020, 7-9 September 2020, Online
12. Vishwajeet, Kumar K, Singh D, Deepak KK, Gupta R, Simulation of human blood capillary model for head down tilt position, Sustainable Research in Energy and Environment, 15-16 January 2021, Online
13. Vishwajeet, Singh D, Deepak KK, Human renal artery blood flow modeling and simulation for weightlessness environment, IOCSRT-2020, 24-25 September 2020, Online



## RESEARCH

### Funded projects

#### Ongoing

1. Comparative Analysis of skin grafts on Post Traumatic wounds with portable Negative Pressure Therapy device vs conventional dressing. An open labelled, parallel arm-cohort, Shashank Chauhan, Triage Meditech Pvt Ltd, 6 Months, May 2020 – Ongoing, Rs 7,26,264
2. Pilot Study on utility of Robotic surgery for Brachial plexus reconstruction, Raja Tiwari, ICMR, 2 years, 2020-ongoing, Rs 29.5 lakhs
3. Pilot Study on utility of Robotic surgery for Brachial plexus reconstruction, Raja Tiwari, Intramural research grant, 2 years (applied for extension), 2020-ongoing, Rs 29.5 lakhs
4. Pilot Study on Vascular labelling of extra-cranial head and neck vessels using silicone dye injection: Avoiding danger zones during interventions, Raja Tiwari, AIIMS- Early Career Intramural Project for the year 2020 – 2021, 1 year, 2021- ongoing, Rs 5 lakhs

#### Completed

1. Controlled Clinical trial to assess the effectiveness of topical application of C1 herbal oil on superficial external wounds. (Phase II), Maneesh Singhal, Ministry of AYUSH, Govt. of India, 1 year, 2018- 2020, Rs 16,72,800
2. Situational Analysis of Burns in India, Maneesh Singhal, Ministry of Health & Family Welfare, Government of India, 4 years, 2015–2020, Rs 38,50,000

### Departmental Projects

#### Ongoing

1. A comparison of Smartphone Thermography and clinical methods of Postoperative Monitoring of Tissue perfusion in Free Microvascular Tissue Transfer- A Prospective Cohort Study
2. Early outcomes following mangled foot and ankle trauma: Comparison of foot salvage vs below knee amputation from an Indian perspective
3. Epidemiology of hand injuries in single centre (JPNATC-AIIMS)- A prospective & Retrospective Study.
4. To evaluate the outcomes following fingertip Injuries.

#### Completed

1. A Prospective study of Graft Reposition over Flap technique for reconstruction of finger-tip amputation.
2. Analysis of factors affecting the survival of digital replant
3. Cross finger flap for thumb distal soft tissue defects using index finger vs ring finger: A comparative study.
4. Epidemiological analysis of amputation cases in a level 1 trauma centre in India.
5. Prognostic factors associated with outcome in patients who were treated for Spaghetti Wrist Injuries
6. Role of hyperbaric oxygen therapy in salvage of compromised flaps.
7. Role of triamcinolone acetate in the maturation of scar.
8. Soft Tissue Reconstruction for exposed spinal implants: A pilot study.

### Collaborative Projects

#### Ongoing

1. Intraarticular injection of Autologous adipose derived stromal vascular fraction or hyaluronic acid for treatment of symptomatic knee osteoarthritis: A Randomised controlled trial, Department of Orthopedics, AIIMS, New Delhi

#### Completed

1. Cleft lip and palate anomaly in India: Clinical profile risk factors and status of treatment: A hospital -based study, Centre for Dental Education & Research (CDER), Department of Orthodontics, AIIMS, New Delhi, India

## PUBLICATIONS

**Journals: 13**

**Chapters in Book: 3**

## **PATIENT CARE (SPECIAL CLINIC, HEALTH CAMPS, COMMUNITY SERVICE CAMPS)**

- Inauguration of Burns & Plastic Surgery Block – 18 January 2021.
- Follow-up Clinic
- We have been involved in Indoor, Outdoor and emergency department patients care. Actively participated in Covid duty during ongoing Covid-19 pandemic. Involved in tele-consultancy OPD during closure of OPD during Lockdown.
- JPNATC COVID duties to provide care to all patients affected by coronavirus.

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Maneesh Singhal** was Associate editor of Indian journal of Plastic Surgery, reviewer for journal of wound care, The Surgery Journal, BMJ case reports; Invited master trainer for Operational Guidelines on Management of Common Emergencies, Burns and Trauma at Primary Care Level.

**Dr Raja Tiwari** was International Microsurgery Club – Best Innovation 2020 award.

**Dr Shashank Chauhan** was Reviewer of Indian journal of Surgery, Journal of Clinical Orthopaedics & Trauma.

**Dr Raj Kumar Manas** Awarded MNAMS in Plastic Surgery (Member of National Academy of Medical Sciences) by National Academy of Medical Sciences, India; Reviewer of Indian Journal of Plastic Surgery, The Surgery Journal, Journal of Cleft Lip, Palate & Craniofacial Anomalies; Invited faculty and Moderators in ISSH webinar series 2020 on the topic- Flexor tendon Science and Rehabilitation, dated 26 October 2020.

## 9.34. Psychiatry

### Professor and Head

Rakesh Kumar Chadda

### Professors

Pratap Sharan

Rajesh Sagar

Nand Kumar

Mamta Sood

### Additional Professors

Raman Deep

Sujata Satapathy (Clinical Psychology)

### Associate Professors

Koushik Sinha Deb

Rohit Verma

Bichitra Nanda Patra

### Assistant Professors

Gagan Hans

Vaibhav Patil

Barre Vijay Prasad

### Child Psychologist

Renu Sharma

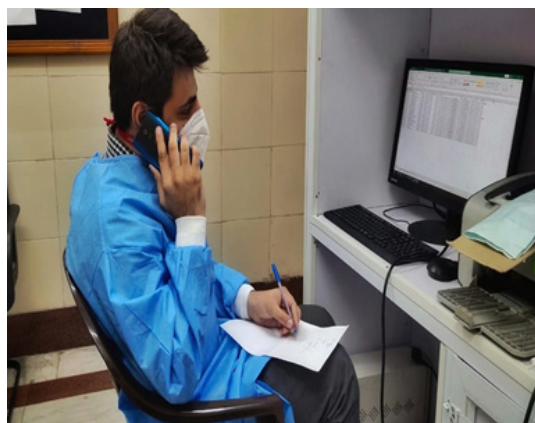
### Clinical Psychologist

Vandana Chowdhary

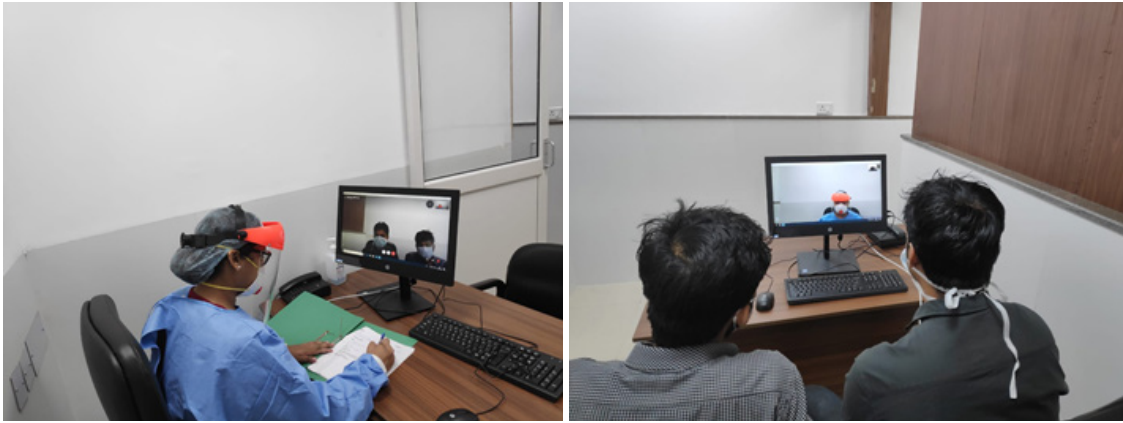
## HIGHLIGHTS

Please provide a paragraph of a maximum of 250 words highlighting the major activities of the department in the past year. Two-three high-resolution photographs of key events/activities should also be provided separately.

The Department of Psychiatry has been imparting quality training for MD (Psychiatry), PhD (Psychology) and MBBS students. The Department also runs training programmes for BSc/MSc nursing. Residents from the Departments of Medicine, Geriatric Medicine, Emergency Medicine, Palliative Medicine and Neurology are posted in Department of Psychiatry for various durations. The Department of Psychiatry is currently undertaking several key funded research projects in collaboration with international and national agencies like National Institute of Health Research (NIHR UK), Department of Science and Technology, India (DST) etc. The Department successfully organized several key events in the year including 5th National CME and Certificate Course on Repetitive Transcranial Magnetic Stimulation (December 2020), 27th e- National Conference of Indian Association for Social Psychiatry (theme: Covid 19 Pandemic and Social Psychiatry) in Online Mode (January 2021), and Wellness Program for Post Graduate Trainees (March 2021). The Department runs daily walk-in and follow up clinics in addition to weekly specialty clinics for child and adolescent psychiatric disorders, psychosomatic disorders, common mental disorders, severe mental disorders, dual diagnosis disorders and brain stimulation clinic. The Department also provides community outreach services 6 days a week at the CRHSP, Ballabgarh. During the year, regular OPD was closed for few months in the background of the Covid 19 pandemic. Outpatient services were continued as tele-consultation when the OPD was closed. Teleconsultation services were continued when regular OPD services were resumed. The Department provided out-patient consultation services to a total of 5237 new cases and 13874 follow up cases in 2020-21 with in-patient management for 35 patients. The department provided emergency services to 900 patients in the hospital emergency. The Department has been at the forefront of providing mental health services during the Covid pandemic in addition to sparing substantial manpower for Covid duties.



**A Psychiatry Resident Attending to consultation in Teleconsultation Service**



**A Junior Resident conducting a detailed assessment of a patient sitting in an adjoining room in OPD**

## **EDUCATION**

### **Undergraduates (Online)**

*Theory lectures* 6th Semester - 20 hours

*Clinical teaching/posting*

3rd Semester - 7 hours

4th –5th Semester - 25 days

6th –8th Semester - 40 days

*Teaching in community at CRHSP, Ballabgarh*

7th Semester – 12 hours (Community Psychiatry)

### **BSc Nursing (Online)**

*Theory lectures*

First year (Psychology) for 15 hours

Third year (Psychiatry) for 8 hours

*Clinical posting*

Third year in Psychiatry ward for 2 months

### **MSc Nursing (Online)**

*Theory lectures*

First year for 8 hours

*Clinical posting*

First year – 8 months in psychiatry ward and one month in psychiatry OPD

Second year – 3-4 months in psychiatry ward

*Thesis work*

Conduct their thesis work in psychiatry OPD and ward.

### **Training of Junior Residents posted from other departments**

Junior residents from Departments of Medicine, Geriatric Medicine, Emergency Medicine and Palliative Medicine, and DM trainees in Neurology are posted to department of psychiatry for a period of 2-4 weeks for training in psychiatry.

### **MD (Psychiatry) and PhD Teaching (Offline and Online)**

- Seminar once a week
- Case Conference once a week
- Journal discussion once a week
- Thesis protocol and midterm presentation once a week
- Tutorials once a week
- Psychotherapy supervision for postgraduate psychiatry and doctoral level clinical psychology students
- Supervision of Consultation-Liaison training for junior residents in psychiatry

## **CMEs/Workshops/Symposia/National and International Conferences.**

- Fifth National CME and Certificate Course on Repetitive Transcranial Magnetic Stimulation (December 2020) (Online)
- Twenty Seventh e- National Conference of Indian Association for Social Psychiatry, Covid 19 Pandemic and Social Psychiatry in Online Mode (January 2021) (Online)
  - The ‘White Coat and Other Stories’ by Students’ Wellness Centre, AIIMS and Scientific Society of AIIMS Students Association: New Delhi/Online (Coordinator: Pratap Sharan)
  - S1E1: The white coat and other stories: Peush Sahni, Tony Jacob (3 May 2020)
  - S1E2: Hindsight 20/20: Priyank Jain, Aditi Sinha (10 May 2020)
  - S1E3: The last lecture: Self-development: SK Acharya (17 May 2020)
  - S1E4: Life after MBBS: Deepta Ghate, Shikha Gupta, Rachna Garg (24 May 2020)
  - S1E5: Decoding and delivering public health: K Srinath Reddy (31 May 2020)
  - S1E6: Making a difference: Naman Shah (14 June 2020)
  - S1E7: Tete-e-tete with the Gulerias: JS Guleria, Randeep Guleria, Sandeep Guleria) (28 June)
  - S1E8: Our journey of four decades: Rakesh Aggarwal, Amita Aggarwal (2/8/2020)
  - S1E9: Path of success: Vinay Kumar (23 August 2020)
  - S1E10: A beautiful mind and the butterfly effect: Wamique Gajdhar, Aditya Gupta (27 September 2020)
  - S1E11: Kabrakadabra: Sushil Kabra, Madhulika Kabra (4 October 2020)
  - S1E12: Art-side stories: Saptarshi Mandal. Deepak Kumar (11 October 2020)
  - S2 E1: Tandons in tandem: PN Tandon, Nikhil Tandon, Radhika Tandon (28 february, 2021)
  - S2E2: Cultural Shauk: AIIMS Kala Sangam [Peush Ranjan, P Kumar Iyer, Shilpa Sharma, Archana Singh, Mohit Joshi, Kalpana Luthra, Biswaroop Chakrabarty, AsmitaPatil, Ashish Bindra, Savita Yadav)] (21 March 2021)
- eSWC Workshop on Stress Management. Students’ Wellness Centre, AIIMS. New Delhi/Online (4 sessions), 14 July 2020; 21 July 2020; 17 November 2020; 24 November 2020 (Chairperson: Pratap Sharan)
- Workshop: Omega: Dealing with Death. Students’ Wellness Centre, AIIMS. New Delhi/Online; 15 September 2020 (Coordinator: Pratap Sharan)
- Symposium on “Mental Health and Substance Abuse” Students’ Wellness Centre and Academic Section, AIIMS. JLN Auditorium, AIIMS, New Delhi; 27 August 2020 (Coordinators: Anju Dhawan, Pratap Sharan)
- The Resident Wellness Programme. Foundation Course. Students’ Wellness Centre and Academic Section, AIIMS, JLN Auditorium, AIIMS, New Delhi (6 sessions), 17 September 2020, 1 October 2020; 22 October 2020; 26 November 2020; 15 March 2021, 22 March 2021 (Coordinator: Pratap Sharan)
- Workshop on training Undergraduate Peer mentors. Students’ Wellness Centre, AIIMS and AIIMS Students Association; AIIMS, New Delhi/Online; 21 November 2020 (Coordinator)
- Self-Enrichment Workshop for MBBS Students (Batch 2020). Students’ Wellness Centre and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2020 (Coordinator: Pratap Sharan)
- Orientation cum question & answer session for the parents’ of AIIMS MBBS students (Batch-2020). Students’ Wellness Centre and Academic Section, AIIMS, New Delhi/Online; 31 March 2021 (Coordinator: Pratap Sharan)

## **Lectures Delivered**

**Rakesh Kumar Chadda: 10**

**Pratap Sharan: 6**

**Rajesh Sagar: 63**

**Nand Kumar: 7**

**Raman Deep: 2**

**Sujata Satapathy: 5**

**Rohit Verma: 5**

**Gagan Hans: 2**

**Barre Vijay Prasad: 4**

**Renu Sharma: 1**

**Vandana Chowdhary: 2**

## **Rakesh Kumar Chadda**

1. Webinar on Stress and Anxiety during Crisis: Facing it Fearlessly, Webinar on Stress and Anxiety during Crisis: Facing it fearlessly, 4 May 2020 (Online)
2. Webinar on Cognitive Behaviour Therapy, Webinar on Cognitive Behaviour Therapy, 30 May 2020 (Online)
3. Webinar on Case based Discussion on CBT in anxiety and depression, Webinar on Case based Discussion on CBT in anxiety and depression, 6 June 2020 (Online)
4. Webinar on “Building resilience amongst frontline workers during Covid-19 Pandemic”, Webinar on “Building resilience amongst frontline workers during Covid-19 Pandemic”, 9 Aug 2020 (Online)



5. Webinar “How has Covid-19 affected the world?”, Webinar “How has Covid-19 affected the world?”, 18 Sept 2020 (Online)
6. Webinar “Life Beyond COVID-19: Institutionalizing the new normal in Health & Well-Being”, Webinar “Life Beyond COVID-19: Institutionalizing the new normal in Health & Well-Being”, 29 Aug 2020, (Online)
7. Workshop on “Stress management in police personnel”, Workshop on “Stress management in police personnel”, 29 Sept 2020, New Delhi
8. Covid 19 and Mental Health Issues, Web CME on Combating with the Pandemic: Covid -19, Current Issues and Challenges, 9 Oct 2020 (Online)
9. “Addressing Mental Health Challenges of COVID-19 Pandemic: Are We on the Right Track?”, 5th Annual National Conference of the Society of Rural Mental Health, 10 October 2020 (Online)
10. Growth of mental health care in India, Foundation day program of the Indian Psychiatric Society, 7 January 2021, Indian Psychiatric Society, Patna, India

### **Pratap Sharan**

1. How to reduce, prevent and cope with stress during research. , Webinar by Society of Young Scientists, AIIMS, 13 August 2020 (Online)
2. Mental health and suicide prevention. Webinar by National Productivity Council (Under DPIIT, Ministry of Commerce & Industry, Govt. Of India), 16 October 2020 (Online)
3. Understanding variables in health research. Research Methodology Course for academic JR/SR/PhD students of AIIMS (Research Section), 26 October 2020 New Delhi
4. Stress in professionals during COVID-19 pandemic. Webinar on: Stress on Professionals during COVID-19 by IIT, Delhi, 12 December 2020 (Online)
5. Philosophy & essence of research. Research Methodology and Research Ethics Course. HNB Medical Education University, Dehradun, 21 December 2020 (Online)
6. Mental health and its promotion in youth. Technology mediated delivery of online courses in medical science education. CDAC-North East Ministry of Electronics and Information Technology. 16 Jan 2021 (Online)

### **Rajesh Sagar**

1. Mental Health for A Better World: Impact On The Youth, Conference on GLOBAL YOUTH: Annual Summit 2020, 03 April 2020, New Delhi
2. Psychosocial Counselling For Women in Current Scenario, Webinar on Safety and Wellbeing of Women - Interaction with One Stop Centres (OSCs), Women Helplines (WHLs) and Women Homes + Menstrual hygiene for female migrant labour, quarantines, shelter homes by Ministry of Women & Child Development, 08 April 2020 (Online)
3. Mental Health Matters: Lockdown 2.0, Webinar & Facebook live by India Co-Win Action Network(I-CAN)- I-CAN Conversations-4th Edition, 19 April 2020 (Online)
4. Importance of Mental Health, Webinar on Nurturing Mental Health amidst COVID-19 by Global Youth, 19 April 2020, (Online)
5. How to Help the Women in Need-psychosocial counselling & intervention, Webinar organized by ‘SAKHI’ (Society for Assessment and Kindling Hope in India) in collaboration with Ministry of Women & Child Development, 22 April 2020 (Online)
6. Reflections on the mental health of health workers given the current situation, Webinar by Confederation of Indian Industry (CII) on - Mental health of healthcare workers in COVID 19 situation in collaboration with George Institute for Global Health, 27 April 2020 (Online)
7. Mental Health Challenges During Covid-19 and Beyond, Webinar organized by Lakshmbai College, Delhi University , 01 May 2020 (Online)
8. Life after Lockdown, Webinar for the Indian Institute of Technology (IIT) Delhi campus, 20 May 2020 (Online)
9. Children and cyber safety, Webinar on cyber safety by National Commission of Protection of Rights of Children (NCPCR), 21 May 2020 (Online)
10. General Aspects of Clinical Psychology and Psychiatry, Webinar for Brain Behaviour Research Foundation of India (BBRFI), 22 May 2020 (Online)
11. Nurturing your Mental Health during COVID-19, Webinar on Implications of COVID 19 for Mental Health by Vision Institute of Advanced Studies & Vision Divyang Foundation, 29 May 2020 (Online)
12. Fear & Anxiety in Covid Times, Webinar for all ranks of Delhi Police, 29 May 2020, (Online)

13. Impact of corona lockdown on family system and mental health, Webinar for Shraddhanand college (Delhi university) and Group of Intellectuals and academicians, 03 June 2020 (Online)
14. Introduction to Psychiatry- general issues about importance, need, diagnosis, assessment of mental illnesses, Webinar for Brain Behaviour Research Foundation of India (BBRFI), 12 June 2020 (Online)
15. Covid-19: Prevention & Precaution including mental health measures at workplace, Webinar organised by Parliamentary Research and Training Institute for Democracies (PRIDE), Lok Sabha Secretariat for the Officers/ Staff of Lok Sabha Secretariat, 19 June 2020 (Online)
16. Mental Health Issues in Postpartum period and their management with special reference to COVID-19 Pandemic, Webinar on maintaining essential reproductive health services during COVID emergency organized by WHO, country office, New Delhi, 25 June 2020 (Online)
17. The Digital Divide and its Psycho-social Impacts, Webinar to all stakeholders of Forum for Democracy Trust (FFD), A Not-For-Profit and Independent non-governmental trust, 27 June 2020 (Online)
18. Depression with suicidal ideation, Webinar for Citizens Against Violence (CAV) Foundation is a non-profit, non-partisan public policy think tank, 22 June 2020 (Online)
19. Mental health issues in post covid pandemic, International Online Seminar on “Reimagining the World post COVID19 Pandemic” (Inter-Disciplinary) Tau Devi Lal Govt. College For Women Murthal (Sonepat) & Directorate of Higher Education, Haryana, 29 June 2020 (Online)
20. Positive Psychology, Guest lecture in online seminar by Prajapita Brahma Kumaris Ishwariya Vishwa Vidyalaya (PBKIVV)-NGO, 12 July 2020 (Online)
21. Psychological effects of Covid-19, Webinar for doctors by East Delhi Physician Association, 19 July 2020 (Online)
22. How to Manage Stress, Key note speaker in webinar for Rotary Club of Delhi (Rotary District Interact 3011), 27 July 2020 (Online)
23. Coping with the COVID-19 Pandemic - Mental and Physical Well-being, Webinar for Rotary Club of Biratnagar-Downtown, RI District 3292, Nepal/Bhutan, 29 July 2020 (Online)
24. Importance of mental health disability certification, Virtual Book Launch event on Practical Guidelines for Disability Certification in Mental Health by IPS Disability Certification Task force, 24 August 2021, (Online)
25. State specific, (Karnataka, Tamilnadu & AP, Chhattisgarh) and General findings & recommendation of the Quality Assessment of DMHP based on project funded by WHO, Online lecture in Video Conference (VC) to review Mental Health & Psychosocial Support and other activities being carried out under National Mental Health Program by Ministry of Health & family Welfare, 25 August 2020 (Online)
26. State specific, (Andhra Pradesh, Telangana & Goa) and General findings & recommendation of the Quality Assessment of DMHP based on project funded by WHO , Online lecture in Video Conference (VC) to review Mental Health & Psychosocial Support and other activities being carried out under National Mental Health Program by Ministry of Health & family Welfare, 1 September 2020 (Online)
27. Understanding Mental Health, Guest speaker in webinar for Indian Institute of Management (IIM), Kozhikode, 04 September 2020, (Online)
28. Conversations around mental wellbeing, Mann Darshan – Virtual consultation on “Youth vs COVID-19” organized by UNDP and WHO, 04 September 2020, Delhi
29. State specific, (Maharashtra, Gujarat, Dadra Nagar Haveli & Daman & Diu) and General findings & recommendation of the Quality Assessment of DMHP based on project funded by WHO, Online lecture in Video Conference (VC) to review Mental Health & Psychosocial Support and other activities being carried out under National Mental Health Program by Ministry of Health & family Welfare, 11 Septemeber 2020 (Online)
30. Legal aspect of suicide, Webinar programs on Telearogya series by Spandana, a postgraduate institute in psychiatry recognized by the National Board of Examination, Ministry of Health & Family Welfare, 16 September 2020 (Online)
31. State specific (Assam, Odisha and Tripura) and General findings & recommendation of the Quality Assessment of DMHP based on project funded by WHO, Online lecture in Video Conference (VC) to review Mental Health & Psychosocial Support and other activities being carried out under National Mental Health Program by Ministry of Health & family Welfare, 15 September 2020 (Online)
32. Mental health illness among elderly: Role of communication, Recording for online course for Department National Institute of Social Defence, under Ministry of Social Justice and Empowerment, Govt of India, 26 September 2020, CEC Studio, New Delhi
33. Counselling in Social Defence, Recording for Online course on Social Defence for Police functionaries, Panchayati Raj functionaries and Social Work Educators for National Institute of Social Defence (NISD) under Ministry of Social Justice and Empowerment, Government of India, 26 September 2020, New Delhi

34. State specific, (Uttar Pradesh) and General findings & recommendation of the Quality Assessment of DMHP based on project funded by WHO, Online lecture in Video Conference (VC) to review Mental Health & Psychosocial Support and other activities being carried out under National Mental Health Program by Ministry of Health & family Welfare, 29 September 2020, New Delhi
35. Managing Stress of Caregivers of Dementia Patients, Recording for online course on Care and Management of Dementia for Department National Institute of Social Defence, under Ministry of Social Justice and Empowerment, Govt of India, 24 October 2020, New Delhi
36. “Psychological Rehabilitation: Opportunities and challenges”, Virtual Mini-International Conference on “Mental Health-Looking Beyond COVID 19” organized by Department of Empowerment of Persons with Disabilities and University of Melbourne, Australia, 08 October 2020 (Online)
37. Policies and Programmes of mental health in India: Inception to till now, Guest lecture in webinar for Indian Psychiatric Society Bihar State Branch on the occasion of World Mental Health Day, 10 October 2020 (Online)
38. Structural inequalities and issues affecting mental health system in India: The way forward, Webinar on occasion of world mental health day by Brain Behaviour Research Foundation of India (BBRFI), 10 October 2020 (Online)
39. Mental health in COVID pandemic, Webinar by National Commission of Protection of Child Rights on occasion of World Mental Health Day, 10 October 2020 (Online)
40. Role of Family and Friends in handling Depression, Webinar for Proud Depressive movement (voluntary organization), 11 October 2020 (Online)
41. State specific, (A&N Island, Kerala and Lakshadweep) and General findings & recommendation of the Quality Assessment of DMHP based on project funded by WHO , Online lecture in Video Conference (VC) to review Mental Health & Psychosocial Support and other activities being carried out under National Mental Health Program by Ministry of Health & family Welfare, 13 October 2020 (Online)
42. State specific, (Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Rajasthan, Madhya Pradesh, Puducherry & Laddakh)General findings & recommendation of the Quality Assessment of DMHP based on project funded by WHO, Online lecture in Video Conference (VC) to review Mental Health & Psychosocial Support and other activities being carried out under National Mental Health Program by Ministry of Health & family Welfare, 19 October 2020 (Online)
43. Developmental and social impact of the lockdown on children, Speaker & panelist in HT Spotlight for Hindustan Times to provide thought leadership to key stakeholders in schools, such as principals, teachers, and parents, 22 October 2020, Delhi
44. Clinical perspectives of Depressive Disorders, International Webinar for Nutrition Society of India (NSI) Mumbai, 25 October 2020, (Online)
45. Overview of National Mental Health Policy, National Workshop on Mental Health Policy organized by Indian Psychiatry Society-Mental Health Policy Task Force, 30 October 2020, Delhi
46. “Promoting and encouraging Adoption of Divyang and Older Children”, Speaker and resource person for webinar by Central Adoption Resource Authority, Ministry of Women and Child Development with regard to Celebration of International Adoption Month, 27 November 2020 (Online)
47. Causes and remedy for mental health issues in children, E – Conclave on Mental Health of our Children by Affordable Private Schools’ Association in association with The Life is Beautiful Foundation, 14 December 2020 (Online)
48. Resilience, Sustainability and Leadership: Hope and Possibilities, Speaker & panelist for British Council in India and Association of Commonwealth Scholars and Fellows (ACSF) in India foundation day celebration, 19 December 2020, New Delhi
49. Psychological support and mental health promotion of the university students during COVID-19 pandemic and beyond, As Chief Guest for the launch of 24X7 Students’ Counselling Service for Jawaharlal Nehru University, New Delhi, 15 January 2021, JNU, New Delhi
50. Mental Healthcare (MHCA) Act, Speaker for Webinar for Indian psychiatry Society (IPS) Kerala state, 03 February 2021 (Online)
51. Mental wellness for School students from class 10th and class 12th, Webinar for People For Action, a Delhi based non-profit organisation, 12 February 2021 (Online)
52. “Understanding Concept of Mental Health & Mental illness” and “The scientific perspective of Mental illness”, Webinar in Orientation Course on Mental Healthcare Act, 2017 for CMMs/ACMMs/MMs and others for Delhi Judicial Academy, 20 February 2021 (Online)
53. Difference between mental retardation, mental disability and mental illness” and “Functioning vs Disability”, Webinar in Orientation Course on Mental Healthcare Act, 2017 for CMMs/ACMMs/MMs & others for Delhi Judicial Academy, 20 February 2021 (Online)

54. Depression and anxiety in mothers in the community , Guest lecture in International conference of 31st Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF) , 21 February 2021, New Delhi
55. Cyber Ergonomics and Wellbeing, Cyber Wellness Webinar series by the CIET, NCERT and Cyber Peace Foundation (CPF), 25 February 2021 (Online)
56. Introduction to the Training, Pilot Training of Trainers (ToT), for Mental Health Professionals (MHPs) in Adoption Related Matters by Central Adoption Resource Authority, Ministry of Women & Child Development, 24 February 2021, New Delhi
57. Need for Adoption specific competencies, Pilot Training of Trainers (ToT), for Mental Health Professionals (MHPs) in Adoption Related Matters by Central Adoption Resource Authority, Ministry of Women & Child Development, 24 February 2021, New Delhi
58. Best Practices and challenges in District mental health program, Online lecture in 6 th International Course on Public Health Approaches to Noncommunicable Diseases (NCDs) Dates: 2-7 March 2021 Partners: PGIMER Chandigarh, AIIMS New Delhi, World NCD Federation, World Health Organization,, 2 March 2021 (Online)
59. National Mental Health Program, critical appraisal and solutions, National Health Conclave 2021 with the theme Mental Health –“From Distress to Wellness” organized Public Health Foundation of India & Associations of Healthcare Providers of India, 13 March 2021, New Delhi
60. Psychological trauma counselling for violence affected women & children, Seminar with district officers from Aspirational Districts and Districts with highest rates of Crime against Woman and Children (CAWC), chaired by Hon’ble cabinet minister, Ministry of Women and Child Development, Government of India, 15 March 2021, New Delhi
61. “Positive psychology sessions for students and teachers as schools reopen.”, Speaker & panel discussion in Online Hindustan Times (HT) Dialogues session -organized by Hindustan Times, leading national newspaper, 18 March 2021, New Delhi
62. Role as Trainers/ Mentors in adoption training, Pilot Training of Trainers (ToT), for Mental Health Professionals (MHPs) in Adoption Related Matters by Central Adoption Resource Authority, Ministry of Women & Child Development, 20 March 2021, New Delhi
63. Impact of Domestic violence on mental health, , Strengthening Health Service Delivery and Health Providers’ Capacity to respond to Violence against Women and Girls on occasion of International Women’s Day -2021 celebration with MoHFW and WHO, 25 March 2021, New Delhi

#### **Nand Kumar**

1. Application and Implementation of Neuromodulation therapies in Major Depressive disorder, CME at Hyderabad, 29 February, 2020, Hyderabad
2. Role of Psychiatrists in Suicide prevention, CME at RIMS, Ranchi, 12 September, 2020, Ranchi
3. Setting up a TMS services, clinical and opportunity Challenges, 5th National CME and 2nd Hand-on-Training Workshop on Repetitive Transcranial Magnetic Stimulation (Online), 18 December, 2020, Delhi
4. “rTMS and its application in Psychiatry”, CIPCON 2020 – Scientific committee (Online), 16 January 2021 (Online)
5. Endoxifen-World’s first direct Protein Kinase C (PKC) inhibitor, virtual educational initiative (e-CME) (Online), 6 February 2021 (Online)
6. Mood disorders (Virtual) CME, CME (online), 12 – 13 March 2021 (Online)
7. Stroke and mental health, Daksham A health and education Stroke support alliance, 20 March 2021, Delhi

#### **Raman Deep**

1. Mental health issues in antenatal period and their management with special reference to COVID-19 Pandemic, **Maintaining essential reproductive health services during COVID emergency** (Organized by WHO collaborating Centre in Human Reproduction at AIIMS, New Delhi in collaboration with WHO, India), 25 June 2020, SET Facility, AIIMS, New Delhi
2. Panel discussion: Managing bipolar disorder in special populations (for medically ill), **Mood Disorders CME** (Organized by NIMHANS, Bengaluru), 13 March 2021 (online)

#### **Sujata Satapathy**

1. Gender in the context of mental health, National Seminar on Gender Bias and Stereotyping, Gender Equality, and Women’s Rights, 15 July 2020, NIT, Nagaland



2. Understanding mental health during COVID-19 Epidemic, State Webinar on Trends and Approaches in Counselling for Mental Health Challenges during Pandemic, 29 August 2020 (Online)
3. Resilience Building in Mental Health, 7th International Virtual Congress of Stress, Performance & Wellness - (ICSPW 2020), 12 December 2020 (Online)
4. Youth Mental Health: Reducing Risks and increasing Protective Factors, National Virtual Workshop on Youth Mental Health Promotion in Youth, 16 January 2021 (Online)
5. Youth Mental Health in Technology Era, Regional Virtual Work on “Technology Mediated Delivery of Online Courses in Medical Science Education”, 23 March 2021 (Online)

#### **Rohit Verma**

1. Telepsychiatry during COVID-19 pandemic: AIIMS experience, IPS North Zone PG CME 2020, 18 October 2020 (Online)
2. Diffuse Optical Topography (fNIRS), TIPS 2020, 1-3 December 2020 (Online)
3. Collating, organizing and review writing, Research Methodology Course HNB Medical Education University Dehradun 2020, 21-30 December 2020 (Online)
4. Essentials of scientific communication, Research Methodology Course HNB Medical Education University Dehradun 2020, 21-30 December 2020 (Online)
5. Practice of Psychiatry during COVID 19 Pandemic: Practical Considerations, 27th National IASP Conference 2021, 24 January 2021 (Online)

#### **Gagan Hans**

1. Psychological Issues among students in Covid- 19, Psychological Counselling Cell Programme under MANODARPAN Programme of Ministry of Human Resource Development, Govt. of India. Govt. Degree College, Billawar, UT of Jammu, India. 27 November 2020 (Online)
2. Let there be time... Work-life balance, time management, Wellness Program for Post-Graduate Trainees, 15 and 22 March 2021, AIIMS, New Delhi

#### **Barre Vijay Prasad**

1. Psychological Strategies to deal with common mental health Problems due to COVID-19, Online: WEBINAR, 29 April 2020 (Online)
2. Therapeutic and counselling support students during COVID-19 Pandemic, Online: Webinar Mental Health of Students During COVID-19 Pandemic Lockdown, 8 June 2020 (Online)
3. Psycho-oncology, Scope and Research in India., Online: Webinar, 27 June 2020 (Online)
4. Current Research Trends in Forensic Science, Virtual Workshop on Research Methodology & Research Metrics, 15 December 2020 (Online)

#### **Renu Sharma**

1. Psychological support and mental health services in disasters in India., Virtual training programme on “Community based Disaster Preparedness”, 5 September 2020 (Online)

#### **Vandana Chowdhary**

1. Communication Skills, Self-Enrichment Workshop for New UG (MBBS) Students, 4 December 2020 (Online)
2. Psychological Assessment and Intervention in Child Sexual Abuse (CSA): AIIMS Experience, Webinar organized by International Centre for Missing and Exploited Children (ICPMN), Indian Academy of Pediatrics, & *Indian Child Abuse, Neglect and Child Labor (ICANCL) Group*, 19 March 2021 (Online)

#### **ORAL PAPERS/POSTERS PRESENTED: 21**

1. Chaudhary S, Kumaran SS, Goyal V, Kaloiya GS, Kalaivani M, Jaganathan NR, et al, Patterns of regional cortical thinning in cognitively impaired patients with Parkinson’s disease, 28th Annual Meeting & Exhibition of International Society for Magnetic Resonance in Medicine (ISMRM)-virtual, 23 April 2020 (Online)
2. Gupta A, Gupta Y, Anjana RM, Sharma G, Jyotsna VP, Vaid S, et al., Prevalence of cognitive impairment and its association with metabolic risk factors, depression and sleep quality in Indian patients with type 2 diabetes



- mellitus, Alzheimer's Association International Conference-AAIC Neuroscience Next 2020, 10 November 2020, (Online)
3. Kumar N, Co Pattern for the Mental health Access Submit 2020, The World Federation of Mental Health, 4-10 December 2020, AIIMS, New Delhi
  4. Satapathy S, An Overview of TFCBT for children, Tamilnadu Association of Clinical psychologist, 27 May 2020 (Online)
  5. Satapathy S, Clinical Health Psychology: Need and scope in General Hospitals, Indian Association of Health Psychology, 17 June 2020 (Online)
  6. Satapathy S, Covid-2020, DD News, 27 June 2020, Live TV telecast
  7. Satapathy S, Mental Health Issues being faced by children during Covid-19: ways to overcome, NCPCR, Government of India, 13 June 2020 (Online)
  8. Satapathy S, Psychological Trauma, Adolescence, and PTSD, Tamilnadu Association of Clinical psychologist, 26 June 2020 (Online)
  9. Sharan P, Bereavement and Grief, Workshop: Omega: Dealing with Death, Students' Wellness Centre, 15 September 2020, New Delhi
  10. Sharan P, Caring for carers (health care workers), Theme symposium titled **COVID 19 Pandemic and Social Psychiatry in 27th e-National Conference of Indian Association for Social Psychiatry (IASP)**, 24 January 2021, New Delhi
  11. Sharan P, Higher education in mental health: How postgraduate training in psychiatry can be aligned for public mental health outcomes, Panel 4- Policy and Regulations: Shortcomings and Solutions in National Health Conclave 2021 with the theme: Mental Health – "From Distress to Wellness". Association of Health Providers India (AHPI) and Public Health Foundation of India, 12-13 March 2021, New Delhi
  12. Sharan P, Introduction (4 sessions), eSWC Workshop on Stress Management. Students' Wellness Centre, AIIMS, 14-21 July 2020, 17-24 November 2020, (Online)
  13. Sharan P, Introduction, Symposia on "Mental Health and Substance Abuse" Students' Wellness Centre and Academic Section, AIIMS, 27 August 2020, New Delhi
  14. Sharan P, Module 3: **Psychosomatic disorders, neurocognitive disorders and psychosis**, PHFI Update: Certificate Course in Common Mental Disorder (CCCMD) Cycle II. National Expert Consultation cum Faculty Orientation Meet. Public Health Foundation of India, 20-21 February 2021, New Delhi
  15. Sharan P, Panellist, ICGRx Session on Mental health panel: Focusing on medical culture and burnout. National Health Careers Conference 2020, 7 November 2020, London, UK
  16. Sharan P, Resident wellness (6 sessions), The Resident Wellness Programme. Foundation Course. Students' Wellness Centre and Academic Section, AIIMS, 17 September 2020, 1-22 October 2020, 26 November 2020, 15-22 March 2021, New Delhi
  17. Sharan P, Resource person, **Research Advisory Committee Meeting 2020. The George Institute for Global Health, India**, 18 September 2020, Gurugram
  18. Sharan P, Resource person, Transgender (TG) Technical Resource Group Meeting, National AIDS Control Organization, 15 May 2020, New Delhi
  19. Sharan P, Resource person, Web seminar on proposed research project on mental health contemplated by NCW. National Commission for Women, 18 June 2020, (Online)
  20. Sharan P, Students' wellness initiatives, Self-Enrichment Workshop for MBBS Students (Batch 2020). Students Wellness Centre, 2-5 December 2020, New Delhi
  21. Sundari BB, Patel S, Poongothai S, Anjana RM, Pradeepa G, Sagar R et al, Effect of a Collaborative Care Model on depressive symptoms and cardiometabolic trajectories in patients with co-morbid depression and diabetes in India (INDEPENDENT Study), 14th Indian Society for Clinical Research (ISCR) Virtual Annual Conference, 18 March 2021 (Online)

## RESEARCH

### Funded Projects

#### *Ongoing*

1. A study of acute and longitudinal effects of brain stimulation in treatment of depression and schizophrenia, Rohit Verma, AIIMS Intramural Grant, 2 years, 2018-21, Rs 10 lakhs
2. Assessing the Feasibility and Impact of Physical Health Monitoring in Patients with First Episode Psychosis (AIIMS Centre), RK Chadda, National Institute of Health Research, UK, 1 year, 2021-22, 63604 Great Britain Pounds

3. Assessment of Clinical profile, mitochondrial DNA 10398, peripheral glucose utilization (HOMA\_IR) and inflammation (TNF- $\alpha$ ) in Matrilineal Bipolar Disorder, Raman Deep, AIIMS Intramural 2019-21, 2 years, 2019-2021, Rs 3.90 lakhs
4. Assessment of emotional and behavioral problems and quality of life among children and adolescents with cleft lip and palate, Rajesh Sagar, Indian Council of Medical Research, 2 years, 2020-2021, Rs 39,89,890
5. Biomarkers of Lithium response in Bipolar disorder: assessment of the clinical markers, peripheral blood based markers and gray matter volume in individuals with bipolar disorder on long-term lithium prophylaxis, Raman Deep, DST-SERB, 3 years, 2018-2021, Approx Rs 24 lakhs
6. CARE on Neuromodulation and Mental health, Nand Kumar, ICMR, 5 years, 2019 - 2024, Rs 4.28 crores
7. Cognitive and Psycho-Physiological Effects of AIIMS Cognitive Training Toolkit (CTT) and Computer Based Cognitive Training (PSS CogRehab) on Children with ADHD aged 6-11 years: A Randomized Control Pilot Study, Sujata Satapathy, DST/CSRI, 3 years, 2019-2022, Rs 55.71 lakhs
8. Deliberate self-harm in adolescents: A school-based study, Bichitra Nanda Patra , ICMR, 2 years, 2019-2021, Rs 27 lakhs
9. Detection of New Psychoactive Substances among Substance Abuse Treatment Seekers in India – Multi Centric Study, RK Chadda, Department of Revenue, Government of India, 4 years, 2017-2022, Rs.6.51 crores
10. Development of Panic and Anxiety Indian Questionnaire (PANIQ), Pratap Sharan, Indian Council of Medical Research, 3 years, 2018-2021, Rs 1.8 crores
11. Diffuse optical tomography based cortical analysis for evaluating auditory semantic and prosodic content, language acquisition and facial identification as determinants of emotion recognition in schizophrenia, Rohit Verma, DST CSRI Research Grant, 3 years, 2018-21, Rs 51,98,660
12. H1-MR Spectroscopy based evaluation of metabolic abnormalities in anterior cingulate cortex, hippocampus, and amygdala in treatment naïve patients with unipolar and bipolar depression and its relationship with peripheral glutaminase, Gagan Hans, AIIMS Intramural, 2 years, 2019-2020, Rs 3.6 lakhs
13. Impact of Post-Partum Depression And Anxiety On Infant Growth And Development: A Community Cohort Study, Rajesh Sagar, Self (extension of previous project), 3 years, 2016-2019, Rs 8,57,940
14. MATE, Nand Kumar, CSR Fund Airport Authority of India, 2 years, 2019-2021, Rs 98.00 lakhs
15. NIHR Global Health Research Group on Psychosis Outcomes: Protocol based assessment and management of First Episode Psychosis (AIIMS Centre), Mamta Sood, National Institute of Health Research, UK, 3 years and 8 months, 2017-2021, 115590 Great Britain Pounds
16. NIHR Global Health Research Group on Psychosis Outcomes: the Warwick-India-Canada (WIC) Network, RK Chadda, National Institute of Health Research, UK, 4 years, 2017-2021, 269,146 Great Britain Pounds
17. Psychiatric morbidity and its early antecedents in the New Delhi Birth Cohort, Rajesh Sagar, QED and WHO-SEARO, 3 years, 2018-2020, Rs 8,67,850
18. Psychosocial Dynamics of Pregnancy Loss: Development of a Multidimensional Scale and Development and Efficacy (a Randomized Control Trial) of a Group Psychological Intervention Module, Sujata Satapathy, ICMR, 3 years, September 2019- September 2022, Rs 59 lakhs
19. Validation and Standardization of Indicators/Markers of Penetrative CSA in Children's Draw-A-Person-Test (DAPT), Sujata Satapathy, NCPCR, 6 months, March-2021, Rs 3.99 lakhs

### **Completed**

1. Assessment of quality and best practices under District Mental Health Programme, Rajesh Sagar, WHO-Country & Ministry of Health & Family Welfare, 6 months, 2019-2020, Rs 9,94,553
2. Clinical Study, translation, cross cultural adaptation and development of norms of Cognitive Assessment system (COGNISTAT) for persons from Northern India, Rajesh Sagar, Cognitive Health Rehabilitation System LLP, 2 years, 2018-2020, Rs 7,92,198
3. Mental Health Screening, Patients' Satisfaction, and Brief Supportive Tele counselling for Admitted and Quarantined/isolated Patients during COVID-19, Sujata Satapathy, AIIMS, 8 months, August 2020-March 2021, Rs 2.51 Lakhs

### **Departmental Projects**

#### **Ongoing**

1. A cross sectional comparative study of saccades and pursuit eye movements in depression and psychosis
2. A cross sectional questionnaire-based study to assess anxiety among healthcare professionals in India due to COVID 19 (2020).

3. A Multigroup Correlation study on Mental Health Correlates and Uncertainty during COVID-19 pandemic
4. A pilot randomised controlled trial of targeted prefrontal cortex modulation with anodal transcranial direct current stimulation (tDCS) for examining task dependent effect on executive functioning
5. A randomised controlled single blind trial of ketamine versus modified electroconvulsive therapy to improve neuropsychological and clinical outcomes in treatment resistant depression
6. A study of saccades and smooth pursuit movements in patients with psychosis after a single dose of antipsychotic medication
7. A study on associative stigma and its relationships with stress and burden among parents of children and adolescents with psychiatric disorder.
8. Adaptation of brief cognitive behaviour therapy for suicide prevention
9. An exploratory study to assess the magnitude of in-patient restraint and seclusion practices in India through the development of a framework for uniform restraint reporting across the country
10. Cognitive and Psycho-Physiological Effects of AIIMS Cognitive Training Toolkit (CTT) and Computer Based Cognitive Training (PSS CogRehab) on Children with ADHD aged 6-11 years: A Randomised Control Pilot Study
11. Deliberate self-harm in adolescents: A school-based study
12. Elucidating the structural, neurobiological changes and identification of non-invasive biomarkers using magnetic resonance imaging and spectroscopy in major depressive disorder
13. Exploratory study on problematic use of cybererotica
14. Hindi translation and psychometric validation of Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)
15. Impact of COVID-19 pandemic on mental health among healthcare workers in a tertiary care centre of India
16. Metacognitive therapy in depressive disorders-PhD
17. Predictors of response to intermittent theta burst stimulation (iTBS) in Treatment Resistant Depression (TRD) patients using 18F-FDG PET Scan: An Open Label Study
18. Proposition and Validation of a Self-rated Questionnaire to Measure the User Experience in a Passive Immersive Virtual Reality Environment
19. Psycho-behavioural and Cognitive Functioning of Children with Acute Lymphoblastic Leukaemia: Development and Feasibility of Composite Psychological Intervention Module
20. Psychological Trauma Resilience in Children and Adolescents: Development and Psychometric Properties of a Multidimensional Scale
21. Psychometric Analysis in Refractive Surgery and Correlation with Visual Acuity, Visual Quality, and Quality of Life
22. Psychosocial Dynamics of Pregnancy Loss: Development of a Multidimensional Scale & Development and Efficacy (a Randomised Control Trial) of a Group Psychological Intervention Module
23. Study on psychiatric morbidities, psycho-social and cognitive functioning in adolescents with hemophilia
24. Survey for the assessment of mental health issues among health care workers and their coping with these issues during COVID 19 pandemic
25. Validation and Standardization of Indicators/Markers of Penetrative CSA in Children's Draw-A-Person-Test (DAPT)

### ***Completed***

1. A Study of Autonomic Functions in Adolescents with Specific learning disorder (Dyslexia) with and without Comorbid ADHD-MD
2. Effect of physical, cognitive and emotional stress in patients of multisomatoform disorder: A fMRI-based case-control study
3. Neural Correlates of Obsessive-Compulsive Disorder and Its Washing Subtype: A Cross-Sectional fMRI Study
4. Preliminary assessment of the therapeutic efficacy of intermittent theta-burst magnetic stimulation(itbs) in treatment resistant depression: a double-Blind sham-controlled study
5. Study of immunological, oxidative markers and cognitive function in ADHD-MD

### **Collaborative Projects**

#### *Ongoing*

1. A comparative study of anxiety and depression in low-risk vs high-risk pregnant women in Indian settings, Department of Obstetrics & Gynaecology

2. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface energy EMG, Department of Surgical Disciplines
3. A Prospective study on the effect of prenatal and postnatal yoga on weight gain in pregnancy and postpartum period, psychological stress, quality of life, pulmonary functions in pregnancy and its association with pregnancy outcome, Department of Obstetrics and Gynecology
4. A Randomised control trial to study the impact of Yoga Intervention in lower limb amputees following trauma in relation to postsurgical outcome, behavior and quality of life at Level – I , Department of Trauma Surgery-JPNATC
5. A Randomised controlled trial comparing the efficacy of cognitive behavioral therapy vs yoga nidra in persons with psychogenic nonepileptic seizures, Department of Neurology
6. A Translational randomised trial of yoga-based lifestyle intervention for major depressive disorder (MDD) management in India and analyzing biomarkers of cellular aging associated with it- funded by Ministry of AYUSH, Govt of India, Department of Anatomy
7. Adolescents' Resilience and Treatment nEeds for Mental health in Indian Slums (ARTEMIS), George Institute of Global Health, New Delhi
8. Altered microRNA expression in peripheral blood and brain following severe traumatic brain injury, Department of Lab Medicine, JPNATC
9. An Exploratory Study to Evaluate Surgical Outcome and Financial Burden in Patients Treated with 3D Printing Technology Assisted Surgery versus Conventional Surgery for Facial Fractures at Level 1 Trauma Centre, AIIMS, New Delhi, Department Of Trauma Surgery, JPNATC
10. Assessment of Emotional and Behavioral Problems and Quality of life among Children with Cleft lip and palate., Dental
11. Association of social cognition and behavioral impairment in persons with epilepsy on antiepileptic drug monotherapy: Correlation with neuroimaging findings and trace elements status, Department of Pharmacology
12. Comparative study of cortical activation using fMRI and fNIRS across cognitive tasks in patients with depression, Department of NMR, All India Institute of Medical Sciences, New Delhi
13. Comparison of Insulin Resistance as Marker of Psychological Morbidity (perceived stress, depression and anxiety) and Quality of Life (QOL) Between PCOS and non-PCOS Infertile women- a case control study, Department of Obstetrics and Gynecology
14. Convergent validation of proposed behavioural indicators of intellectual and adaptive behaviour functioning for ICD-11, University of Ottawa & World Health Organization, Geneva, Switzerland
15. Correlation between preoperative CSF melatonin levels and post-operative delirium in geriatric hip fractures, Department of Orthopaedics
16. Developing a Digital Health-enabled Intervention to tackle Multimorbidity in Primary care in India, Public Health Foundation of India (PHFI)
17. Development and Validation of Comprehensive Psychological Autopsy, Dept. of Forensic Sciences and Toxicology, AIIMS, New Delhi
18. EEG cortical sources and connectivity of working memory and language processing in Attention Deficit Hyperactivity Disorder, Department of Physiology
19. Effect of antidepressant drug (Escitalopram) on testicular and adrenal functions, Department of Reproductive Biology
20. Effect of antidepressants on neurodegeneration and neuroplasticity in patients with depression , Department of Pharmacology
21. Effect of paravertebral anaesthesia on quality of life scores and circulating tumour cells in breast cancer patients, Department of Anaesthesia
22. Effect of Structured Yoga Program on Stress on Frontline Workers during Covid Pandemic, Department of Community Medicine
23. Effect of yoga therapy on QoL in laparoscopic Incisional hernia repair, Department of Surgical Disciplines
24. Effect of yoga therapy on Quality of life in patients undergoing laparoscopic incisional hernia and ventral hernia repair- a randomised control trial, Department of Surgical Disciplines
25. Effects of add-on integrative approach to yoga therapy on adults with clinical depression: A randomised controlled trial, Department of CIMR
26. Effects of environmental and occupational noise on cognition- 2018-2020, Department of NMR
27. Evaluation of brain behaviour relationship associated with cognitive deficit in early-onset schizophrenia (EOS) using multi-model MRI, Department of NMR



28. Evaluation of Risk Factors Causing Residual Refractive Error in Corneal Refractive Surgery, RPC, AIIMS, New Delhi
29. Evaluation of visual cortex activity using fNIRS in primary glaucoma, Department of Ophthalmology, Dr Rajendra Prasad Centre for Ophthalmic Sciences
30. Field Testing the SCII-11 in five English speaking WHO member countries (USA, Canada, UK, India, South Africa), University of Cape Town, South Africa
31. Financing of expenditure on mental illness-a case study of NCR, IGNOU, Delhi
32. Genetic association of cytokines with suicidal behavior in Indian population, Department of Forensic Medicine & Toxicology, AIIMS, New Delhi
33. Genetic expression of monoaminergic neurotransmission related polymorphisms and their association with antidepressant response in Indian patients suffering from depression, Department of Pharmacology
34. Implementation of COVID-19 related policies: Implications for household inequalities across five countries, Department of Anthropology, Johns Hopkins University, USA
35. Incidence and Severity of Psycho-social and somatic disorders in survivors of childhood solid malignant tumors, Pediatric-Oncology, ICMR
36. Long term outcome of patients with walled off necrosis/pseudocyst of pancreas in terms of recurrence of pancreatitis, fluid collection and functional consequences following internal drainage by laparoscopic or endoscopic method, Department of Surgical Disciplines
37. Mapping functional and biochemical correlates in brain of Parkinson's Patient with Mild Cognitive Impairment. , Department of NMR
38. Mental health needs of the survivors of North East Delhi Communal Riots of February 2020, Bal Umang Drishya Sanstha (BUDS)
39. And Mental Health of Natal Native Tribal Communities of Jharkhand, India, RP Centre AIIMS New Delhi Government of Jharkhand
40. Mental Health Risk Factors among Older Adolescents living in Urban SluMs: An Intervention to Improve Resilience (ANUMATI), George Institute of Global Health, New Delhi
41. Multicentric prospective cohort study evaluating risk factors, comorbidities and impact of various interventions among adolescent and reproductive age women with PCOS ICMR PCOS Task force study-phase 2, Department of OBG
42. Neural correlates of obsessive-compulsive disorder and its washing subtype: A cross-sectional fMRI study, Department of Nuclear Magnetic Resonance
43. Neurocognitive rehabilitation modules for patients with schizophrenia, Neuropsychology, CN Centre
44. Neuropsychological Basis of Decision Making: Testing Lateralization of Cognitive Function in Medial Temporal Lobe Epilepsy, Department of Neurology, Neurosciences Centre, All India Institute of Medical Sciences, New Delhi & Department of Psychology, Indian Institute of Technology, Delhi
45. Prevalence and factors affecting Preoperative anxiety, depression, and distress in cancer patients: A prospective cross-sectional study, Department of Onco-Anesthesia & Palliative Medicine, IRCH, AIIMS, New Delhi
46. Prevalence of mixed features in patients with first episode depression , Department of Pediatric Neurology
47. Psychological distress among health care workers in India during COVID-19 outbreak: A Nationwide Survey, Department of CIMR
48. Psychological impact on parents of children born with atypical genitalia in India-MD, Department of Pediatrics
49. Psychosocial, functional, sexual, educational and vocational outcomes in extremity bone sarcoma survivors, Dept. of Medical Oncology, IRCH, AIIMS, New Delhi
50. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker, Department of Physiology
51. rTMS Nanoparticle and spinal cord injury, Department of Physiology
52. Study of Common Mental Disorders in adolescent living with HIV (ALHIV) attending the paediatric HIV services at AIIMS, New Delhi: A Case-Control Study, Department of Community Medicine
53. Systematic Medical Appraisal, Referral and Treatment (SMART) Mental Health Programme for Wellcome Trust-DBT Alliance Fellowship, George Institute of Global Health, New Delhi
54. The effect of adjunctive transcranial direct current stimulation over left dorsolateral prefrontal cortex on craving in alcohol dependent subjects, Department of Psychiatry, All India Institute of Medical Sciences, Rishikesh
55. The feasibility and efficacy of yoga on Quality of Life and psychophysiological parameters among adolescents and adult patients treated for Cyanotic Congenital Heart Disease (CCHD) more than a year ago: A randomized controlled trial, Department of Cardiology



56. The Integrative Systematic Palliative Care (ISPC) vs Standard Oncology Care in Advanced Non-Small Cell Lung Cancer at A Tertiary Care Centre In India: A Prospective Randomized Controlled Trial., Dept. of Onco-Anesthesia & Palliative Medicine, IRCH, AIIMS, New Delhi
57. To develop an Oral Health Toolkit for Paediatric Oncology Patients (OHTPOP) and compare its effectiveness for a better oral health status and lesser oral complications versus standard of care, Centre of Dental Education and Research, AIIMS, New Delhi
58. To Evaluate the Relationship of Burning Fuel Word And Biomass Cooking on Human Eyes, Cardiac Chronic Illness
59. To study effects of antidepressant drugs in mild and moderate depression in patients with epilepsy- A randomized controlled trial, Department of Neurology
60. To study the impact of yoga-based lifestyle intervention on childhood depression. —as Research Associate fellowship, Department of Anatomy
61. To study the prevalence and the risk factors of psychiatric morbidity and sleep problems in pediatric Acute Lymphoblastic Leukemia survivors, Department of Pediatrics
62. To study the Psychological impact of Covid-19 among Healthcare workers in Gynae department in a tertiary care center., Department of Obstetrics and Gynecology
63. To test effects of breath-focus on lateralized cognitive and affective processing in Generalized Anxiety Disorder (GAD) patients, Department of Physiology, All India Institute of Medical Sciences, New Delhi & Department of Psychology, Indian Institute of Technology, Delhi
64. Translational application of novel clinically accessible biological predictors to improved identification of mild and moderate Traumatic Brain Injury (TBI) induced neuro psychological impairment, Deptt of Laboratory Medicine, JPNATC
65. Two Arm Parallel Open-Label Randomized Controlled Add on trial to investigate the efficacy of Shirodhara (Ayurvedic Oil-Dropping Treatment) in the subjects with Chronic Insomnia Disorder, Department of CIMR
66. Women's Health and Domestic violence against women during COVID-19 pandemic in India: a cross-sectional study, Department of Obstetrics and Gynecology
67. Women's Health and Domestic Violence Against Women during COVID-19 Pandemic in India: A Cross-Sectional Study, Department of Obstetrics & Gynaecology
68. Yoga as a therapy for tobacco cessation: A Probe Trial, Department of CIMR

### **Completed**

1. A Hermeneutic Phenomenological Study On Experiences of Patients Post-Heart Transplantation at AIIMS, New Delhi, College of Nursing
2. A hermeneutic phenomenological study to assess the lived-in experiences and coping strategies of COVID positive patients at AIIMS, New Delhi, College of Nursing
3. A pilot multicentre open label parallel arm RCT evaluating whether yoga can delay initiation of insulin therapy in patients with type 2 diabetes mellitus with suboptimal glycemic control on near maximal oral drugs and/or who may require insulin therapy in near future, Department of Endocrinology
4. A quasi-experimental study to assess the effectiveness of structured counseling among caregivers of heart failure patients on selected outcomes at AIIMS, New Delhi, College of Nursing
5. An open-label 3 arm RCT to evaluate the effect of different modalities of lifestyle intervention on HbA1C in individuals with type 2 DM on half maximal dose of 2 or more oral anti-hyperglycemic drugs for at least 3 months, Department of CIMR
6. Assessment of Cognitive, Neuroanatomical and Neurofunctional abnormalities in adults with Type 1 Diabetes, Department of Endocrinology
7. Assessment of mental health services in district of Faridabad: a mixed method study, Centre for Community Medicine
8. Association of Common Mental Disorders with Diabetes Mellitus - A Community based Case-control Study in north India, Centre for Community Medicine
9. Burden and associated factors of chronic multimorbidity among adults (>30 years) in rural Ballabgarh, North India, Centre for Community Medicine
10. Cleft Lip and Palate anomaly in India; Clinical profile Risk factors and current status of treatment: A hospital-based study-Main phase, Centre for Dental and Educational Research
11. Comparison of effect of antidepressants on neurodegeneration in patients with depression, Department of Pharmacology

12. Comparison of outcomes in post cochlear implantation children with and without congenital inner ear malformation, Department of Otorhinolaryngology
13. Correlation of cortical sources and brain iron during rest and visuospatial working memory in Attention deficit hyperactive disorder, Department of Physiology
14. Depressive disorders among Adolescents in Ballabgarh, Haryana, India: A Community-based cross-sectional study, Centre for Community Medicine
15. DTI, fMRI and qEEG correlates of cognition and behavior in children and adolescents with well controlled nonlesional epilepsy: an observational study., Pediatric Neurology
16. Effect of Mindfulness Based Stress Reduction (MBSR) on optic disc perfusion using oct angiography in glaucoma patients: a randomized controlled trial, Department of Ophthalmology, Dr Rajendra Prasad Centre for Ophthalmic Sciences
17. Effect of structured yoga program on Stress and professional quality of life among selected nursing staff in a Tertiary Care Hospital of Delhi - A small scale Phase-II trial, Centre for Community Medicine
18. Effect of yoga on Psychological, cognitive and glycemic control in patients with T2DM: Two arm Randomized control trial, Department of CIMR and Department of Endocrinology
19. Effect of yoga on stress and psychological wellbeing in ICU nurses: a RCT, Department of CIMR
20. Efficacy of a Family based comprehensive Yoga Program for weight reduction among over- weight Children and Adolescents, Pediatrics, AYUSH
21. Evaluation of eating disorders and their effect on metabolic parameters and glycemic control in adult patients with diabetes mellitus type 2, Department of Endocrinology
22. Evaluation of Risk Factors Causing Residual Refractive Error in Corneal Refractive Surgery, Dr Rajendra Prasad Centre for Ophthalmic Sciences
23. Evaluation of role of oral eplerenone as an adjunct to reduce fluence photodynamic therapy in Central Serous Choriorretinopathy: an open label randomized control trial, Department of Ophthalmology
24. Feasibility of Introducing Yoga and Its Effect on Stress and Perceived Well- Being on New Medical Under-Graduate Students of AIIMS, New Delhi, Centre for Community Medicine
25. Feasibility of Introducing Yoga and Its Effect on Stress And Psychological Well-Being On First And Second Year Under Graduate Nursing Students of AIIMS, New Delhi, Department of CIMR
26. Interventions for stigma in persons with epilepsy in India, funded by institute, Department of CIMR
27. Morphological, functional, Biochemical and Behavioral evaluation post – EMF radiation, Department Of NMR
28. Optimizing diet and insulin regimes in children with Type 1 Diabetes in low- resource settings, Department of Pediatrics
29. Perception of the Social Support and Prevalence of Depression among Head and Neck Squamous Cell Carcinoma Patients, Department of ENT
30. Prevalence of mental health problems (anxiety, depression and stress reactions) in mothers of pre term infants admitted to NICU-a cross sectional study, Department of Obstetrics and Gynecology
31. Prospective randomized controlled trial comparing the effects of intraoperative demedetomidine and lignocaine administration over the incidence of post-operative cognitive decline in elderly, Department of Anaesthesiology,
32. Psychiatric morbidity in HIV/TB co-infection, Department of Medicine & Microbiology
33. QEEG based neural correlates and microstates of attention and interference in ADHD- An endophenotypic marker, Department of Physiology
34. Qualitative study exploring perspectives on the International Classification of Diseases (11<sup>th</sup> revision); Using lived experience to improve mental health Diagnosis in India, University of East Anglia & World Health Organization, Geneva, Switzerland
35. Quality of life following BCS and mastectomy along with sentinel node biopsy in operable breast cancer, Department of Surgery
36. Reconstruction of Post-Traumatic Facial Defects using Adipose Tissue Derived Mesenchymal Stem Cells Seeded on 3D Printed Hydroxyapatite Scaffold guided by CAD Models in Zygomatico- orbito maxillary complex fractures, Trauma surgery
37. Severity and pattern of early childhood caries and parental stress among pre-school children and its association with various behavioral factors- A hospital based study., Dental
38. To compare different cochlear implantation outcome scores with auditory cortical activity seen on functional near infrared spectroscopy in prelingual profound sensorineural hearing loss patients at least 3 years after cochlear implantation, Department of Otorhinolaryngology

39. To determine the association between decreased cerebral blood flow in the prefrontal cortex intraoperatively and incidence of postoperative emergence delirium in children (2-5years) induced and maintained with sevoflurane: an fNIRS based observational study, Department of Anaesthesiology
40. To evaluate Results of Soft Tissue Reconstruction and Augmentation with Structural Fat Grafting in Patients with Post Traumatic Facial Disfigurement, Trauma Surgery, JPNATC
41. To study the impact of Yoga on pulmonary functions, immune response and quality of life in chest trauma patients at level-I trauma Centre, Department of Trauma Surgery, JPNATC

## **PUBLICATIONS**

**Journals: 72    Abstracts: 7    Chapters in Book: 21                    Books and monographs: 2**

## **PATIENT CARE**

### **Special Clinics**

Psychosomatic Clinic: Once in a week  
 Common Mental Disorders Clinic: Once in a week  
 Child and Adolescent Psychiatric specialty services  
 Severe Mental Disorders Clinic: Once in a week  
 Brain Stimulation /TMS clinic on Thursday once in a week  
 Neuropsychiatry OPD in C N Centre on Tuesday. Once in a week.  
 Psychiatry services at CRHSP, Ballabgarh.  
 Dual Diagnosis Clinic: Once in a week

### **COVID-19 Services:**

In the wake of ongoing COVID 19 Pandemic, the department of psychiatry has done following activities:

- Teleconsultation facility for persons with mental health problems already under AIIMS psychiatry follow up was established on 28 March 2020 as outpatient services were closed on 24 March 2020. We have dedicated 3 phones for tele consultation. All the patients who have taken appointment from, are called by a psychiatrist to confirm about their current mental health status and need for a fresh prescription. In patients needing any modification, the patient is asked to send the old prescription electronically and a fresh prescription is issued and sent electronically. Till 31 May 2020, about 2500 persons were provided consultation by teleconsultation team.
- Psychiatric care in COVID areas of the hospital: Fifty percent of residents and 15% of faculty were posted for general medical duty in the COVID areas of the hospital. They also provided psychiatric consultation to persons needing consultation in these areas. A total of 311 patients were provided psychiatric consultation at JPN trauma centre- a COVID facility
- Development of public health educational material on mental health issues related to the pandemic were developed. For lay public, The posters on “Coping with stress during the 2019-nCoV outbreak” and “Helping children cope with stress during 2019-nCov outbreak” by WHO were translated into various Indian languages (Hindi, Punjabi, Gujarati, Marathi, Bengali, Kannada, Telugu, Tamil, Malayalam, Odia and Manipuri, after taking due permission from the WHO.
- Development of guidance notes for healthcare workers at our hospital giving general instructions about how to identify stress in them and to cope with it. Focus on basics of stress management was done. We also prepared short video clips on the subject and these were put on social media and the Institute’s website. A tele helpline was also created for the in-house employees.
- Development of guidance notes both in English and Hindi for the persons in quarantine or put in isolation using resource materials from the relevant literature, adapting it to local needs.
- Development of guidance notes for physicians and mental health professionals.

### **Facilities in Department (Special Labs)**

- Upgradation of Brain Mapping Lab facility – added eye tracking system to the existing static fNIRS& QEEG system for development of a state-of-the-art facility for brain mapping.
- Upgradation of MECT facility – Improved data collection/digitalization in functioning of ECT; Added computerized cognitive testing; Added utility of Ketamine and Ketofol use for increasing ECT effectiveness.

- Initiation of Ketamine Clinic – Initiated the utility of ketamine as an anti-depressive agent for use in at-risk suicidal patients and treatment resistant depressive individuals.
- Initiated High-definition Transcranial Electrical Stimulation – Initiated the HD-tDCS, tACS & tRNS facility as a neuromodulation facility.
- Advanced signal analysis of Electroencephalography – In collaboration with Department of Computer Sciences, IIT, Delhi & IIIT, Delhi.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Rakesh Kumar Chadda** was Secretary General, World Association of Social Psychiatry; Member, Editorial Board, BJ Psych International; Member, Delhi High Court Legal Services Committee; Member Selection Committee, KGMU, BHU, AIIMS, Kalyani; Convenor, Specialist Board in Psychiatry, National Board of Examinations; Member, Expert Group to discuss and finalize Faculty Development Program for Post Graduate teachers and its implementation; Nominated Member, Institute of Eminence, University of Delhi; Nominated Member, Governing Body, Ramanujan College, University of Delhi; Member, Finance Committee, National Academy of Medical Sciences (India); Chair, Psychotherapy Sub Committee, Indian Psychiatric Society; Chair, Awards Committee, Indian Association for Social Psychiatry; Member, Dean's Committee, AIIMS.

**Professor Pratap Sharan** is the Professor-in-Charge of Student Welfare at AIIMS; Chairperson, Students' Wellness Activities Committee, AIIMS; and the Taskforce on Prevention of Substance Abuse, AIIMS. He is a member of the International Advisory Group for Training and Implementation for ICD-11 Mental, Behavioural and Neurodevelopmental Disorders (2018 – onwards); and of the Group developing Structured Clinical Interview for ICD-11 (SCII) and Flyer Interview Version of ICD-11 (Flii-11). He is a Member of the WHO Guideline Development Group (GDG) for Mental Health and Work, and the WHO Topic Expert Group (TEG) for the Mental Health Gap (mhGAP) Guideline Update 2021; He is the President, Indian Association for Social Psychiatry (2021), was the Vice President, Indian Association for Social Psychiatry (2018-2021), and the Chairperson, IASP Task Force for Mental Health and Psychosocial Support (MHPSS) for COVID 19 (2020). He is the Co-Chair for PG Psychiatric Education Subcommittee for Indian Psychiatric Society (2017-2021); and the Ombudsman for the Indian Journal of Social Psychiatry; He serves as a Senior Editor of Journal for Eating Disorders; Associate Editor of the National Medical Journal of India; Guest Editor of Indian Journal for Social Psychiatry (Special Issue on Occupational Health and Student Wellness); and is on the Editorial Board of various journals (Indian Journal of Psychiatry, Indian Journal of Social Psychiatry, Journal of Indian Association for Child and Adolescent Mental Health, and Journal of Mental Health and Human Behaviour); He was the Co-Chairperson of the Advisory Committee of the ICMR – DHR for the developments of Standard Treatment Workflows; and is the Chief Coordinator for the Committee for MBBS curricular reforms at AIIMS, and a member of AIIMS Project Review Committee (Clinical Sciences) and the AIIMS Ethics Committee. He served as a member of the Research Advisory Committee of the George Institute for Global Health, India, and resource person for the Resilient Futures India Initiative of the Queen Mary University of London; and its National Steering Committee (India) for 'Research Priorities & Agenda Setting for Migration and Health in South Asia for 2020-2030; Mental Health Capacity Building Programme of the Public Health Foundation of India; Indian Association for Child and Adolescent Mental Health (IACAM) Academy and IACAM Certificate course in Child and Adolescent Psychiatry; and the "End of Life Care Policy" Committee at AIIMS; He is a member of the Selection/Promotion Committee at National Institute of Mental Health and Neurosciences, Bengaluru; Jawaharlal Nehru Institute of Postgraduate Medical Education and Research, Puducherry; and various AIIMS; and served as an examiner for Post-doctoral fellowship (Consultation Liaison Psychiatry) and MD (Psychiatry) examinations and PhD and MD (Psychiatry) thesis for various national centres; He is a reviewer for research projects of National Institute for Health Research, UK, Medical Research Council, UK, Wellcome Trust, UK, the Indian Council of Medical Research, the National Commission for Women (NCW), GOI and AIIMS Research Section; and is a peer reviewer for various journals including Plos One, BMJ Open, Annals of the Academy of Medicine (Singapore), Archives of Medical Research, Journal of Public Health, Psychological Medicine, Psychiatry Research, BMC Psychiatry, and BMC Psychology.

**Professor Rajesh Sagar** was Honorary visiting Professor, University of Leicester, UK, Member, UKRI International Development Peer Review College, UK, North-East England South Asia Mental Health Alliance (NEESAMA)-supported by Newcastle University, British Council & NTW NHS trust, UK; Expert member-Constitution of National Task force for finalization, implementation and monitoring of the Psychosocial Action Plan for COVID-19 response by MoHFW, Committees on 1. "Development of Guidance document for Health system response for persons with disabilities/functional impairments during COVID-19 pandemic" 2."Development of Guidelines for Psychosocial counselling of patients and front-line health workers" 3. "Guidelines for Health care professionals in Providing emotional and Psychosocial support to Family Members affected by death due to COVID 19" 4. "Standard guidelines for Autopsy/Forensic Pathology Practice COVID-19 deaths" under National Task Force on COVID-19 by ICMR-2020, Board of Studies for MBBS Psychiatry curriculum as a separate subject in AIIMS, Rishikesh, on research panel for mental health by the National Commission on Women by Ministry of WCD, Development of Training guideline for MO, SN, CHO, ANMs and ASHAs on MNS for NHRSC of MoHFW, Advisory board of Society for Research & Development in Education, SRDE's Higher Education Journal (SHEJ) Journal, Develop tools for screening of mental health disorders in adolescents for implementing Govt. of India's, RKSK- by Engender Health, Committee



for “Development of Centre for Research on Mental Health & Aging, Kolkata” by the ICMR, for discussion on launch of new version of PUBG gaming app in India by the National Commission for Protection of Child Rights (NCPCR) & Ministry of Information and Technology (MeitY), nominated by Hon’ble HFM of Board of Governors (BoG) LGBRIMH, Tejpur, chaired by Hon’ble Union MoHFW, for National Consultation on issues relating to children, Mission Vatsalya and Poshan 2.0, chaired by Hon’ble Minister of WCD, of Signal Review Panel of National Coordination Centre-Pharmacovigilance Programme of India. Indian Pharmacopoeia Commission, Institutional Ethics Committee of the PHFI, as PMAG of Dementia Science Program-2nd meeting supported by DBT, NBRC, INCLIN, PRC for woman health and mental health of ICMR, CCRH, DBT, for PMC & Governing Council, NIMHR, Sehore, of International (multi-national) COVID-19 consortium (CNS-SARS-CoV-2) Chronic Neuropsychiatric Sequelae group along with Epidemiology, Neurocognition, international reviewer (online) for UK Research and Innovation (UKRI), for the Global Challenges Research Fund (GCRF)/Newton Fund Agile Response, WHO’s Mental Health Atlas-2020; Continuing FRCP (Edin.), Chair, GBD India of Mental Health Expert Group for by ICMR, PHFI, IHME(USA), Honorary Professor, department of Psychiatry, University of Melbourne, Australia, Member, CMHA (Regulatory body under Mental Healthcare Act), Honorary Advisor for mental health to MoHFW; Hosted & coordinated the International meet on WHO’s SCAN Advisor group at AIIMS, Delhi, Chairperson of Sub-Committee for the training of Mental Health Professionals on Adoption Related Issues by the CARA, GoI, Chairman of the Expert Group of ICMR and FORTE Sweden collaboration in the area of Geriatrics, Presented state specific findings and recommendations for DMHP for ALL states & UT’s of the country under NMHP for MoHFW, Development of IEC material on psychosocial issues in the context of COVID-19 by MoHFW, Felicitation by Delhi Police to provide expertise and education material to staff of Delhi police.

**Professor Nand Kumar** was Jury member in TYSA 2020. TYSA is academic fest for the final year PGs of Psychiatry. Since last 13 years, TYSA (Torrent Young Scholar Award) has been widely acclaimed by the Indian medical fraternity as the national level contest to find the best brains in ‘Psychiatry’; Nominated as Members of Programme Advisory and Monitoring Committee (PA&MC) for the Programme Technology Interventions for Disabled and Elderly (TIDE) in Department of Science and Technology, Govt of India, June 2017-2020; Nominated as Chairperson for Physical treatment subcommittee of Indian Psychiatric Society.

**Professor Mamta Sood** was Secretary General, Indian Association for Social Psychiatry; Organizing Secretary, 27th e- National Conference of Indian Association for Social Psychiatry; Chairperson, NOC Committee for International Adoption, Central Adoption Resource Authority; Member, Institute Ethics Committee, All India Institute of Medical Sciences, New Delhi.

**Dr Raman Deep** served as Departmental Nodal Officer to coordinate for COVID-19 related preventive and infection control activities in Department of Psychiatry and liaisoning with HICC (Hospital Infection Control Team), AIIMS, New Delhi; Hon. General Secretary, SPREMH (Society for Promotion of Research and Education in Mental Health and Substance Use) constituted by the Department of Psychiatry & NDDTC with an objective of promoting research and education in mental and behavioral disorders.

**Dr Rohit Verma** was Assistant Editor of the Journal – Asian Journal of Cognitive Neurology; Secretary General & Founder Member of Neuromodulation Society (India); Executive Committee Member of Indian Association of Social Psychiatry (IASP); Ethical Committee Member of the University Institutional Ethical Committee (IEC), SRM University, Delhi-NCR, Sonapat, Haryana.

**Dr Gagan Hans** was Member Secretary of Student Wellness Activities Committee at AIIMS, New Delhi; Served as Peer Reviewer for the Journal of Mental Health and Human Behavior, Clinical Case Reports, Indian Journal of Social Psychiatry and Frontiers of Public Health.

**Dr Vaibhav Patil** was Invited to join the annual NIHR Global Health Research Group on Psychosis outcomes: the Warwick-India -Canada Network project meeting which was planned to hold on 2-3 April 2020.

**Dr Renu Sharma** was Member of Medical Board for Autism Spectrum Disorder in Department of Psychiatry, AIIMS, New Delhi in accordance with Ministry of Social Justice and Empowerment; Visit to Bhopal as an Expert along with NCPCR Team, in an incident of death of a minor sexual abuse victim in CCI.

**Dr Vandana Chowdhary** was Nominated as Expert Member for ICMR’s Initiative at Development of Guidelines for Psychosocial Counselling of Patients and Front-Line Health Workers. May 2020; Nominated as Foundational Member for “Early Career Group” in International Association for Child and Adolescent Psychiatry and Allied Professions (IACAPAP). March 2021.



## 9.35. Pulmonary Medicine and Sleep Disorders

### Professor and Head

Anant Mohan

### Associate Professors

Karan Madan      Vijay Hadda

### Assistant Professors

Pawan Tiwari      Saurabh Mittal

### Scientist-I

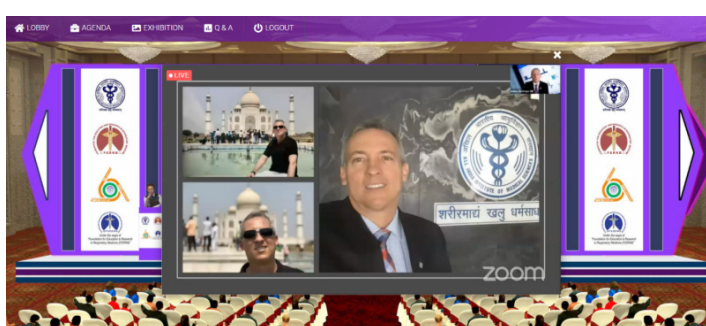
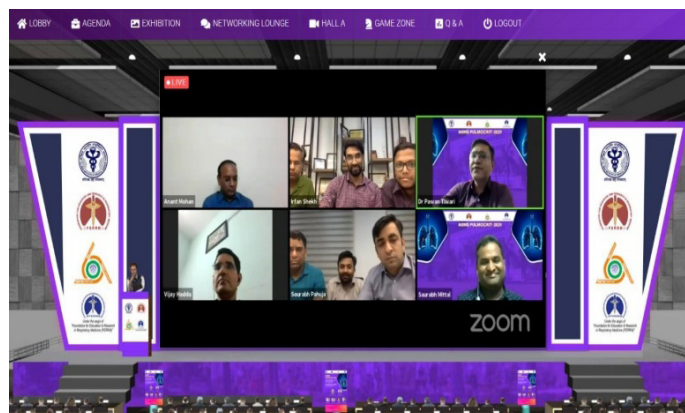
A Surendra Nath

### Scientist-II

Sneh Arora

### HIGHLIGHTS

- Department has organized Pulmocrit 2021 and Update workshop which is one the most sought after conference in India and was attended by more than 500 attendees 13 - 14 March 2021



### CMEs/Workshops/Symposia/National and International Conferences

1. Organizing Secretary of “AIIMS PULMOCRIT 2021: UPDATE in Pulmonary, Critical Care and International Workshop on Mechanical ventilation” from 20 March to 21 March 2021.

Lectures delivered:

Anant Mohan: 28

Vijay Hadda: 19

Saurabh Mittal: 8

## **Anant Mohan**

1. Lecture, Bronchial Thermoplasty, 11 April 2020, Haryana
2. Lecture, 8th Global Conference on Peri-Operative Care of Cancer Patients, 11 April 2020, JLN Auditorium AIIMS, Online
3. Lecture, on latest update and combination therapies in COPD during Haryana Pulmocon, 12 April 2020, Haryana
4. Webinar, Nanotechnology, 1 May 2020, Online
5. Webinar, SEARO webinar, 13 May 2020, Online
6. Webinar, Palliative webinar, 14 May 2020, Online
7. Workshop, ATS Workshop, 16 May 2020, Online
8. Lecture, ATS thoracic oncology Assembly, 17 May 2020, Online
9. TB vaccine, 27 May 2020, Online
10. TB meeting, 5 June 2020, Online
11. JMG MEET, 8 June 2020, Online
12. Webinar, Ophthalm webinar, 5 July 2021, Online
13. Webinar, Brics DST webinar, 8 July 2021, Online
14. Breathomics meeting, 27 August 2021, Online
15. SCLM meeting, SCLM meeting, 28 January 2021, Online
16. Lecture, Vc HFM Covid sequelae, 29 January 2021, Online
17. Nalcccon meeting, Nalcccon meeting, 18 September 2020, Online
18. ATS GROUP Meet, 29-30 September 2021, Online
19. Webinar, ILD webinar, 4 October 2021, Online
20. Lecture, CII TB workplaces maharashtra round table virtual meeting, 16 October 2020, Online
21. Lecture, Post Covid VPCI, 26 November 2020, Online
22. Lecture, Liverpool ivermectin study, 18 December 2020, Online
23. Lecture, Natcon sleep talk, 18 December 2020, Online
24. NAPCON, NAPCON-2020, 27-31 January 2021, Online
25. Lecture, Post covid nutrition rehab, 26 February 2021, Online
26. Lecture, Overview of Pulmonary Rehabilitation and Burden of Lung Disease', 9 March 2021, Online
27. Lecture, Tata lecture, 12 March 2021, Online
28. PULMOCRIT, 13-14, 20-21 March 2021, Online

## **Vijay Hadda**

1. Covid-19: Overview, National Webinars on Covid-19, 24 April 2020, AIIMS, Delhi, Online
2. Covid-19: Epidemiology and clinical features, Webinar for FIP MHFDC under PMMMNMTT, 9 July 2020, Hansraj College, Delhi University, Online
3. Managing Respiratory Diseases during Covid-19 Pandemic, Webinar on Respiratory Issues in Covid-19, 13 August 2020, PSRI, Delhi, Online
4. Approach to ILD: Clinical evaluation and PFT, Society of Chest Imaging Certificate Course in ILD, 29 September 2020, AIIMS, New Delhi, Online
5. Basic of Lung Biopsies for Radiologists, Society of Chest Imaging Certificate Course in ILD, 29 September 2020, AIIMS, New Delhi, Online
6. Tell-tale symptoms and signs of CTD among patients with ILD, APC 2020 – Update on management of CTD ILD, 4 October 2020, AIIMS, New Delhi, Online
7. Management of CTD-ILD: a case based discussion (SSc-ILD), APC 2020 – Update on management of CTD ILD, 4 October 2020, AIIMS, New Delhi, Online
8. Sleep Disorders, Webinar for FIP MHFDC under PMMMNMTT, 14 October 2020, Daulat Ram College, Online
9. Home Isolation in Covid-19, National Clinical Grand Round, 4 November 2020, AIIMS, New Delhi, Online
10. NIV for Hypercapnic Respiratory Failure, NIV Certificate Program – Essentials of NIV online Course, 12 December 2020, Indian Society of Anesthesiologists (ASI), Online
11. Beyond conventional therapy for COVID -19: Tocilizumab, NATCON 2020, 20 December 2020, Tuberculosis Association of India, Online
12. Overview of Oxygen Therapy, NAPCON 2021, 27 January 2021, NCCP/ICS, Online
13. Update on Common ILDs - CTD – ILD - Update, NAPCON 2021, 27 January 2021, NCCP/ICS, Online
14. Case - based practical application: Acute Exacerbation of COPD, NAPCON 2021, 27 January 2021, NCCP/ICS, Online
15. Cytokine release syndrome- definition & diagnosis, NAPCON 2021, 28 January 2021, NCCP/ICS, Online
16. Bronchoscopy in ICU, NAPCON 2021, 29 January 2021, NCCP/ICS, Online
17. Serological evaluation of ILDs and CTDs for radiologist, SCII-ILD certification course, 29 August 2020, Society of Chest imaging and interventions, Online

18. Management of CTD – ILD: Case-based discussion (SSc – ILD), AIIMS PULMONOLOGY COURSE (APC) 2020 - Update on Management of Connective tissue diseases (CTD) associated ILD, 4 October 2020, Foundation for education and Research in Respiratory Medicine, Online
19. Management of CTD – ILD: Case-based discussion (Other ILDs – RA, Anti-Synthetase, Sjogren syndrome), AIIMS PULMONOLOGY COURSE (APC) 2020 - Update on Management of Connective tissue diseases (CTD) associated ILD, 4 October 2020, Foundation for education and Research in Respiratory Medicine, Online

### **Saurabh Mittal**

1. Awake proning in COVID-19, NATCON-2020, 19 December 2020, National Association of Tuberculosis, Online
2. Bronchoscopy in ICU, National Pulmonary PG Conference 2020, 17 January 2021, UP chapter of Indian Chest Society, Online
3. Pulmonary Issues and Care in post COVID-19 patients, API-CME, 20 December 2020, Chhattisgarh State Association of Physicians of India, Online
4. Sleep Medicine Workshop: Moderator, NAPCON-2021, 27 January 2021, Indian Chest Society, Online
5. Positional therapy in the management of obstructive sleep apnoea, NAPCON-2021, 29 January 2021, Indian Chest Society, Online
6. Cryobiopsy: A new horizon in lung sampling, Year in Update programme on Critical care and Respiratory Medicine, 5 February 2021, Apollo Gleneagles Hospital, Kolkata, Online
7. Neurally adjusted ventilator assist, AIIMS-PULMOCRIT 2021, 14 March 2021, Foundation for education and Research in Respiratory Medicine, Online
8. Post COVID Pulmonary Fibrosis, National update on ILD, 11 April 2021, UP chapter of Indian Chest Society, Online

## **RESEARCH**

### **Funded projects**

#### **Ongoing**

1. A clinical trial to evaluate the safety and efficacy of Mycobacterium W in critically ill patients suffering from COVID 19 infection, Prof. Anant Mohan, CSIR, 19 June 2020, 18 June 2021, Rs 30 lakhs
2. A phase IIB Open Label Randomized trial to evaluate the anti-bacterial activity, pharmacokinetics, safety and tolerability of Metformin when given along with rifampicin, isoniazid, pyrazinamide and ethambutol in adults with newly diagnosed sputum positive pulmonary tuberculosis: an 8-week study, Anant Mohan, ICMR, June 2018 - 2020
3. A Phase III, Randomized, Double-blind, Placebo-controlled Trial to Evaluate the Efficacy and Safety of VPM1002 and Immuvac Vaccines in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients, Prof. Anant Mohan, ICMR, March 2018 - 2022
4. A randomized controlled trial of single -dose Ivermectin in hospitalized patients with COVID-19, Prof. Anant Mohan, Dept. of Science and Technology, June 2020 - May 2021, Rs 24.5 lakhs
5. A Randomized, Double-blind, Two arm, controlled clinical trial to compare the Efficacy and Safety of *Mycobacteriumw (Mw)* administered along with Standard of care versus Placebo administered along with Standard of care, in adult COVID 19 positive patients hospitalized but not critically ill, Prof. Anant Mohan, CSIR, 19 June 2020-18 June 2021, Rs 17 lakhs
6. Characterization of leukocytes and prediction of outcome among patients with sepsis mune cell dysfunctions and risk of hospital acquired infections in critically ill patients with sepsis, Dr Vijay Hadda, SERB, 3 years, 2017 Ongoing, Rs 37 lakhs
7. Comprehensive assessment of clinical outcomes following a hospital based structured pulmonary rehabilitation program in patients with moderately severe chronic obstructive pulmonary disease and strategies for field -level implementation, Anant Mohan, ICMR, January 2018 – December 2021, Rs 38 lakhs
8. Design and development of a biodegradable airway stent, Karan Madan, AIIMS-IIT, 2 years, 2019, Rs 5 lakhs
9. Determination of plasma drug levels of Anti-Tubercular drugs in patients with Extra-Pulmonary Tuberculosis (Lymph nodes and Pleural effusion) and its association with treatment outcomes, Anant Mohan, RNTCP (Delhi), December 2019 – December 2021, Rs 2.72 lakhs
10. Effect of Obstructive sleep apnea in North Indian women with polycystic ovary syndrome, Dr R. Guleria/Dr Vijay Hadda, DBT, 3 years, 2019 Ongoing, Rs 75 lakhs
11. Evaluation of a point - of-care rapid antibody testing for the diagnosis of COVID19 infection in an Indian population, Anant Mohan, AIIMS, April 2020-22, Rs 3 lakhs
12. Homeopathic treatment of respiratory sequelae of post-covid cases: an open label prospective interventional pilot study, Anant Mohan, Aayush, Aayush Ministry, Rs 68.6 lakhs
13. Identification of novel biomarkers in active and latent TB in conjunction with HIV coinfection, Anant Mohan, DBT, 2 November 2017 - 1 November 2020, Rs 18 crore
14. Identification of novel biomarkers in active and latent TB in conjunction with HIV infection, Anant Mohan, DBT, November 2017 - October 2020, Rs 1.80 crore

15. Impact of host T cell response on expression and function of drug efflux pumps: Relevance to drug resistant TB, Prof. Anant Mohan, ICMR, New Delhi, Sanctioned funds awaited
16. In Silico Trial for Tuberculosis Vaccine Development (STriTuVaD): A Phase II clinical Trial to assess the safety, immunogenicity and efficacy of 2 therapeutic vaccines against TB, Prof. Anant Mohan, DBT, Rs 397.57 lakhs
17. Longitudinal effects of Air Pollution Exposures on Lung growth and development of biomarker of lung function deficit in Urban Children, Anant Mohan, DBT, 5 years, Rs 1.37 crore
18. MicroRNAs in exhaled breath condensate and bronchial brushings as Biomarkers for Early Diagnosis of lung cancer, Anant Mohan, DBT, Ongoing (July 2019- July 2022, Rs 1.8 crore
19. National Environmental Health Profile: 20 City Multi-Site Study, Vijay Hadda, MEFCC, 3 years, 2018 Ongoing, Rs 57 lakhs
20. NKT cell subsets: Impact on *Mycobacterium tuberculosis* specific effector T cell responses, Anant Mohan, ICMR, 2017 - 2020, Rs 65.71 lakhs
21. NKT cell subsets: Impact on *Mycobacterium tuberculosis* specific effector T cell responses, Anant Mohan, DBT, 2018 - 2020, Rs 65.58 lakhs
22. Preventing Adverse Cardiac Events (PACE) in Chronic Obstructive Pulmonary Disease (COPD), Anant Mohan, NHMRC, 5 years,
23. Role of heavy metals and toxic elements in the etiology, severity and progression of Non-IPF diffuse parenchymal lung diseases, Vijay Hadda, AIIMS, 2 years, 2020 Ongoing, Rs 10 lakhs
24. Study to Evaluate the Effectiveness of BCG vaccine in Reducing Morbidity and Mortality in Elderly individuals in COVID-19 Hotspots in India, Prof. Anant Mohan, ICMR, 5 August 2020-4 September 2021, Rs 1.8 crore
25. Therapeutic significance of EGFR, ALK and ROSI genes and utility of ALDH2 gene in treatment response of patients diagnosed with advanced stage lung carcinoma, Prof. Anant Mohan, ICMR, 3 years, Rs 58 lakhs

## Departmental projects

### Ongoing

1. A clinical trial to evaluate the safety and efficacy of Mycobacterium W in critically ill patients suffering from COVID 19 infection
2. A phase 2/3, observer-blind, randomized, controlled study to determine the safety and immunogenicity of COV-ISIELD (COVID-19 vaccine) in healthy Indian adults
3. A prospective study of sonographic assessment of skeletal muscle among patients with sepsis.
4. A prospective study to validate the role of Integrated Positron Emission Tomography-Computed Tomography and Endobronchial Ultrasound and guided Transbronchial needle aspiration in the mediastinal staging of resectable Non-small cell lung cancer. (MCh Surgical Oncology)
5. A transcriptomic study to elucidate the pathophysiological basis of COPD. PhD (Physiology)
6. Characterization of leukocytes and prediction of outcome among patients with sepsis mune cell dysfunctions and risk of hospital acquired infections in critically ill patients with sepsis
7. Comparison between 18f fdg pet/ct and 68ga dotanoc pet/ct in patients of small cell carcinoma lung. (Department of Nuclear Medicine)
8. Determination of serum levels of anti-tubercular drugs as predictor of treatment outcomes in extra-pulmonary tuberculosis
9. Effect of Obstructive sleep apnea in North Indian women with polycystic ovary syndrome.
10. Evaluation of subjects for lung transplant at a tertiary level health facility
11. Hospital Acquired Events and Consumption of Hospital Resources by Patients in a Medical ICU
12. Longitudinal Study to evaluate visual functions and OCT parameters in ethambutol induced optic nerve toxicity. (Dr RP Centre for Ophthalmic Sciences)
13. Microbiological follow-up and genotypic investigation of house hold contacts of MDR-TB patients. (PhD microbiology)
14. National Environmental Health Profile: 20 City Multi-Site Study
15. Peripheral leukocytes makers and response to corticosteroids among patients with septic shock (CORES-Shock study)
16. Prevalence of Heart Failure with Preserved Ejection Fraction in Cardiac Patients
17. Role of heavy metals and toxic elements in the etiology, severity and progression of Non-IPF diffuse parenchymal lung diseases
18. Role of polyamines in lung diseases and mediating cellular stress and apoptosis via Nrf2 signaling pathway in COPD patients and cigarette smokers and biomass extract model (PhD-Pulmonary)
19. Study of *Pneumocystis jirovecii* as an Etiology of Bronchiectasis and its effect on disease progression. Department of Medicine & Microbiology.
20. Study of the diagnostic yield of various bronchoscopic procedures for lung cancer
21. Study of the prevalence of pneumocystic *jirovecii* in patients with Bronchiectasis (DM Infectious diseases, Microbiology).



22. To study the effect of oral morphine prescribed for dyspnoea in cancer patients presenting to the Departments of Onco-Anaesthesia and Palliative Medicine and Pulmonary Medicine and Sleep Disorders in a tertiary care hospital in India: A prospective observational study (MD Palliative Medicine)
23. Update and a gentle reminder regarding online Ph.D. viva-voce (Microbiology)

### Completed

1. Adhesive Sensors for Detection of Tuberculosis from Skin, Laboratory Medicine
2. Blood Test for All Forms of Active Tuberculosis (TB) for Commercialization in India, Laboratory Medicine
3. Comparisons of Cytokines, Matrix Metalloproteinase and Bone Markers between Normal, pulmonary, Osteomyelitis and Osteoarticular Tuberculosis Subjects, Orthopedics
4. Development of platform technologies for high affinity antibodies for in vitro diagnostics, Laboratory Medicine
5. Lipid-based immunodiagnostics of active tuberculosis, Laboratory Medicine
6. Single ventilator design modification for optimal multi-patient use: A CFD study, IIT Delhi
7. Towards differential diagnosis of Tuberculosis at extrapulmonary sites using blood based gene signatures, Orthopedics
8. Transcriptome analysis to understand mechanism of tolerance in the hosts upon *Mycobacterium tuberculosis* infection, Laboratory Medicine

### PUBLICATIONS

Journals: 79

Abstracts: 5

### PATIENT CARE

- In patient care/supportive activities include information regarding: (a) facilities available in the department (including special clinics and/or special laboratory facilities (b) community services/camps etc.
- Pulmonary Medicine OPD (Mon / Thurs – 8.30 – 11AM)
 

New Cases	2685
Old Cases	4151
- **Lung Cancer Clinic (Wednesday, 2.00 PM)**

New Cases	111
Old Cases	115
- **Combine Pulmonary Surgery Clinic (Wednesday, 2.00 PM)**

New Cases	12
Old Cases	31
- **Sleep Disorder Clinic (Friday, 2.00 PM)**

New Cases	14
Old Cases	08
- **ILD/ PAH Clinic (Friday, 2.00 PM)**

New Cases	36
Old Cases	84

### LABORATORIES

#### (A) Respiratory laboratory

Spirometry procedures	1516
Diffusion capacity estimation	505
Body Box (Plethysmography) measurements	20

#### (B) Bronchoscopy Laboratory

Fiberoptic bronchoscopy procedures	357
Radial EBUS	17
Endobronchial Ultrasound (EBUS)	143
Thoracoscopy	10
Cryotherapy	04
Stenting	09
Rigid Thoracoscopy	18
Electrocautery	25

#### (C) Sleep laboratory

Polysomnography studies	150
CPAP titration	01
Watch PAT	34

#### (D) Allergy Testing Lab

Total IgE Level	1250
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Specific Aspergillus IgE Level	938
Specific Aspergillus IgG Level	490
Skin Prick Test	07
ADA Level	92
<b>(E) Rehabilitation Lab</b>	
6MWT	894
Patient Enrollment	38
Breathing Exercise	146
No. of Sessions Given	135
Inhaler Technique	84
<b>(F) DOTS Centre</b>	
Total Referral Patients	879
Total DMC	139
<b>(G) Indoor Outdoor Patients</b>	
ICU / Ward	665
Day Care	1684
<b>(H) Chemotherapy Procedure</b>	
Total Procedure	996

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Vijay Hadda** Inducted as National Board of Examination faculty for setting OSCE for Pulmonary Medicine; Member of Core Research Committee for Indian Chest Society/National College of Chest Physicians; Visited MGM, Hospital Chennai, Tamil Nadu, India for short-term training from Lung Transplantation.

## 9.36. Radiodiagnosis

### Professor and Head

Arun Kumar Gupta

### Professors

Deep Narayan Srivastav  
Sanjay Sharma (RPC)  
Shivanand Gamanagatti (Trauma Centre)

Raju Sharma  
Ashu Seith Bhalla

Sanjay Thulkar (IRCH)  
Smriti Hari  
Atin Kumar (Trauma Centre)

### Additional Professors

Chandan J Das  
Manisha Jana

Madhusudhan KS  
Devasenathipathy Kandasamy

Surabhi Vyas  
Chandrashekhara SH (IRCH)

### Associate Professors

Smita Manchanda  
Mukesh Yadav (IRCH)

Ankur Goyal

Priyanka Naranje  
Ekta Dhamija (IRCH)

### Assistant Professors

Krithika Rangarajan (IRCH)

Richa Yadav (Contractual-Trauma center)

### Scientist-IV

Shashi B Paul

### Chief Technical Officer (Group A)

Mr Braham Singh

Mrs Renu Soorma (Retired during this period)

### Chief Technical Officer

Mr Anil Kumar Sharma  
Mr Pawan Kumar Popli

Mr Ashwani Kumar  
Mr Arun Kerkette  
Mr Bhanu P Singh

Mr Bhushan Sharan  
Ms. Poonam Mukhi

## HIGHLIGHTS

The period from April 2020 to March 2021 was completely overshadowed by the COVID-19 pandemic. The department was at the forefront in fighting the battle against Covid and reallocated a large part of its resources exclusively for imaging Covid patients. New algorithms had to be devised to safely perform imaging on Covid patients. This primarily included radiographs of chest and CT primarily of the chest but also of the head and abdomen. Special protocols had to be devised for imaging of non-covid patients also whenever needed. The number of other elective procedures on Non-covid patients declined as OPD and indoor services were curtailed by the administration in view of the Covid pandemic. Recognizing the need for social distancing and Covid appropriate behaviour in departmental activities, all the clinico-radiological meetings were conducted on online platforms which allowed fruitful interaction between radiologists and the treating physicians and surgeons. The departmental faculty was actively involved in designing protocols for imaging of Covid patients at the hospital and national level. Reporting of all investigations is currently electronic and done on work-stations. During this period four digital flat panel Radiography systems, three digital fluoroscopy systems, nine ultrasound machines, four digital flat panel portable x-ray machines & one film scanner were added to the diagnostic armamentarium of the department. In spite of the very difficult circumstances the departmental faculty was actively engaged in patient care, education and research. Faculty members delivered over 130 lectures in various CMEs, national and international conferences. Faculty members were actively involved in research and published 189 papers in various indexed national and international journals and contributed 26 chapters to text-books of Radiology in addition to editing books on Radiology. About 36 posters and oral papers were presented in various conferences in India and abroad out of which 6 received awards in different forums. The department faculty members were principal investigators in 5 funded projects. Besides, they were involved in 17 ongoing departmental projects and over 108 collaborative projects with other clinical departments. The department conducted one online radiology course on Paediatric Radiology, during this period which was very well received and attended by a large number of delegates from across the country.

## EDUCATION

### *Undergraduate*

The department faculty was actively involved in teaching undergraduate students. There were a total of 40 lectures taken by the faculty for them in this period.

### *Postgraduate*

There were a total of 30 junior residents in the department during this period, including 6 new residents who joined the department. The department had six fellows pursuing their fellowships during this period. Academic activities for postgraduate students were regularly conducted in online mode and included around 23 introductory classes for new first year postgraduates, 27 seminars, 40 case discussions, 50 interesting film sessions and 69 didactic lectures. Online platform was harnessed to the maximum extent so that teaching did not suffer during the pandemic.

### ***BSc (Hons) Medical Technology in Radiography (MTR)***

This course is of 3 years duration and a total of 33 students are pursuing this course.

### **CMEs/Workshops/Symposia/National conferences organized:**

The department organized the AIIMS MAMC PGI Imaging course (4th Series) on Paediatric Radiology on 31 October 2020. It was conducted online and attended by a large number of delegates across the country.

### **Lectures Delivered:**

**Raju Sharma: 16**

**Ashu Seith Bhalla: 21**

**Shivanand Gamanagatti: 10**

**Atin Kumar: 11**

**Chandan Jyoti Das: 2**

**Madhusudhan KS: 7**

**Surabhi Vyas: 10**

**Manisha Jana: 9**

**Devasenathipathy Kandasamy: 6**

**Smita Manchanda: 13**

**Ankur Goyal: 15**

**Priyanka Naranje: 10**

### **Raju Sharma**

1. Imaging in pancreatic cancer, Indian College of Radiology Webinar, 3 May 2020, Online
2. Imaging of liver space occupying lesions, Indian Society of Gastroenterology: Master class, 17 May 2020, Online
3. Imaging in Crohn's Disease, Indian College of Radiology Webinar, 20 September 2020, Online
4. Pancreatic Cancer, Indian Society of Gastroenterology, Master class, Panel Discussion, 20 September 2020, Online
5. Imaging of small bowel tumors, Annual Conference of Telangana State Branch of Indian Radiology and Imaging Association, 11 October 2020, Online
6. Film Reading Session, Indian College of Radiology and Imaging, IREP, 25 October 2020, Online
7. Imaging in Bowel Obstruction, PGIMER Gastroenterology PG Course, 31 October 2020, Online
8. Case Based Review, Radiology Clinics: Hyderabad, 6 November 2020, Online
9. Imaging in Chronic Pancreatitis, Indian Pancreas Club, Panel Discussion, 2 December 2020, Online
10. MR Evaluation of the Biliary Tract, Conference of the UP chapter of Indian Radiology and Imaging Association, 14 October 2020, Online
11. Basics of MRI for the Urologist. Annual Conference of State Branch of Society of Urologists, 24 January 2021, Online
12. Case Based Review, Delhi State Chapter of Indian Society of Radiology and Imaging Meeting, 30 January 2021, Online
13. Status of MRI in India, ISMRM Panel Discussion, Spotlight on Africa, 25 February 2021, Online
14. Imaging Acquired Pathology of Biliary Tract, ICRI Webinar, 20 March 2021, Online
15. Imaging of Inflammatory Bowel Disease, GE RADASPIRE Web Series, 20 March 2021, Online
16. The Bowel Tuberculosis Vs Crohn's Conundrum. Invited talk in the India Plenary Session in Annual Conference of Society of Abdominal Radiology, USA, 25 March 2021, Online

### **Ashu Seith Bhalla**

1. Imaging in COVID-19, Indian Guidelines, Imaging COVID-19, Indian and Global Perspectives by Society of Emergency Radiology, 3 April 2020, Online
2. COVID-19, Challenges lessons and restarting Radiology Services, Health 4 the world Radiology Leaders panel, 22 June 2020, Online
3. Cystic lung diseases, Pre-conference SCII Certification Course on ILD, 30 August 2020, Online

4. Review of cases, Acute and Subacute ILDs, Pre-conference SCII Certification Course on ILD, 30 August 2020, Online
5. Long term changes in Covid Pneumonia. Annual Meeting of SCII-SCII CON2020, 26 September 2020, Online
6. Film Reading Session, IRIA-ICRI-IREP 2020, 11 October 2020, Online
7. Film Reading Session. 4th AIIMS MAMC PGI Imaging Course Series, 31 October 2020, Online
8. Emergency radiology in COVID times- Experiences and lessons learnt. 7th Annual Conference of the Society for Emergency Radiology, 6-7 November 2020, Online
9. Interstitial Lung Diseases-Introduction, Classification and terminology. IRIA Kochi-KREST Kochi Synergy Webinar, 17 November 2020, Online
10. Pulmonary Manifestations of vasculitis. Radiology Education Foundation Webinar, 2 December 2020, Online
11. Laryngeal cancer-Radiology Checklist. Foundation for Head-Neck Oncology (FHNO) Annual Meeting-FHNO2020. 12 December 2020, Online
12. COVID-19 and lung cancer: Screening and early detection. 4th Annual Year End Review- Lung Cancer Update by TMH, 12 December 2020, Online
13. Tuberculosis. National Conference on Pulmonary Diseases- NAPCON, 27 January 2021, Online
14. Post-COVID Lung: What does it mean and its implications. National Conference on Pulmonary Diseases- NAPCON, 28 January 2021, Online
15. Chest MRI. IRIA- STR Joint Webinar on Chest Imaging, 16 January 2021, Online
16. Imaging Techniques in Chest: When to use what and how. IRIA-ICRI-symposium on Chest Imaging, 3 February 2021, Online
17. Film Reading session (Chest). Delhi IRIA- Film Reading sessions for Residents, 6 February 2021, Online
18. Carcinoma Larynx- Imaging. IRIA- ICRI - symposium on Head & Neck Imaging, 26 February 2021, Online
19. Panelist ILD MDT discussion. Indian Chest Society ILD Course, 6 March 2021, Online
20. Panelist: Discussion on Benign non-infective thoracic pathologies. ISTSTCON-2021, Indian Society of Thoracic Surgery, 19 March 2021, Online
21. Recognizing Radiological Sequelae of COVID-19. AIIMS Pulmocrit 2020, 20-21 March 2021, Online

#### **Shivanand Gamanagatti**

1. Role of Embolization in pelvic fractures. Orthopedic Webinar Organized by Delhi Orthopedic Association, 26 April 2020, Online
2. Role of embolization in MSK tumors. Orthopedic Webinar Organized by Delhi Orthopedic Association, 9 August 2020, Online
3. IR treatment for HCC. Webinar by Delhi State Chapter of IRIA, 2 September 2020, Online
4. Radiology in HVOTO for Surgeons. ISG Webinar, 4 September 2020, Online
5. Role of Radiology in Cholangiocarcinoma. ISG educational webinar, 6 September 2020, Online
6. Response assessment of HCC. IRIA-ICRI e-Symposium on Abdominal Imaging, 20 September 2020, Online
7. Radiological interventions for vascular disorders – What’s new? CPLD 2020, 10 October 2020, Online
8. Role of interventional Radiology in Management of peripheral arterial occlusive disease. SURGICON 2020, 8 November 2020, Online
9. Radiology for Haemostasis. 10th Annual Conference “TRAUMA 2020 VIRTUAL” ISTAC meet, 5 December 2020, Online
10. Amazing Interventions in Budd-chiari syndrome. ILBS meet Webinar. decennial celebrations, 11 January 2021, Online

#### **Atin Kumar**

1. Basics of Neuroimaging. Association of Child Neurology, 3 May 2020, Online
2. Imaging of Hypoxic Ischemic Encephalopathy. IRIA-ICRI webinar series-Webinar by Delhi State Chapter of IRIA on the theme of Neuroradiology, 17 June 2020, Online
3. Imaging of appendicular trauma. 4th AIIMS-MAMC-PGI Imaging Series –6th Course on MSK & Breast Imaging, 29 August 2020, Online
4. Film Reading Session: Neuroradiology. IRIA-ICRI Resident Education Program, 18 October 2020, Online
5. Imaging of Hypoxic Ischemic Encephalopathy. 4th AIIMS-MAMC-PGI Imaging Series –7th Course on Pediatric Imaging, 31 October 2020, Online

6. Imaging of brachial plexus injuries. IRIA-ICRI E Symposium on Emergency and Trauma Imaging, 29 November 2020, Online
7. Live workshop on Trauma Radiology Conference. 10th Annual Conference “TRAUMA 2020 VIRTUAL” ISTAC meet, 5 December 2020, Online
8. Pediatric Neuroimaging: Case based review. Radiology Clinics. Online webinar, 18 January 2021, Online
9. Pediatric Neuroimaging: Case based review, Radiology Clinics. Online webinar, 24 January 2021, Online
10. Spotters in neuroimaging. Film Reading Sessions by Delhi IRIA, 13 February 2021, Online
11. Imaging of brachial plexus injuries. ICRI – IRIA webinar series on head and neck radiology, 12 March 2021, Online

#### **Chandan Jyoti Das**

1. Congenital abnormality of urinary tract. AIIMS-MAMC-PGI Imaging Course Series: Paediatric Radiology, 31 October 2020, Online
2. Ablation of liver tumor (Chairing the session). Online series hold By TATA cancer center, 12 November 2020, Online

#### **Madhusudhan KS**

1. COVID-19: Radiologist’s perspective. Web CME by National Academy of Medical Sciences, 8 October 2020, Online
2. Radiology of IgG4 sclerosing cholangitis. Current perspectives in liver disease, 10-11 October 2020, Online
3. Radiological diagnosis of autoimmune pancreatitis. Third webinar of Indian Pancreas Club, 5 December 2020, Online
4. Radiological evaluation of pancreatic cancer. 1st webinar on Decoding GI-HPB Oncology, 20 January 2021, Online
5. Imaging in gallbladder cancer. Postgraduate CME on gallbladder cancer. By SGPGI, 6 March 2021, Online
6. Imaging in diffuse parenchymal liver diseases. IRIA – ICRI Abdominal imaging teaching program, 13 March 2021, Online
7. Interventional therapy by multimodal imaging. Advances in medical imaging. By IIT-BHU, 16 March 2021, Online

#### **Surabhi Vyas**

1. Advances in breast ultrasound. IRIA-ICRI E symposium on breast imaging, 14 June 2020, Online
2. Drug induced ILD. Pre-conference SCII certification course on ILD, 30 August 2020, Online
3. CT interpretation of ILD., New Delhi. IRIA-ICRI E symposium, 30 August 2020, Online
4. Management CTD-ILD, case based discussion. AIIMS pulmonology course (APC), 4 October 2020, Online
5. Breast masses- case based review. ICRI breast imaging case based series, 9 October 2020, Online
6. Paediatric airways. 4th AIIMS MAMC PGI imaging course series, 31 October 2020, Online
7. Recent Advances in Breast Imaging. IRIA, ICRI, IREP Online Course, 8 November 2020, Online
8. Imaging in interstitial lung diseases. IRIA Friday academics, 15 January 2021, Online
9. MDD case discussions- CTD-ILD. NAPCON, 27 January 2021, Online
10. Case based discussion. Virtual SCII monthly meet, 30 March 2021, Online

#### **Manisha Jana**

1. Neonatal spinal sonography. IRIA-ICRI e-SYMPOSIUM ON Pediatric Radiology, 5 July 2020, Online
2. ILD in infants. SCII Interstitial lung diseases certification course for radiologists and radiology residents, 28 August 2020, Online
3. Quiz: Pediatric chest Imaging. SCIICON 2020, 27 September 2020, Online
4. Lung Radiology in COVID-19. Pulmocon 2020, 18 October 2020, Online
5. ARM & Disorders of Sex Differentiation. AIIMS-MAMC-PGI Imaging course series: Paediatric Radiology, 31 October 2020, Online
6. Child abuse: What a radiologist needs to know. IRIA-ICRI e-SYMPOSIUM ON Emergency Radiology, 29 November 2020, Online
7. Case Based Discussion in Pediatric Radiology. 11th Radiology Hot Seat Review Course, 28 February 2021, Online
8. Pediatric Pulmonology: A Case based Review. SCII monthly Meet- Feb 2021, 23 February 2021, Online
9. Imaging in Pediatric ILD. ISPR meets IRIA/ ICRI Synergy Series 2, 7 March 2021, Online



### **Devasenathipathy Kandasamy**

1. Artificial intelligence in Medicine. Thiagarajar Polytechnic College Webinar, 10 July 2020, Online
2. Quantitative MRI-Fundamentals and Clinical Applications. Webinar by Delhi State Chapter, on the theme of 'Recent Advances in Imaging', 12 August 2020, Online
3. Pediatric Adrenal Imaging. ISPR webinar 2020. XVIII Annual Meeting of Indian Society of Pediatric Radiology, 11 October 2020, Online
4. Inflammatory conditions of Pediatric GIT. 4TH AIIMS-MAMC-PGI Imaging Course Series - Paediatric Imaging, 31 October 2020, Online
5. Interesting film reading session. 4TH AIIMS-MAMC-PGI Imaging Course Series - Paediatric Imaging, 31 October 2020, Online
6. Pediatric Bowel Imaging. ISPR meets IRIA/ICRI Synergy series, 7 March 2021, Online

### **Smita Manchanda**

1. Stress with Space: Neck spaces and their radiological. Oncology Class Room, 5 June 2020, Online
2. Online Mock Exam for Post graduate Residents. KREST-IRIA Kochi, 27 July 2020, Online
3. Vocal Cord Palsy: Role of Imaging. Workshop on Larynx, 29 July 2020, AIIMS
4. Placental Pathology: Role of Imaging and Intervention. IRIA ICRI Symposium on Foetal Imaging, 2 August 2020, Online
5. Quiz for Residents. SCIICON 2020, 2 August 2020, Online
6. Exposure Related ILDs: Inorganic Dusts – Silicosis, CWP, Asbestosis. SCIICON 2020, 27 September 2020, Online
7. Imaging of Paediatric Neck Lesions. 4th AIIMS-MAMC-PGI Imaging Course Series, 31 October 2020, Online
8. Imaging of Gynaecological Emergencies. SER Monthly Meet, 20 November 2020, Online
9. Demystifying O-RADS. IRIA ICRI Symposium on Women's Imaging, 30 November 2020, Online
10. Imaging in Gynaecological Malignancies. Oncology Class Room, 18 December 2020, Online
11. Interesting Obstetrics Cases. Ultravision 2021, 16 January 2021, Online
12. Women's Imaging: An overview. KREST Kochi 7th Annual Radiology PG Training Program, 13 February 2021, Online
13. Interesting Head and Neck Cases. Daily Online IRIA-ICRI Residents Training Programme 2021, 5 March 2021, Online

### **Ankur Goyal**

1. Imaging in Entrapment Neuropathies. IRIA-ICRI e-Symposium on MSK Imaging, 26 July 2020, Online
2. Imaging of soft tissue tumors' and jointly conducted a Film reading session. 4th AIIMS-MAMC-PGI Imaging Series Course on MSK & Breast Imaging, 29 August 2020, Online
3. Imaging Approach to Retroperitoneum. IRIA-ICRI e-SYMPOSIUM OF YUWA IRIA, 30 August 2020, Online
4. Approach to mosaic attenuation and GGO'. 2nd Annual National Conference of Society of Chest Imaging and Intervention (SCII-CON 2020), 29-30 August 2020, Online
5. Embolizing agents and techniques in AVMS. IR management of Vascular Anomalies', organized by Delhi state chapter of ISVIR (Indian Society of Vascular & Interventional Radiology), 5 September 2020, Online
6. Imaging of Retroperitoneal Tumors. IRIA-ICRI e-Symposium on Abdominal Imaging, 20 September 2020, Online
7. Approach to soft-tissue masses. Webinar organized by Musculoskeletal Society of India, 8 October 2020, Online
8. Sellar & Juxta sellar region: Anatomy and case based review of Pathologies. IRIA-ICRI IREP ONLINE 2020 on 'Brain and Base of Skull', 18 October 2020, Online
9. Pediatric Malignant Bone & Soft-tissue tumors. 7th online course on 'Paediatric Imaging' in 4th AIIMS-MAMC-PGI Imaging Course Series, 31 October 2020, Online
10. Interventional Radiology in Hemoptysis. SURGICON 2020 Annual conference of the Delhi State Chapter of Association of Surgeons of India:, 7 November 2020, Online
11. Ultrasound Contrast Media and Their Applications. IRIA-ICRI IREP ONLINE 2020 on Basic Physics and Recent Advances, 8 November 2020, Online
12. Imaging in Pancreatic cancer. Decennial Celebrations of Department of Radiology and Interventions, Institute of Liver and Biliary Sciences, New Delhi, 11 January 2021, Online
13. Case Discussion: Film Reading Session on Abdominal Imaging. IRIA Delhi, 30 January 2021, Online

14. Imaging and Interventions in Hemoptysis. Monthly webinar of Society for Emergency Radiology SER, 19 February 2021, Online
15. Imaging in Vascular Lesions of Head & Neck. IRIA-ICRI Radiology Resident Education Program, 19 February 2021, Online

### **Priyanka Naranje**

1. Alveolar proteinosis. Pre-conference SCII certification course on ILD, 30 August 2020, Online
2. ILDs in children. Pre-conference SCII certification course on ILD, 30 August 2020, Online
3. Chest Quiz. Annual Meeting of SCII-SCIICON2020, 26 September 2020, Online
4. Management CTD-ILD, case based discussion. AIIMS pulmonology course (APC), 4 October 2020, Online
5. Pulmonary Manifestations of HIV Infections. IRIA-ICRI-IREP 2020, 11 October 2020, Online
6. Paediatric ILD. 4th AIIMS MAMC PGI imaging course series; 7th course on Pediatric imaging, 31 October 2020, Online
7. Film Reading Session/Quiz. 4th AIIMS MAMC PGI imaging course series; 7th course on Pediatric imaging, 31 October 2020, Online
8. Pleural Diseases. National Conference on Pulmonary Diseases- NAPCON, 27 January 2021, Online
9. High Resolution Transthoracic Ultrasound for the Evaluation of Mediastinal Lymphadenopathy in Children. National Conference on Pulmonary Diseases- NAPCON, 30 January 2021, Online
10. CPC. AIIMS Pulmocrit 2020, 20 March 2021, Online

### **List of oral papers/posters presented: 36**

1. Ambikapathi P, Bhalla AS, Naranje P, Ain D, Mohan A, Arava S, Goyal A. Imaging spectrum of invasive mucinous adenocarcinoma of lung- a rare subtype. SCIICON 2020 (2nd Annual National Conference of the Society of Chest Imaging and Intervention), 26-27 September 2020, Online
2. Amjad MS, Kaur G, Mahapatra M, Dhawan R, Naranje P, Goyal A, Seth T, Aggarwal M. Diagnostic performance of whole body low dose computed tomography compared to conventional Skeletal survey in diagnosis and management of patients with multiple myeloma, HAEMATOCAN 2020, November 2020, online
3. Ankita D, Krishna KRG, Prasad V, Manchanda S, Dhamija E. Risk Stratification and Categorization of Ovarian Lesions by Sonography Using RMI and IOTA IRIA Sonocon 2020, 8 August, 9 August, 15 August, 16 August, 22 August 2020, Online
4. Banday IA, Bhalla AS, Sethi P, Manchanda S. Paraquat ingestion: Lethal Lung Toxicity. SCIICON 2020, 26-27 September 2020, Online
5. Bhalla D, Naranje P, Bhalla AS, Arava S, Mohan A, Parshad R. Imaging approach to classification of airway tumors: Decoding the clues! SCIICON 2020 (2nd Annual National Conference of the Society of Chest Imaging and Intervention), 26-27 September 2020, Online
6. Ebrahimian S, Singh R, Netaji A, Madhusudhan KS, Homayounieh F, Kalra MK, Saini S, Sharma S. Application of DECT-Based Radiomics and Quantitative Features for Differentiating Benign and Malignant Pancreatic Lesions in a Multi-Institutional Study. Radiological Society of North America RSNA 2020, November 30 – December 6 2020, Online
7. Gabra P, Vyas S, Bhalla AS. Semi-quantitative CT severity scores for connective tissue disease related ILD, Virtual Annual National Conference of Society of chest imaging and intervention, (SCII-CON 2020), 26-27 September 2020, Online
8. Gabra P, Vyas S, Bhalla AS. Role of lung ultrasound in connective tissue disease related ILD, Virtual Annual National Conference of Society of chest imaging and intervention, (SCII-CON 2020), 26-27 September 2020, Online
9. Goyal A, Razik A, Sharma S, Kandasamy D, Seth A, Das P, Ganeshan B. Can MR texture analysis help in differentiating renal cell carcinoma from lipopenic angiomyolipoma and oncocytoma: A pilot study, European Congress of Radiology ECR 2020, July 2020, Online
10. Goyal A, Bagga B, Bhalla A, Das A, Kandasamy D. Clinico-radiological predictors of sclerotherapy response in low-flow vascular malformations, ISSVA (International Society for the study of vascular anomalies) 2020 online workshop, 14-15 May 2020, Online
11. Goyal A, Sangwan A, Kumar A, Sharma R, Kandasamy D, Bhalla A, Arava S, Dawar R, Singhal M. Recognizing many faces of Fibro-adipose Vascular Anomaly: Key to getting acquainted!, ISSVA (International Society for the study of vascular anomalies) 2020 online workshop, 14-15 May 2020, Online
12. Gupta S, Bhalla AS, Manchanda S, Vyas S. Diffuse hyperattenuating pulmonary abnormalities: Decoding imaging morphology to guide diagnosis, Virtual Annual National Conference of Society of chest imaging and intervention, (SCII-CON 2020), 26-27 September 2020, Online

13. Gupta S, Bhalla AS, Manchanda S, Vyas S. Diffuse Hyperattenuating Pulmonary Abnormalities Guided Diagnosis, SCIICON 2020, 26-27 September 2020, Online
14. Khan IA, Bhalla AS, Naranje P, Gamanagatti S. Percutaneous endovenous retrograde thoracic duct embolization, SCIICON 2020 (2nd Annual National Conference of the Society of Chest Imaging and Intervention), 26-27 September 2020, Online
15. Lokesh, Jana M, Bhalla AS, Naranje P, Kabra SK, Gupta AK. MR Protocols for bronchiectasis in children: optimizing the technique, SCIICON 2020 (2nd Annual National Conference of the Society of Chest Imaging and Intervention), 26-27 September 2020, Online
16. Madhusudhan KS, Gopi S, Sharma S, Gunjan D, Srivastava DN, Garg P. Embolization for hemorrhagic complications of pancreatitis: immediate and long-term outcomes, Cardiovascular and Interventional Radiological Society of Europe CIRSE 2020, September 12-15, 2020, Online
17. Madhusudhan KS, Srivastava DN, Sharma S. Portal vein interventions: A comprehensive review, Cardiovascular and Interventional Radiological Society of Europe CIRSE 2020, September 12-15 2020, Online
18. Manoharan D, Netaji C, Das CJ, Sharma S. Iodine parameters in triple-bolus dual-energy CT correlate with perfusion CT biomarkers of angiogenesis in renal cell carcinoma (page 527), ECR 2020, 15-19 July 2020, online
19. Manoharan D, Netaji C, Das CJ, Sharma S. A normalised dual-energy iodine ratio best differentiates renal cell carcinoma subtypes among quantitative imaging biomarkers from perfusion CT and dual-energy CT, ECR 2020, 15-19 July 2020, online
20. Meena P, Bhalla AS, Naranje P, Goyal A, Pradeep K. Correlation of ectopic bronchial arteries with Bronchiectasis, SCIICON 2020 (2nd Annual National Conference of the Society of Chest Imaging and Intervention), 26-27 September 2020, Online
21. Mewar SK, Sharma S, Thulkar S, Dhamija E, Kumar P, Panaiyadiyan S, Jayasundar R, Kumaran SS, Datta Gupta S, Jagannathan NR, Kumar R, Kumar V. Pre-biopsy MRI to increase the detection rate and reduce the overdiagnosis of prostate cancer, ISMRM 28th Annual Meeting & Exhibition, ICC Sydney, Sydney, ISMRM 28th Annual Meeting & Exhibition, ICC Sydney, 18-23 April 2020, online
22. Nadda N, Paul SB, et al. \*Oral presentation Second prize MicroRNAs modulating mTOR pathways in hepatocellular carcinoma and in vitro miRNA targeting, 27th Annual Scientific meeting of Indian National association of Study of liver (INASL 2020), December 2-4 2020, Online
23. Nadda N, Paul SB, et al. \*Presidential poster Post locoregional therapy changes in oncomiR for tumor response and targeting of microRNA modulating mTOR pathways in hepatocellular carcinoma, 61st Annual Conference of Indian Society of Gastroenterology – ISGCON 2020, December 19-20 2020, Online
24. Netaji A, Das CJ, et al. Won 3rd best paper award Prospective comparison of MRI-guided inbore biopsy and MRI-TRUS fusion biopsy with systematic 12-core TRUS biopsy, 20th Kakrala Subbarao Gold medal competition, Hyderabad, 26 December 2020, Online
25. Pritviraj SK, Jana M, Manchanda S, Bhalla AS, Naranje P. Airway Ultrasound: A Primer for Radiologists, SCIICON 2020, 26-27 September 2020, Online
26. Sangwan A, Goyal A, Kumar A, Sharma R, Bhalla AS. Contrast Enhanced Ultrasound in Vascular Anomalies: A new paradigm, IRIA Sonocon 2020, August 2020, Online
27. Sangwan A, Goyal A, Kumar A, Sharma R, Bhalla AS, Kandasamy D, Arava S, Chauhan S. Imaging Spectrum of Pediatric vascular anomalies and mimics, 18th Annual National conference of Indian Society of Pediatric Radiology, 10 October 2020, Online
28. Sharma S, Malik R, Dohare N, Madhusudhan KS. Direct intrahepatic portosystemic shunt (DIPS) for pediatric Budd Chiari syndrome (BCS), Cardiovascular and Interventional Radiological Society of Europe CIRSE 2020, September 12-15 2020, Online
29. Singh R, Naranje P, Bhalla AS, Manchanda S, Mahapatra M. Evaluation of Non-infectious Pulmonary Complications in MDCT: Decoding Imaging Markers, SCIICON 2020, 26-27 September 2020, Online
30. Singh R, Naranje P, Bhalla AS, Pandey S \*first prize, oral paper MRI in Response Assessment of Mediastinal Tuberculous Lymphadenopathy: Going beyond size, SCIICON 2020, 26-27 September 2020, Online
31. Singh S, Bhalla AS, Naranje P. \*E-poster, First prize Computed Tomography In Secondary Spontaneous Pneumothorax: Reading The Fine Print, SCIICON 2020 (2nd Annual National Conference of the Society of Chest Imaging and Intervention), 26-27 September 2020, Online
32. Sinha P, Naranje P, Jana M, Bhalla AS, Pritviraj SK, Manchanda S. Mediastinal Ultrasound for Lymphadenopathy, SCIICON 2020, 26-27 September 2020, Online
33. Sudhakaran D, Meena P, Naranje P, Bhalla AS. Fat containing lesions of thorax: A compartment-based illustration, SCIICON 2020 (2nd Annual National Conference of the Society of Chest Imaging and Intervention), 26-27 September 2020, Online

34. Swami SK, Neeti N, Paul SB. \*E-Poster Awarded Third Prize Cell Free DNA Integrity index Differentiating Hepatocellular Carcinoma from Chronic liver Disease Patients, 61st Annual Conference of Indian Society of Gastroenterology – ISGCON 2020, December 19-20 2020, Online
35. Wani M, Bhalla AS, Naranje P. Pulmonary Mucormycosis: Does underlying etiology influence imaging findings, SCIICON 2020 (2nd Annual National Conference of the Society of Chest Imaging and Intervention), 26-27 September 2020, Online
36. Wani M, Bhalla AS, Naranje P, Gamanagatti S, Mahajan N, Tiwari P. Multipronged approach in management of hemoptysis due to pulmonary artery pseudoaneurysm: A technical challenge, SCIICON 2020, (2nd Annual National Conference of the Society of Chest Imaging and Intervention), 26-27 September 2020, Online

### **Best Oral paper award.**

#### *Won second prize in Oral presentation*

1. Nadda N, Paul SB, et al. MicroRNAs modulating mTOR pathways in hepatocellular carcinoma and in vitro miRNA targetin; presented at 27th Annual Scientific meeting of Indian National association of Study of liver (INASL 2020), December 2-4, 2020, held online.

#### *A Presidential poster.*

1. Nadda N, Paul SB, et al\*. Post locoregional therapy changes in oncomiR for tumor response and targeting of microRNA modulating mTOR pathways in hepatocellular carcinoma.; presented at 61st Annual Conference of Indian Society of Gastroenterology – ISGCON 2020, December 19-20, 2020, held online.

#### *E-Poster Awarded Third Prize*

1. Swami SK, Neeti N, Paul SB. Cell Free DNA Integrity index Differentiating Hepatocellular Carcinoma from Chronic liver Disease Patients.; presented at 61st Annual Conference of Indian Society of Gastroenterology – ISGCON 2020, December 19-20, 2020, held online.

#### *Won 3rd best paper award*

1. Netaji A, Das CJ et al. Prospective comparison of MRI-guided inbore biopsy and MRI-TRUS fusion biopsy with systematic 12-core TRUS biopsy. 20th Kakrala Subbarao Gold medal competition, Hyderabad, 26 December 2020, held Online.

#### *Won First prize in oral paper presentation.*

1. Singh R, Naranje P, Bhalla AS, Pandey S. MRI in Response Assessment of Mediastinal Tuberculous Lymphadenopathy: Going beyond size; presented at 2nd Annual National Conference of the Society of Chest Imaging and Intervention (SCIICON 2020), 26-27 September 2020, Online.

#### *Won First prize in E-poster.*

1. Singh S, Bhalla AS, Naranje P. Computed Tomography In Secondary Spontaneous Pneumothorax: Reading The Fine Print.; presented at 2nd Annual National Conference of the Society of Chest Imaging and Intervention (SCIICON 2020), 26-27 September 2020, Online.

## **RESEARCH**

### **Funded projects**

#### **Ongoing**

1. Application of Artificial Intelligence in MRI Spine for degenerative & traumatic spine diseases, Raju Sharma, Shivanand Gamanagatti, Devasenathipathy K, Ankur Goyal, M/s Synapsica Technologies Private Limited, New Delhi, 2 years, 2019-2021, 10,85,000/-
2. CT based texture analysis in pediatric renal & pararenal masses: Radiology/pathology correlation, Manisha Jana, SPR Research & education foundation, 1.5 years, 2020-2022, USD 10,000
3. Dynamic contrast enhanced MR perfusion in the assessment of angiogenesis in Juvenile Nasopharyngeal Angiofibroma (JNA), Dr. Smita Manchanda, AIIMS Intramural Grant, 2 years, 2020-2022, Rs 7,65,000
4. Standardized reporting system in chest radiography and CT in predicting likelihood of COVID-19 pneumonia, Manisha Jana Research Section, AIIMS, 6 months, 2020-2021, INR 1,08,000

### **Departmental projects**

#### **Ongoing**

1. Characterization of Renal Cell Carcinoma with Dual Energy Computed Tomography and Multiparametric Magnetic Resonance Imaging and Correlation with Histopathology.
2. Clinico-Radiological profile of symptomatic breast patients: A prospective study at a Tertiary care centre in India



3. CT texture analysis of renal masses for prediction of histopathology
4. Diagnostic accuracy of Contrast enhanced Ultrasound in detecting early response to Neoadjuvant Chemotherapy in Breast cancer patients
5. Diagnostic accuracy of MRI with respect to HRCT in connective tissue disease related interstitial lung disease
6. Diagnostic utility of dual energy CT in pulmonary nodules and masses
7. Effectiveness of ultrasound guided interventions for soft tissue pain in foot and ankle.
8. Evaluation and development of Machine Learning (ML) models for the automated detection, localization and characterization of traumatic rib fractures on CT scans
9. MRI vs MDCT in bronchiectasis: A Non-inferiority trial
10. Outcome of Transjugular Intrahepatic Portosystemic Shunt in Budd Chiari Syndrome: An Ambispective Study”
11. Response Assessment to Anti-Tubercular Therapy in Tuberculosis of Spine on MRI
12. Role of dual energy computed tomography and magnetic resonance imaging in the evaluation of chronic pancreatitis.
13. Role of dual energy CT in evaluation of abdominal trauma
14. Role of MPMRI and PET CT in response assessment in colorectal carcinoma: An ambispective study
15. Role of MRI in response assessment of thoracic Tuberculosis in children
16. Role of Multiparametric MRI in response assessment of hepatocellular carcinoma to trans-arterial chemoembolization
17. Role of Shear Wave Elastography and Multiparametric MRI in the Assessment of Sonographically Indeterminate Masses
18. Role of split bolus spectral CT protocol in the evaluation of biliary malignancies.
19. Tumors and Cysts of Jaw: Evaluation by Dual Energy Computed Tomography with Limited MRI Correlation.

### ***Completed***

1. Utility of First-order MRI-Texture Analysis Parameters in the Prediction of Histologic Grade and Muscle Invasion in Urinary Bladder Cancer
2. Role of ultrasound guided wire localization and surgical removal of clipped pre-treatment positive axillary lymph nodes in increasing the diagnostic accuracy of sentinel lymph node biopsy after neoadjuvant chemotherapy in Breast cancer patients.
3. Evaluation of split-bolus dual energy CT in staging of carcinoma larynx
4. Imaging and Intervention in Pediatric Budd Chiari Syndrome

### **Collaborative projects**

#### ***Ongoing***

1. A comparison of ultrasonography and MRI in assessing tumour characteristics and locoregional spread in carcinoma cervix, Obstetrics and Gynaecology
2. A morphological study of the human Temporomandibular joint, Anatomy
3. A phase IIB Open Label Randomized trial to evaluate the anti-bacterial activity, pharmacokinetics, safety and tolerability of Metformin when given along with rifampicin, isoniazid, pyrazinamide and ethambutol in adults with newly diagnosed sputum positive pulmonary tuberculosis: an 8-week study, Pulmonary Medicine and Sleep Disorders
4. A Phase III, Randomized, Double-blind, Placebo controlled Trial to Evaluate the Efficacy and Safety of VPM1002 and Immuvac Vaccines in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients, Pulmonary Medicine and Sleep Disorders
5. A prospective study to determine early predictive factors of hypocalcemia in patients undergoing total or complete thyroidectomy, Otorhinolaryngology- Head and neck surgery
6. A Prospective Study to evaluate the impact of Oral Submucous Fibrosis (OSMF) on occult and overt lymph nodal metastases in Gingivo-buccal complex carcinomas (GBCC) (T1-T4) of Oral cavity, Otorhinolaryngology- Head and neck surgery
7. A randomized clinical trial comparing the efficacy of arthrocentesis with mandibular manipulation and anterior repositioning splint versus arthrocentesis and mandibular manipulation in the management of temporomandibular joint disc displacement without reduction, Oral and Maxillofacial surgery
8. A randomized controlled trial to evaluate the outcomes of subcondylar fracture of mandible treated using operative and non-operative method, Oral and Maxillofacial surgery



9. A randomized, double blind, placebo controlled, phase 3 study of Darolutamide in addition to androgen deprivation therapy (ADT) versus placebo plus ADT in men with hormone sensitive metastatic prostate cancer (mHSPC), Department of Radiation Oncology
10. A study to evaluate the predictors of outcome in patients with Blunt Liver Trauma, Department of Trauma Surgery
11. A Three Arm Randomized Study To Compare Sexual Functions and Fertility Indices Following Open Mesh Hernioplasty (OMH), Laparoscopic Totally Extra Peritoneal (TEP) And Trans Abdominal Pre- Peritoneal (TAPP) Repair Of Groin Hernia, Department of Surgery
12. An ambispective study determining the prevalence of menstrual irregularities and related disorders in female patients of scoliosis and assessment of their obstetrical and reproductive health, Orthopaedics
13. Applicability of Laparoscopic Ultrasound in Various Intra-Abdominal Pathologies, A Prospective Observational Study, Surgery
14. Assessment of liver fibrosis in patients with Chronic liver disease using Transient elastography, Shear wave elastography and Serum biochemical markers, Gastroenterology
15. Assessment of tumor response to locoregional therapy in patients of Hepatocellular carcinoma using Shear wave elastography, Gastroenterology
16. Association of Pneumocystis jirovecii infection in bronchiectasis and its effect on clinical characteristics and disease progression, Microbiology
17. Baseline and post neoadjuvant chemotherapy imaging of optic nerve in extraocular retinoblastoma. Can MRI Predict Prognosis?, DR R P Centre
18. BIPSS in ACTH dependent Cushing's syndrome, Department of Endocrinology and Metabolism
19. Clinical utility of serum survivin levels in retinoblastoma, Department of Paediatrics
20. Clinical, radiological and molecular profiling of uncharacterized skeletal dysplasia, Department of Paediatrics
21. Coblation Assisted Endoscopic Excision Of Juvenile Nasopharyngeal Angiofibroma: A Prospective Pilot Study, ENT and Head & Neck Surgery
22. Comparison of articular disc position following non-surgical treatment and open reduction in condylar fracture of mandible – MRI study, Oral and Maxillofacial surgery
23. Comparison of Cervical Shear Wave Elastography, Bishop Score, and Transvaginal Cervical Length Measurement for Prediction of Successful Labor Induction: A Pilot Study, Obstetrics and Gynaecology
24. Comparison of mesotherapy (non-operative) with surgery in management of superficial lipomas, Department of Surgical Disciplines
25. Comparison of outcomes in post cochlear implantation children with and without congenital inner ear malformation, ENT and Head & Neck Surgery
26. Comparison of Transarterial radioembolization versus Transarterial chemoembolization in the management of intermediate Hepatocellular Carcinoma: A Randomized Control Trial, Gastroenterology, Nuclear Medicine
27. Computed tomographic and morphometric analysis of dimensions and weights of internal organs in Indian population, Department of Forensic medicine
28. Correlation of first trimester metabolic parameters and maternal body fat indices with development of gestational diabetes mellitus in asian indian women-a comparative study, Obstetrics and Gynaecology
29. Correlation of placental vascularisation indices and placental elastography in IUGR pregnancies with perinatal outcome: A case control study. Obstetrics and Gynaecology
30. Derivation of nomograms for aortic and iliofemoral dimensions using multidetector computed tomography in the Indian population, Cardiac Radiology
31. Detection of extra-nodal extension (ENE) in node positive oral cavity squamous cell carcinoma (OSCC), Otorhinolaryngology- Head and neck surgery
32. Detection of oncogenic viruses HPV and EBV by immunohistochemistry in secondary cervical lymph nodes from primary of oropharynx, nasopharynx, and unknown primary, Otorhinolaryngology- Head and neck surgery
33. Diagnostic accuracy of Contrast enhanced Ultrasound in detecting early response to Neoadjuvant Chemotherapy in Breast cancer patients, Surgical and Medical Oncology
34. Diagnostic Accuracy of Transcranial Ultrasound to Detect Clinically Significant Condition in post Craniectomy Patient, Department of Emergency Medicine
35. Disconnected pancreatic duct syndrome is uncommon and asymptomatic following cystogastrostomy for pseudocyst/walled off necrosis in patients with acute pancreatitis, Department of Gastroenterology
36. Double blind randomised control trial to assess the outcome of open vs arthroscopic excision of dorsal wrist ganglion, Orthopedics

37. Early discontinuation of empirical antifungal therapy in children with high risk febrile neutropenia: A randomized non-inferiority trial, Department of Paediatrics
38. Economic Burden, Prevention and Control of Pneumonia among Elderly, Centre for Community Medicine
39. Economic Burden, Prevention and Control of Pneumonia among Elderly, Centre for Community Medicine
40. Effect of phrenic nerve stimulation on diaphragm strength and thickness in mechanically ventilated patients “An Randomized controlled trial”, Physiotherapy
41. Effects of use of bolster and its orientation on kidney position in reference to prone percutaneous lithotomy, Urology
42. Efficacy & tolerability of hyperbaric oxygen therapy in structuring & fistulizing small bowel Crohn’s disease, Department of Gastroenterology
43. Etiological Evaluation of Microcephaly in Young Patients, Department of Pediatrics
44. Etiological Evaluation of Microcephaly in Young Patients, Genetics
45. Evaluation of 99m Technetium labelled antibiotic scintigraphy in diagnosis and monitoring of tuberculosis with abdomen involvement, Medicine
46. Evaluation of Dual dye technique for sentinel lymph node biopsy in breast cancer: Two arm open label parallel design Non-inferiority Randomized controlled trial, Surgery
47. Evaluation of Hormonal and Metabolic Parameters in Adolescent and Young Indian Girls with Menstrual dysfunction, Obstetrics and Gynaecology
48. Evaluation of intralesional bleomycin in periocular and adnexal vascular lesions, DR RP Centre
49. Evaluation of intralesional bleomycin in periocular and adnexal vascular lesions, RPC
50. Exploring the usage of Ultrasonography in assessing mid palatal suture opening in Rapid Palatal Expansion: Pilot study, Orthodontics
51. Feasibility of Enhanced recovery after surgery protocol in general thoracic surgery: prospective cohort study, Surgery
52. Ga PET CT in metastatic renal cell carcinoma, Department of Nuclear Medicine
53. IJV thrombosis in ICU patients, Department of Medicine
54. In vitro assessment of Moclobemide on circulating tumor cells and phase II clinical trials in Prostate cancer patients, Department of Pharmacology
55. Minimally invasive autopsy (MIA) in the evaluation of fetal malformations and stillbirths- A feasibility study for the development of a standard protocol for stillbirth evaluation, Paediatrics
56. Neoadjuvant chemotherapy with short course radiotherapy for locally advanced rectal cancer: A pilot study, Department of Surgery
57. Normative Values Of Renal Length And Parenchymal Thickness And Renal Elastography In Indian Paediatric Population, Paediatric Surgery
58. Oncological outcomes of breast conservation surgery in patients with locally advanced breast cancer post neoadjuvant chemotherapy, Surgery
59. Outcome of non-operative management of unilateral PUJO, Department of Pediatric Surgery
60. Outcomes of patients of microtia with canal atresia undergoing same stage pinna reconstruction and canalplasty, ENT and Head & Neck Surgery
61. Prediction of Difficult Laryngoscopy and Orotracheal Intubation Using Lateral Neck X-ray: A Prospective Observational Double Blind Study, Anaesthesiology, Pain medicine and Critical Care
62. Prospective study to determine the incidence of intraglandular, periparotid, occult and overt cervical lymph node metastasis in patients with primary parotid carcinomas, Otorhinolaryngology- Head and neck surgery
63. Prospective study to evaluate the utility of infra-hyoid myocutaneous flap in reconstruction following resection of oral tongue carcinoma, Otorhinolaryngology- Head and neck surgery
64. Prosthetic material (mesh) anchored by mechanical device versus glue during laparoscopic repair of ventral hernia: a double blind randomised controlled trial, Surgery
65. Randomized Control Trial Comparing Radiological, Clinical and Functional Outcomes following Uniaxial vs Polyaxial Plating in Management of Tibial Plateau Fractures and CT Guided Mapping of Proximal Tibial Fractures in Indian Population, Orthopedics
66. Role of Liquid Biopsy Biomarkers in Hepatocellular carcinoma and Hepatitis B virus induced carcinogenesis, Gastroenterology
67. Role of MR guided biopsy in detection of prostate cancer, NMR

68. Role of transvaginal 3D Power Doppler Ultrasound and hysteroscopy for endometrial evaluation in patients with postmenopausal bleeding, Obstetrics and Gynaecology
69. Role of vitamin K2 in prostate cancer patients: In vitro investigations and subsequent clinical trials, Department of Pharmacology
70. Safety and efficacy of Stem cell therapy in Perianal fistula in Crohn's disease, Department of Gastroenterology
71. Sensitivity and specificity of Focussed Assessment with Sonography for Trauma (FAST) in determining pediatric solid organ injury following blunt trauma abdomen, Pediatric Surgery
72. Sensitivity and specificity of Focussed Assessment with Sonography for Trauma (FAST) in determining pediatric solid organ injury following blunt trauma abdomen, Department of Pediatric Surgery
73. Significance of "End of treatment FDG-PET/CT" in newly diagnosed children with Hodgkin Lymphoma-A Prospective Observational Study, Department of Paediatrics
74. Spectrum and profile of patients with Interstitial lung diseases presenting at a tertiary care center in north India (AIIMS-ILD registry)", Pulmonary, Critical Care and Sleep Medicine
75. Spinopelvic deformity in EOS, Department of Orthopedics
76. Study of risk factors for breast cancer in Indian women: a case control study, Surgery
77. Systemic effect of surgery in obstructive sleep apnea severity- an evaluation with inflammatory markers, Otorhinolaryngology- Head and neck surgery
78. To determine by Ultrasound the Optic Nerve Sheath Diameter in Pediatric Patient with Intracranial Pressure Compared with Control Group, Emergency Medicine
79. To determine incidence of paratracheal lymph node metastases in laryngeal and hypopharyngeal carcinoma, ENT and Head & Neck Surgery
80. To determine the incidence of paratracheal lymph node metastasis in patients with carcinoma larynx and hypopharynx planned for partial/total laryngectomy, Otorhinolaryngology- Head and neck surgery
81. To establish an algorithm for the management of axilla in patients with early operable breast cancer having clinically negative axilla, Surgery
82. To evaluate osseous changes on the non-operated temporomandibular joint after unilateral total joint replacement, Oral and Maxillofacial surgery
83. To study the incidence of Obstetric Anal Sphincter Injuries (OASIS) in postpartum females in North India using Endoanal Ultrasound, Obstetrics and Gynaecology
84. To study the management outcomes in patients with Primary Aldosteronism, Department of Endocrinology and Metabolism
85. To study the usefulness of pre-operative USG guided FNAC in avoiding radical surgery in patients with gallbladder wall thickness or polyp associated with gallstone disease, Surgery
86. Understanding differences in the patterns of osteoarthritis in Indian and Western population: impact on symptoms, treatment options and their outcome, Orthopaedics, (UKIERI-DST)
87. Ureteric Jet in PUJO, Department of Pediatric Surgery
88. Validity of predicted adult height estimation methods in Indian children with short stature, Department of Paediatrics

### **Completed**

1. Clinical implication of changes in circulatory microRNA of hepatocellular carcinoma patients undergoing locoregional therapy, Gastroenterology
2. Clinical Profile, Pulmonary Function And Quality Of Life Of Patients With Post Tuberculosis Chronic Lung Disorders In A Tertiary Care Hospital, Department of Pulmonary Medicine and Sleep Disorders
3. Comparison of Cervical Shear Wave Elastography, Bishop Score, and Transvaginal Cervical Length Measurement for Prediction of Successful Labor Induction: A Pilot Study, Obstetrics and Gynaecology
4. Correlation of first trimester metabolic parameters and maternal body fat indices with development of gestational diabetes mellitus in asian indian women- a comparative study, Obstetrics and Gynaecology
5. Correlation of placental vascularisation indices and placental elastography in IUGR pregnancies with perinatal outcome: A case control study, Obstetrics and Gynaecology
6. Evaluation of 99 m Technetium labelled antibiotic scintigraphy in diagnosis and monitoring of tuberculosis with abdomen involvement, Department of Medicine
7. Feasibility of anterior temporalis muscle ultrasound for assessing muscle wasting in ICU, Department of Anaesthesiology, Pain Medicine & Critical Care

8. Incidence and outcome of neutropenic enterocolitis in paediatric cancer patients, Dept of Paediatrics
9. Oncological outcomes of breast conservation surgery in patients with locally advanced breast cancer post neoadjuvant chemotherapy, Department of Surgical Disciplines
10. Prediction of Difficult Laryngoscopy and Orotracheal Intubation Using Lateral Neck X-ray: A Prospective Observational Double Blind Study, Department of Anaesthesiology, Pain Medicine & Critical Care
11. Pulmonary dysfunction in childhood HL survivors, Department of Pediatrics
12. Study the significance of tumour infiltrating lymphocytes in breast cancer patients, Department of Surgical Disciplines
13. Systemic effect of surgery in obstructive sleep apnea severity-an evaluation with inflammatory markers, Otorhinolaryngology- Head and neck surgery
14. To compare the diagnostic performance of Whole Body Low dose Computed Tomography (WB LDCT) and Conventional Skeletal Survey (CSS) in diagnosis and management of patients with Multiple Myeloma (MM) in a tertiary care centre, Hematology
15. Utility of 99m-Tc labelled Ubiqicidin in differentiation of infective vs non- infective lesions, Department of Nuclear Medicine

## PUBLICATIONS

**Journals: 178**

**Chapters in books: 26**

### Detail of Investigations

S. No.	Name of Investigations / Special procedures	Total no. of Investigation
1	<b>Routine X-rays</b>	
	OPD	16,644
	Indoor	13,419
	Casualty	37,294
	Portable	42,612
2	<b>Special Investigations</b>	
	Barium Studies	782
	Intravenous pyelography	193
	Micturating cystourethrography	625
	Hysterosalpingography	3
	Operation Theater Studies	54
	Others contrast studies	392
3	<b>Mammography</b>	1,066
4	<b>Dexa Scan</b>	181
5	<b>Ultrasound</b>	
	Routine	13,126
	Emergency	34,842
	Doppler (Routine + Casualty)	2,381
6	<b>CT</b>	
	Body	9,064
	Head	4,914
7	<b>MRI (Main + NMR)</b>	3,728
8	<b>Interventional Procedures</b>	
	Interventional Vascular Studies	1,019
	<b>Interventional Non-Vascular studies</b>	

S. No.	Name of Investigations / Special procedures	Total no. of Investigation
	CT Guided	232
	Ultrasound Guided	1,798
	Fluoroscopy Guided	1,149
	Mammography Guided	4
	<b>Grand Total</b>	<b>1,85,522</b>

- Numbers of many elective procedures are less than last year due to OPD and Indoor services being curtailed in view of the Covid 19 pandemic.

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Raju Sharma** was External Expert for faculty selection in PGIMER, Chandigarh; External Expert for faculty selection in JIPMER, Pondicherry; Expert on the Study Board of AIIMS, Rishikesh.

**Professor Sanjay Sharma** received AIIMS Excellence Award in Research (for year 2018-2019) at Annual Institute Day Celebrations, on 25 September 2020.

**Professor Ashu Seith Bhalla** was President of Society of Chest Imaging and Interventions SCII; Subject Expert Selection Committee AIIMS Bibinagar.

**Professor Atin Kumar** was President of Delhi chapter of Indian Radiological and Imaging Association 2020-21; Nominated member of American Society for Emergency Radiology Research Committee.

**Dr Madhusudhan KS** was Awarded the Fellowship of European Society of Gastrointestinal and Abdominal Radiology (FESGAR)

**Dr Shashi B Paul** was Awarded the “AIIMS Research Achievement Award in the field of Oncology” September 2020

**Dr Ankur Goyal** was Joint Secretary, Delhi State Chapter of IRIA 2020-2021; Member, Building Management committee of national IRIA 2020 and 2021; Co-ordinator in quarterly CME (WEBINAR) by Delhi state chapter of ISVIR (Indian Society of Vascular & Interventional Radiology) on IR management of Vascular Anomalies held on 5 September 2020, 6.00 to 8.00 PM; Co-ordinator in the IRIA-ICRI WEBINAR SERIES, Webinar conducted by Delhi State Chapter of IRIA on the theme of Interventional Radiology, held on 2 September 2020.

**Dr Manisha Jana** was Awarded with the Heidi Patriquin Fellowship by the Society of Pediatric Radiology (SPR) 2020; Awarded Dr Satya Gupta Award by the National Academy of Medical Sciences 2020; Awarded the NAMS Amritsar Award 2020; Member, neonatal imaging committee, Society of Pediatric Radiology (SPR); Member, post-mortem imaging committee, Society of Pediatric Radiology (SPR).



## 9.37. Reproductive Biology

### Professor and Head

Ashutosh Halder

### Professor and Officer In-charge CRIA facility

Pradeep Kumar Chaturvedi

### Associate Professors

Surabhi Gupta

Mona Sharma

### Scientist II

Deepak Pandey

Neeraj Kumar

### Scientist I

Manish Jain

### Group A Officer

Mariamamma Mathew, Chief Technical Officer (MLT)

### HIGHLIGHTS

Department is mainly involved in teaching, training and research works besides diagnostic services (reproductive hormones & cancer biomarkers; semen analysis; FISH & QF PCR for various genetic disorders) and reproductive genetic counseling. Most of reproductive genetic counseling was self-referral and last one year virtual (cases with reproductive disorders, malformation, cancer, infertility, etc). CRIA facility provides tests for more than 50 parameters including cancer markers, thyroid profile, reproductive hormones, metabolic markers etc. The reports for the CRIA tests can be accessed online. This year, CRIA facility has done 95,138 tests. A new test for SARS CoV-2 IgG was started to check sero-positivity for Covid-19 among health care workers and staff of AIIMS. Andrology laboratory provides detailed semen analysis whereas molecular cytogenetics laboratory of the department provides various genetic tests for patients using FISH and QF-PCR technologies.

Training and teaching is provided to our own PhD students, MSc students and various trainees of the department besides other departments of AIIMS. Faculty members of the department were invited for their academic expertise by several national academic bodies (NII stem cell committee, NABL core accreditation committee, ICMR APS& SRF project review/selection committee, MCI assessment for DM (medical genetics) courses, MCI DM Medical Genetics Guidelines, PAC & IRB committee of NIHF, taskforce committees of DBT, Ayush, etc). This year Halder received Professor NR Moudgal Memorial Oration Award of Indian Society for the Study of Reproduction and Fertility (ISSRF) and best e-poster award in the Annual Conference of PCOS Society of India (Webinar).

### EDUCATION

- PhD Students (during this period): 11
- MSc students (Reproductive Biology and Clinical Embryology): 11
- JRF/SRF/RA/RO: 5
- Weekly seminars and weekly journal club
- Biweekly laboratory data presentation
- Day to day case wise/laboratory work discussion
- Postgraduate: MD Laboratory Medicine Students (Laboratory training for 15 days)  
MD Biochemistry students (Laboratory training for 15 days)

### Lectures delivered

#### Ashutosh Halder: 4

#### Ashutosh Halder

1. Role of genomics in female infertility, Webinar series, Era of Genomics: Clues to Fertility Special interest group (Applied Genetics) Under Indian Fertility Society, 31 October 2020, New Delhi (Webinar), Multicity
2. Developmental and Reproductive Genetics Gene: Clinical Genetics Orientation Course, Genetics Unit, Pediatrics, PGIMER, Chandigarh, 22 December 2020, Chandigarh (Webinar), Multicity

3. The risk of birth defects in conception by ART, Webinar series (panel discussion and presentation) Genetic Defects in IVF Babies Special interest group (Applied Genetics) Under Indian Fertility Society, 30 January 2021, New Delhi (Webinar), Multicity
4. Prenatal diagnosis, Genomics for practising clinicians-2021 Organized by Department of Medical Genetics, CMC, Vellore and BD Physicians, 20-21 March 2021, Webinar/Virtual, Multi-city (India and Bangladesh)

**List of oral papers/posters presented: 4**

1. Halder A, Kumar H, Sharma M, Jain M. Association of expanded biomarkers of polycystic ovary syndrome, 31st Annual Conference of ISSRF 2021, 19-21 February 2021 (February 20, e-poster presentation), Chandigarh, (Webinar) Multicity
2. Kumar H, Kalsi AK, Jain M, Halder A. Serum AMH as a biomarker for PCOS diagnosis, Endocrinology Week - Virtual Conclave Contemporary Endocrinology Organised by Endocrine Society of India, 16-22 November 2020 (20 November, e-poster presentation), Virtual (Webinar), Multicity
3. Kumar H, Sharma M, Jain M, Halder A. Biomarkers of polycystic ovary syndrome, Annual Conference of Indian Fertility Society, 4-6 December 2020 (5 December, e-poster presentation), Chandigarh, (Webinar)
4. Kumar H, Sharma M, Kalsi AK, Jain M, Halder A. DHT: A potential biomarker of hyperandrogenemia in PCOS, 5th International Annual Virtual Conference of the PCOS Society of India, 21-22 November 2020 (21 November, e-poster presentation), Bengaluru, (Webinar) Multicity

**RESEARCH**

**Funded projects**

***Ongoing***

1. An investigation to find out genetic factors in idiopathic familial ovarian failure. Ashutosh Halder, DST-SERB, 3 years, 2018-2021, Rs 44 lakhs
2. Effects of Non-ionizing Electro Magnetic Field (EMF) on Human Health (referral center). PK Chaturvedi, ICMR, 5 years, 2017-2022, Rs 15 lakhs
3. Elucidating health-span regulatory modules by genome-wide combinatorial effects of transcription factors downstream of insulin signaling. Neeraj Kumar, DBT, 3 years, 2018-2021, Rs 50 lakhs
4. Embryo-uterine cross-talk for implantation & beyond: Role for exosomal microRNAs, Surabhi Gupta, DST- SERB, 3 years, 2018-2021, Rs 44.2 lakhs
5. Evaluation of Non-invasive Biomarker potential of Circulating Endometrial Cells in Peripheral Blood of Women with Endometriosis. Neeraj Kumar, AIIMS, New Delhi, 2 years, 2020-2022, Rs 10 lakhs
6. Idiopathic Sertoli Cell Only Syndrome (SCOS): An Investigation to find out Epigenomic Etiologies. Manish Jain, ICMR, 3 years, 2020-2023, Rs 45 lakhs
7. In vitro evaluation of effects of electromagnetic field (EMF) on male reproductive health. PK Chaturvedi, ICMR, 3 years, 2019-2022, Rs 58 lakhs
8. Integrative analysis of ovarian cancer transcriptome to identify potential therapeutic targets & biomarker discovery. Ashutosh Halder, ICMR, 3 years, 2020-2023, Rs 54 lakhs
9. Phase II clinical trial with an intravasal injectable male contraceptive-RISUG, PK Chaturvedi, ICMR, yearly, 2018-2021, Rs 3 lakhs
10. Poly Cystic Ovarian Syndrome (PCOS): An investigation to find out reasons for discrepancy between hyperandrogenism (clinical) & hyperandrogenemia (biochemical) and underlying etiologic (epigenetic & genetic) factors. Ashutosh Halder, DST- SERB, 3 years, 2018-2021, Rs 51 lakhs
11. Quality control for hCG kits. PK Chaturvedi, HLL Lifecare Limited/Ministry of Health, yearly, Rs 9 lakhs
12. Role of Mitochondrial Fatty Acid Shuttle System in Premature Ovarian Failure. Mona Sharma, DHR/ICMR, 3 years, 2021-2024, Rs 42 lakhs
13. To Decipher the Functional Interaction of Reproductive Longevity Regulating Transcriptional Targets induced by TGF- $\beta$  and Insulin Signaling in Gonads. Neeraj Kumar, ICMR, 3 years, 2021-2023, Rs 50 lakhs
14. To delineate the impact of selective estrogen receptor modulators (SERMs) on hormone mediated stromal-epithelial interaction in prostate cells. Deepak Pandey, AIIMS, 1 year, 2020-2021, Rs 4.9 lakhs
15. To elucidate the impact of micronutrients and vitamins on sex-steroid mediated stromal-epithelial interaction in prostate cells: role in maintenance of normal prostate physiology. Deepak Pandey, ICMR, 3 years, 2020-2023, Rs 41.56 lakhs
16. To study the effect of Endocrine Disrupting Substance BisphenolA on Steroidogenesis and apoptosis in Leydig Cells mediated by MicroRNA. PK Chaturvedi, ICMR, 3 years, 2021-2024, Rs 76 lakhs

### ***Completed***

1. Generation of genome-edited mice using CRISPR/Cas-9 based knock-out/knock-in technology to study mammalian sperm-egg fusion. Surabhi Gupta, Department of Biotechnology (DBT), 3 years, 2017-2020, Rs 75.5 lakhs
2. Study of potential sperm factors and related signaling pathways in eliciting oocyte intracellular calcium rise. Mona Sharma, AIIMS, New Delhi, 2 years, 2018-2020, Rs 10 lakhs
3. HDAC inhibitor(s) mediated genome-wide dynamics of healthy aging in *Caenorhabditis elegans*. Neeraj Kumar, DST- SERB, 3 years, 2017-2020, Rs 50 lakhs
4. High resolution Genomic Screening using SNP Microarray to find out Genomic Causes in Idiopathic Sertoli Cell Only Syndrome (SCOS) cases. Manish Jain, AIIMS, 4 years, 2017-2021, Rs 14 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Analysis of anti-cancer activity of herbal extracts on prostate cancer cell lines
2. Characterization of testis-enriched proteins with potential role in mammalian fertilization.
3. Characterization of TEX29 protein and its potential role in fertilisation.
4. Delineating the Role of Insulin/insulin-like Growth Factor Signaling (IIS) in *Caenorhabditis elegans* Reproductive Aging
5. Effect of antidepressant drug (Escitalopram) on testicular and adrenal functions
6. Epigenetic changes during epithelial to mesenchymal transition in trophoblast cells under physiological and pathological conditions.
7. Genetics of POF
8. Genomics and epigenomics of PCOS
9. HDAC inhibitor(s) mediated genome-wide transcriptional networks in reproduction and longevity using *Caenorhabditis elegans* as model system
10. Role of placenta derived exosomes in decidualization in Recurrent pregnancy loss patients.
11. Sero – prevalence and/or persistence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) IgG antibody among SARS-CoV-2 positive cases, untested healthcare workers and non-healthcare workers

#### ***Completed***

1. Effect of sperm vitrification on PLC zeta expression
  2. Effects of Selective Estrogen Receptor Modulators (SERMs) on stromal-epithelial interaction in prostate cells
  3. Etiology and Biomarker of Polycystic Ovarian Syndrome
  4. Functional Characterization of Human Ovarian Orthologs Regulating Insulin Signaling Dependent Reproductive Longevity in *C. elegans*
  5. Prevalence of Yq Micro-deletions in Random Population
  6. Role of Indoleamine 2, 3-dioxygenase in Trophoblast Biology
  7. Role of L-carnitine in mice oocyte activation
- Collaborative projects

#### ***Ongoing***

1. A comparative study of melatonin, gabapentin and alprazolam in reducing preoperative anxiety, Anaesthesiology
2. A multicentric Novel Corona Virus population based Age stratified Sero epidemiological study WHO, Center for Community Medicine
3. An ambispective cohort control study to evaluate the effect of SARS-Cov-2 infection post adenoidectomy patients, Otorhinolaryngology
4. Antibody response among health care workers recovered from COVID-19, Department of Medicine, AIIMS
5. Assessment of adreno-cortical function and its clinico-metabolic implications in HIV population, Department of Medicine, AIIMS
6. Association of small intestinal bacterial overgrowth and gastrointestinal symptoms in patients with non alcoholic fatty liver disease, Department of Medicine, AIIMS
7. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Department of Urology, AIIMS, New Delhi.

8. Correlation of bio-inflammatory markers with the fetomaternal outcome in IHCP of pregnancy, Department of Obstetrics and Gynaecology, AIIMS
9. Development of diagnostics and experimental therapeutics using CRISPR-based technologies, Department of Biochemistry, AIIMS; South Asian University, New Delhi; Institute of Genomics and Integrative Biology, New Delhi
10. Establishment of a normal reference range (nomogram) for Testosterone and Dihydrotestosterone in boys of age group 0-14 years, Department of Pediatric Surgery, AIIMS
11. Feasibility and efficacy of lung water estimation on Cardiac Magnetic Resonance Imaging (MRI) in predicting adverse cardio-vascular events in patients with heart failure, Department of Cardiac Radiology, AIIMS
12. Fetal cardiac profile in intrahepatic cholestasis of pregnancy and its association with perinatal outcome, Department of Obstetrics and Gynaecology, AIIMS
13. Impact of Checkpoint inhibitors on suppressed state of immunity in tuberculosis Transplantation, Immunology & Immunogenetics, AIIMS
14. Impact of parental history of type 2 diabetes ..... in Indian women with PCOS, Endocrinology, AIIMS
15. MicroRNA and hTERT gene profiles as biomarkers in oral potentially malignant and malignant lesions, CDER, AIIMS
16. Molecular Genetic Evaluation of Unexplained Stillbirths, Genetics Unit, Pediatrics, AIIMS
17. Reference range of serum alpha fetoprotein in Indian children below 3 years of age, Department of Pediatric Surgery, AIIMS
18. Role of Bone Marrow Microenvironment in Multiple Myeloma, Medical Oncology, IRCH, AIIMS
19. Role of miRNA mediated modulation of signal transduction in pancreatic cancer, Department of Gastroenterology, AIIMS
20. Study of prevalence, risk factors and metabolic profile of sarcopenia in Indian adults, Department of Medicine, AIIMS
21. Therapeutic targeting of ER chaperones exploiting small molecules: A virtual screening approach to alleviate ER stress in preeclampsia, Department of Bioinformatics, Bharathiar University, Coimbatore, Tamil Nadu
22. To study the long term effects of disease and its treatment in survivors of pediatric solid tumours, Department of Pediatric Surgery, AIIMS
23. Understanding the pathophysiology of endometriosis by protein profiling and correlation with stress, Physiology, AIIMS
24. Unique aspects of idiopathic hypoparathyroidism, Endocrinology, AIIMS

### **Completed**

1. Age specific nomogram of Anti mullerian Hormone and Antral follicle counts in infertile and fertile Indian women, Department of Obstetrics and Gynecology, AIIMS
2. Effect of tyrosine kinase inhibitors on sperm parameters and pituitary gonadal axis in males with chronic myeloid leukemia, Department of Hematology, AIIMS

### **PUBLICATIONS**

**Journals: 13**

**Abstracts: 1**

**Chapters in books: 2**

**Books and monographs: 1**

### **PATIENT CARE**

#### **Patient care in outpatient service: not part of standard outpatient service**

Over 100 cases were referred to Halder, mainly from other hospitals of Delhi or self-referral for Counseling/Planning of Management/Advice and related to Reproductive Genetics in particular Male Primary Hypogonadism, Recurrent Abortion, Recurrent IVF failure, Genetic Disorders and Malformation Syndromes.

#### **Molecular Cytogenetics lab (Special laboratory facilities in Department of Reproductive Biology)**

Microdeletion FISH on blood (Interphase/ Metaphase cell), buccal cell, urine cell, solid tissue etc and Standardized additional molecular cytogenetic techniques using STR/microsatellite markers are used for patient care.

Total 300 patients have been recruited which all are suspected microdeletion syndrome. We have done FISH & QF-PCR of all cases in our Molecular Cytogenetics lab and given report of all the patients. We have standardized Methyl Specific PCR for PWS cases and started facility of Methyl Specific PCR in our lab. We are going to start the facility of microarray of all microdeletion syndromes as soon as possible (tender already uploaded).

List of tests being done:

Microdeletion Syndrome:

- Digeorge syndrome (22q11.2)
- William syndrome (7q11.23)

- Praderwilli syndrome (15q11.13)
- Retenoblastoma (13q)
- Miller decker syndrome (17p13.3)
- Langer Giedions syndrome (8q24.11)
- 1p36.13
- Wolff Hirschhorn (4p16.3)

Prenatal FISH (Amniotic fluid cells/chorionic tissue):

- Trisomy 21 (Down syndrome)
- Trisomy 18 (Edward Syndrome)
- Trisomy 13 (Patau Syndrome)
- Any autosomal aneuploidies (on request)

Karyotyping (only research use)

Sex Chromosome FISH (X, Y, SRY: only research & infertility)

YqMicrodeletion PCR (Cover app. 20 primer)

PRINS (Chromosome13, 18, 21, X, Y)

QF-PCR (DG, WS, PWS, RB, MD, Langer-Giedions, Trisomy 13, 18, 21, etc.)

Methyl Specific PCR (PWS)

DNA Microarray for Microdeletion Syndrome/ Primary Testicular Failure

### **CRIA Facility**

Routine assays of more than 50 parameters in the blood samples of admitted and OPD patients were carried out in the facility. In Covid-19 pandemic, SARS CoV-2 IgG test was started for health care workers and staff of AIIMS.

<b>S. No.</b>	<b>Name of Investigation</b>	<b>Total no. of tests done</b>
1.	17-OHProgesterone	126
2.	ACTH	20
3.	Active B12	6691
4.	AFP	1383
5.	AMH	1420
6.	Anti-CCP	915
7.	Anti-tg	110
8.	Anti-TPO	698
9.	bHCG	920
10.	BNP	884
11.	CA-125	1311
12.	CA15.3	4
13.	CA19.9	1217
14.	CEA	1248
15.	CKMB	75
16.	CMV-IgG	2
17.	CMV-IgM	3
18.	Cortisol	720
19.	C-Peptide	27
20.	Cyclosporine	1
21.	DHEAS	246
22.	DHT	52
23.	Estradiol	418
24.	Ferritin	4013
25.	Folate	4496
26.	Free PSA	53



S. No.	Name of Investigation	Total no. of tests done
27.	Free T3	476
28.	Free T4	584
29.	FSH	2142
30.	Growth Hormone(GH)	136
31.	HbA1c	1069
32.	Homocysteine	92
33.	Inhibin B	41
34.	Insulin	386
35.	Intact PTH	4550
36.	LH	1942
37.	Methotrexate	432
38.	PCT	8249
39.	Progesterone	136
40.	Prolactin	1810
41.	PSA	1048
42.	Rubella -IgG	5
43.	Rubella-IgM	2
44.	SARS-CoV-2 IgG	1598
45.	SHBG	52
46.	Testosterone	732
47.	Total T3	7670
48.	Total T4	8145
49.	Toxo-IgG	3
50.	Toxo-IgM	3
51.	Troponin-I	426
52.	TSH	15545
53.	Vitamin D,25 - hydroxy	10811
<b>TOTAL</b>		<b>95138</b>

No. of tests for JSSK patients	No. of tests for BPL patients	No. of tests for AB-PMJAY patients
3686	2278	320

In addition, more than **4000** tests for various markers were done for research project studies.

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

Best e-poster award in 5th International Annual Virtual Conference of the PCOS Society of India 2020 held at Bengaluru (Webinar), 21-22 November 2020: Kumar H, Sharma M, Kalsi AK, Jain M, Halder A. DHT: A potential biomarker of hyperandrogenaemia in PCOS.

**Professor Ashutosh Halder** received Professor NR Moudgal Memorial Oration Award of Indian Society for the Study of Reproduction and Fertility (ISSRF) 2021 during Annual Conference of ISSRF; Task Force member of Human Developmental and Disease Biology - Maternal and Child Health Program of DBT; Task Force member of Medical Genetics of MCI; Advisory panel – expert member(Genetics) of NAMS; Member of Program Advisory Committee (PAC) and Institutional Review Board (IRB) of NIHF; Member of Institutional Committee-Stem Cell Research (IC-SCR) of NII; Executive Member of MP PCOS Society; Patron Member of PCOS Society of India; Accreditation Committee Member of NABL on Genetics and Cytogenetics; Expert Committee Member of CCRAS (under ministry of AYUSH); External Examiner for DM (Medical Genetics; SGP GIMS, Lucknow) and PhD (thesis & viva) in various universities; Assessment Board Expert for promotion of ICMR scientists; PAC committee member, ICMR (SRF/RA projects); Selection Committee member for selection of Faculty, IGIMS, Patna; Reviewer for many international & national journals including Andrology, Molecular Genetics & Genomic Medicine, Reproductive Biology, Acta Obstetrica et Gynecologica Scandinavica, Molecular cytogenetics, Journal of Pediatric Genetics, Journal of Genetics, Case Reports in Genetics, Journal of Assisted Reproduction and Genetics, Peer J, Indian Pediatrics, IJMR, etc.;

Editorial/Advisory Board/Executive Member: International Journals – Journal Clinical Case Reports and Reviews; JBR Journal of Clinical Diagnosis and Research; Austin Journal of Reproductive Medicine & Infertility; Global Journal of Human Genetics & Gene Therapy. National Journals – Journal of Reproductive Healthcare and Medicine, Journal of the Association of Physicians of India (Genetics section).

**Professor Pradeep Kumar Chaturvedi**, Office in-charge of CRIA facility; Course coordinator for MSc Reproductive Biology and Clinical Embryology; Chaired one session in International conference on challenges and strategies in reproductive and environmental health with special reference to COVID-19 pandemic and 31st Annual Meeting of Indian society for the study of reproduction and fertility held online, 19-21 February 2021; Member of ethic committee for PG, AIIMS, Examiner for PhD and MSc for IMTech Chandigarh, Guwahati University, Calcutta University, NDRI Karnal, Reviewer of projects of Department of Biotechnology (DBT), Member Selection Committee ICMR, Member expert committee ICMR for review projects on Centre for Advance Research and also Ad-hoc projects, Reviewer Journal of Andrologia.

**Dr Surabhi Gupta** was Reviewer for grants submitted to Department of Biotechnology (DBT), Government of India.

**Dr Mona Sharma** chaired a session/panel discussion and judged a poster session at the Indian Fertility Society (IFS) 2021 virtual conference. Member of special interest group (applied genetics) of IFS and was involved in webinars, panel discussions and newsletter editing; Member of editorial board of Journal of infertility and reproductive biology and IFS newsletter; Reviewer of DBT grants and journal articles (JRHM).

## 9.38. Rheumatology

### Professor and Head

Uma Kumar

### Assistant Professors

Ranjan Gupta  
Rudra Prosad Goswami

Danveer Bhadu  
Brijnandan Gupta (Immunopathology)

### HIGHLIGHTS

Department of Rheumatology was created and notified in August 2015. This department is providing state-of-the-art patient care services and is also instrumental in building resources, which are required to deal with tremendous load of patients with acute and chronic rheumatic diseases. Department is running outpatient services, clinical immunology laboratory, and occupational therapy facility for patients with rheumatological disorders. Its 6-bedded Rheumatology Day Care service equipped with musculoskeletal ultrasound, was started in 2012, is first of its kind in India and is continuing to cater to the needs of patients requiring short admissions for various interventions, treatments and procedures, thus reducing economic burden on patients and facilitating optimal utilization of resources. Various educational activities to increase awareness about arthritis and related disorders amongst the public and medical professionals are regular features. Department has conducted several educational activities on COVID related subjects during ongoing pandemic. Department has been on the forefront in research also; it has research grants worth Rs 30,987,894.00 and many collaborative projects are also running. Department faculty had numerous publications in reputed scientific journals. Realizing the need for trained Rheumatology specialists, short-term training to medical specialists from various Government organizations is being provided on regular basis. Department has active teaching programme and it is trying to start super-specialty course 'DM' in Rheumatology once indoor beds are allocated to the department.

### EDUCATION

#### Undergraduates

1. Approach to patients with pain in joints and soft issue, for 3rd semester, 28 October 2020
2. Clinical Case Conference, for 8th semester, 23 November 2020
3. Management of Rheumatoid Arthritis, for 3rd semester, 24 November 2020

**Postgraduate:** Seminars, bedside teaching, mortalities reviews, Journal scan and Journal club and case discussions every week

**Nursing lectures:** Lecture series on rheumatological disorders for various cadres of nursing staff

**Special COVID-19 related course:** All faculty and staff of the Department of Rheumatology, 13 June-10 July 2020

**Number of short term/long term trainees:** Nil (restricted because of ongoing pandemic)

#### Lectures delivered

**Uma Kumar: 15**

**Ranjan Gupta: 1**

**Danveer Bhadu: 2**

**Rudra Prosad Goswami: 1**

#### Uma Kumar

1. COVID-19 good governance practice in a pandemic, two day multi-country training programme for nations of East Africa, Central Asia and South East Asia, 4 - 5 June 2020, Online
2. Equity and inclusion, Science, Technology and Innovation Policy (STIP) 2020-Thematic Group meeting organized by Shakti, 26 May 2020, Online
3. How to manage scleroderma?, Patient education webinar organized by CMC, Vellore, 23 June 2020, Online
4. Rheumatological Disorders, by Department of Media and Communication Studies, 28 June 2020, Online
5. COVID-19 and Rheumatic Disease, Taneira Customer Meet, 24 July 2020, Online
6. Conversation on COVID19: Perspective on concerns, challenges and potential solution, BYTF (Bihar Young Thinkers Forum) session, 30 July 2020, Online
7. Rheumatic Arthritis- Interstitial Lung Disease: The treatment challenges, eIRACON lecture series, 29 August 2020, Online
8. Bhart Swasth Niti: Atmnirbharta ki avashkta, Rashtiriya parisawand, 11 October 2020, Online

9. Arthritis ki pehchaan evam bachaav ke upay, Vishwa arthritis diwas ki poorv sandhya par swastha bharat abhiyan ke prasht par, 11 October 2020, Online
10. Pearls of wisdom in Spondyloarthritis, eRAJAPICON 2020, 26 -27 December 2020, Online
11. To get the maximum out of Methotrexate?, DRA update 2021, 21 February 2021, Online
12. The dangers posed by tobacco products in India, Webinar on the dangers posed by tobacco products in India, 28 January 2021, Online
13. Webinar on mainstreaming gender in STEM through gender budgeting organized by CSIR-NISTADS, 11 February 2021, Online
14. Webinar on COVID Vaccine: Myths and Facts organised by Department of Higher Education Government of Science College Jabalpur, MP, 18 February 2021, Online
15. Demystifying Spondyloarthritis (SpA), eAPICON 2021, 06 March 2021, Online

### **Ranjan Gupta**

1. Refractory lupus: Beyond tacrolimus and rituximab, IRA Lupus Webinar, 1 November 2020, Webinar

### **Danveer Bhadu**

1. Management of Connective Tissue Disease-associated Interstitial Lung Disease (CTD-ILD) : Case-based discussion (SSc – ILD), AIIMS Pulmonology Course (APC) 2020, 4 October 2020, AIIMS, Delhi
2. Unusual cases in Rheumatology, “e-RHECON 2021”, 6 March 2021, Delhi

### **Rudra Prosad Goswami**

1. Building an Online Profile, Social Media in Medicine, 20 January 2021, Webinar (Lucknow)

### **List of oral papers/posters presented: 7**

1. Danveer Bhadu, Surabhi Vyas, Uma Kumar. Melting of tophi with local steroids in chronic tophaceous gout: An observational study, EULAR Congress 2020, 3-6 June 2020, Virtual
2. Gautam S, Chaurasia P, Rana D, Kumar U, Dada R. Yoga reduces sperm oxidative DNA damage and improves fertility potential in infertile men with Rheumatoid Arthritis on disease-modifying antirheumatic drugs. 45th Annual Meeting of American Society of Andrology (ASA) 2020, 25-28 April 2020, Virtual
3. Gautam S, Kumar M, Kumar U, Dada R. Yoga induces immunological tolerance and remission at cellular level in rheumatoid arthritis: A randomized controlled trial, International Conference on Natural Products and Human Health (Best Paper Award), 27-29 February 2020, New Delhi
4. Gautam S, Kumar R, Kumar U, Dada R, Improvement in mitochondrial integrity and fertility potential in men with Rheumatoid arthritis by yoga based lifestyle intervention, 36th Annual Meeting of European Society of Human Reproduction and Embryology (ESHRE) 2020, 5-8 July 2020, Virtual
5. Gautam S, Kumar U, Dada R. Yoga: A Holistic Approach for Infertile Men with Autoimmune Arthritis., 31st Annual Meeting of the Indian Society for the study of Reproduction and Fertility (ISSRF), 19-21 February 2021, Virtual
6. Gautam S, Kumar U, Kumar M, Mishra R, Dada R. Improvement in mitochondrial integrity and mitochondrial copy number in patients with rheumatoid arthritis by yoga based lifestyle intervention: A randomized controlled trial, 2020 – International Association of Yoga Therapists (IAYT) Symposium on Yoga Research (SYR). (Best Research Abstract award), 19-20 October 2020, Virtual
7. Ranjan Gupta, Vishnu Priya V, Anju Mohan, Vanamail Perumal, Assessment of patients’ beliefs, knowledge and perception about rheumatoid arthritis and effect of an information course, 22nd Asia-Pacific League of Associations for Rheumatologists Virtual Congress, 24-29 October 2020, Virtual

## **RESEARCH**

### **Funded projects**

#### **Ongoing**

1. A Phase IV clinical trial to evaluate safety and efficacy of Glenmark Aprezo® (Apremilast) tablets in subjects with active psoriatic arthritis, Uma Kumar, glenmark pharmaceuticals, 2 years, 2019-2021, Rs 2.87 lakhs
2. A Phase-IV, multicentre, noncomparative, open-label study evaluating the safety and efficacy of Golimumab (a Fully Human Anti-TNF $\alpha$  Monoclonal Antibody, administered Subcutaneously) in the treatment of Indian patients with active spondyloarthropathy of ankylosing Spondylitis or psoriatic arthritis, Uma Kumar, Jansen Pharmaceuticals, 2 years, 2021-2022, Rs 7.59 lakhs

3. A prospective, multicentre, post-marketing surveillance to monitor safety associated with usage of Simponi® (golimumab injection 50mg) in Indian subjects with Rheumatoid Arthritis (RA) as per locally approved prescribing information. Uma Kumar, Jansen Pharmaceuticals, 2 years, 2019-2021, Rs 2.89 lakhs
4. A randomized, double-blind, placebo-controlled, parallel group, phase III multicentre study of intravenous secukinumab to compare efficacy at 16 weeks with placebo and to assess safety and tolerability up to 52 weeks in subjects with active Psoriatic Arthritis, Uma Kumar, novartis pharmaceuticals, 2 years, 2020-2022, Rs 1.30 lakhs
5. A randomized, double-blind, placebo-controlled, parallel group, phase III multicentre study of intravenous secukinumab to compare efficacy at 16 weeks with placebo and to assess safety and tolerability up to 52 weeks in subjects with active Ankylosing Spondylitis or non-radiographic axial Spondylo Arthritis., Uma Kumar, novartis pharmaceuticals, 2 years, 2020-2022, Rs 5.20 lakhs
6. An Indian Initiative to study granulomatosis with polyangiitis through clinical and genomics approach, Uma Kumar, ICMR, 3 years, 2020-2023, Rs18.68 lakhs
7. Centre of excellence on genome sciences and predictive medicine (GESPERM) Phase II, Uma Kumar, DBT, 5 years 6 months, 2015-2021, Rs 53.35 lakhs
8. Macrophage Migration Inhibitory Factor (MIF) and CD74/CD44 system as a biomarker of treatment response in Rheumatoid Arthritis, Ranjan Gupta, Institutional Intramural Grant, 2 years, 2020-2022, Rs 10 lakhs
9. Markers of Muscle Senescence in inflammatory myositis, Danveer Bhadu, Indian Rheumatology Association, 3 years, 2020-2023, Rs 2 lakhs
10. Multi-institutional Network Program on Systemic lupus Erythematosus: Understanding the diversity of SLE, Ranjan Gupta, DBT, 5 years, 2018- 2023, Rs 99.85 lakhs
11. Phase IV, open label, non-comparative, multicentre study to evaluate safety and efficacy of subcutaneous tocilizumab in subjects with giant cell arteritis (GCA), Danveer Bhadu, CBCC contracted by Cipla Ltd, 1 year, 2021-2022, Rs 55,000/patient
12. Popularizing science and technology for alleviating occupational health hazards among women studying or working in schools, colleges and IT sector, Uma Kumar, DST, 2 years, 2020-2022, Rs 33.23 lakhs
13. Prevalence and outcome of COVID-19 infection among patient with rheumatological and autoimmune disorders, Rudra Prosad Goswami, Institutional Intramural Grant, 1 year, 2020-2021, Rs 4.5 lakhs
14. Role of TLR-4 in Acute Gouty Arthritis, Danveer Bhadu, Institutional Intramural Grant, 1 year, 2020-2021, Rs 2.30 lakhs
15. Tostudythe interplay of air pollution, autoimmunity and inflammation, Dr Uma Kumar, DST, 4 years, 2017-2021, Rs 60.59 lakhs
16. Trial No. 1199.225 SENSICSTM- ON (Extension): An open-label extension trial to assess the long term safety of nintedanib in patients with ‘Systemic Sclerosis associated Interstitial Lung Disease’ (SSc-ILD), Uma Kumar, Boehringer Ingelheim, 3 years, 2018-2021, Rs 4.95 lakhs

### ***Completed***

1. A randomized, double-blind, active control, multicenter study to evaluate the efficacy at week 52 of subcutaneously administered secukinumab monotherapy compared with subcutaneously administered adalimumab monotherapy in patients with active psoriatic arthritis. Study Protocol No: CAIN457F2366, Dr Uma Kumar, Novartis Pharmaceuticals, 2 years 6 months, 2018-2020, Rs 9.39 lakhs

### **Departmental Projects**

#### ***Ongoing***

1. COVID-19 in rheumatoid arthritis: A cross sectional random telephonic survey of prevalence. Effect of functional magnetic resonance imaging neurofeedback guided motor imagery training on corticomotor excitability and pain status in rheumatoid arthritis
2. Prevalence of Autoantibodies for common Autoimmune disorders and their correlation with PTPN11 variants in patients with Noonan Syndrome
3. Questionnaire to measure self-reliance in activities of daily living

### **Collaborative Project**

#### ***Ongoing***

1. A combined metabolome and proteome profiling to develop a predictive biomarker set for Rheumatoid Arthritis assessment, IGIB, Delhi
2. Clinical and Genetic Characterization of Patients presenting with Renal Tubular Acidosis in Primary Sjögren’s syndrome, Department of Rheumatology, St Stephen’s Hospital, Delhi



3. Effect of yogic intervention on pain status in fibromyalgia patients, Department of Physiology, AIIMS, New Delhi
4. Effects of antiphospholipid antibodies of varying specificities on inflammasome activation and NETosis in Antiphospholipid Syndrome and Rheumatoid Arthritis, National Institute of Immunology, Delhi
5. Epidemiological studies and registry development of rheumatic diseases across India, ChanRe Rheumatology & Immunology Center & Research, Bengaluru
6. Identification of new and specific proteins biomarkers in Rheumatoid arthritis by using proteomic approach, IGIB, Delhi
7. Interplay between innate and adaptive immunity in lupus: Inflammatory effects of apoptotic cell-reactive antibodies on neutrophils and monocytes, National Institute of Immunology, Delhi
8. Understanding and Predicting response to first line therapy in patients with Rheumatoid Arthritis (RA) and impact of Ayurvedic Stratification., Denmark Technical University, Denmark

### Completed

1. Evaluation of the role of Salivary Scavenger and Agglutinin (SALSA) and lectin pathway components in Rheumatoid Arthritis (RA), Guru Gobind Singh University, Delhi

### PUBLICATIONS

**Journals: 22**

**Books and monographs: 1**

**Chapters in books: 2**

**PATIENT CARE:** Because of ongoing pandemic non-COVID patient care was provided in hybrid mode (Physical consultation & Tele-consultation) to 6768.

New patients: 2061

Follow up patients: 4707

**(Tele-consultations: 2660)**

**Rheumatology Clinic: 1189 patients**

**Day Care Facility: Total interventions in patients including biologic infusions were 3424.**

Biologics/immunosuppressive drug infusions: 925

Intra-articular injection: 230

SC/IM injections (biologic, steroids, etc.): 272

Biopsies: 16

Ultrasound: 172

Case discussions: 1779

Others: 30

### Clinical immunology Lab

Despite ongoing SARS CoV 2 pandemic, total number of tests performed were 18889 & total number of patients tested were 6868.

Number of tests performed:

RF: 2627

ANA: 5104

Anti-dsDNA antibody: 1896

ENA profile: 738

ANCA: 2584

Anti LKM1 antibody: 1120

ASMA: 1119

Ig A and IgG: 322

C3: 834

C4: 114

Anticardiolipin antibody: 2210

Cryoglobulin/cryofibrinogen: 66

Polarised microscopy: 151

### Community services/camps, etc:

Conducted several COVID awareness programs virtually and also efforts were made to increase awareness among masses about harmful effects of smoking and consumption of smokeless tobacco.

Webinar on ‘Fact verification: Combating medical misinformation in India, identifying and debunking misinformation’ for students and staff was organized in view of circulation of false information on social media during ongoing pandemic.

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Uma Kumar** was awarded fellowship of National Academy of Medical Sciences. PhD student received Swami Kuvalyananda Young Investigator Award - for the best abstract received from India based upon the merit entitled “Improvement in mitochondrial integrity and mitochondrial copy number in patients with Rheumatoid arthritis by yoga based lifestyle intervention: A randomized controlled trial” at Symposium on Yoga Research (SYR-2020) organized by the International Association of Yoga Therapists (IAYT) during 19-20 October 2020 virtually; Best Oral Presentation Award (First Prize) for our collaborative work abstract entitled, “Yoga induces immunological tolerance and remission at cellular level in rheumatoid arthritis: A randomized controlled trial” at International Conference on Natural Product and Human Health (ICNPHH-2020) during 27-29 February 2020 at Department of Zoology, University of Delhi, New Delhi; she was nominated in the specialist board of Rheumatology as chairman by National Board of Examination. She was nominated chairman of subject expert committee constituted for evaluation of project proposals received under WOS-B by DST, GOI and nominated member of project monitoring committee for National Biopharma Mission funded Clinical Trial Network project, Translational Health Science and Technology Institute, DBT, GOI. Dr Uma was felicitated by Ministry of External Affairs, GOI on International Women’s Day. She has been nominated National coordinator for Health Research Conclave in India International Science Festival 2020 (Flagship mega science event of Ministry of Health & Family Welfare, GOI. Also nominated member of the Science & Technology Innovation Policy 2020 (STIP2020) by Office of Principal Scientific Adviser to the Government of India and the Department of Science and Technology, GOI. Evaluated DM thesis, PGIMER, Chandigarh. Dr Uma was External examiner for DNB Rheumatology Exit exam and External examiner for DM Clinical Immunology and Rheumatology exit-exam, PGIMER, Chandigarh.

**Dr Danveer Bhadu** received the E-bursary Award Winner of EULAR-2020 E-Congress, Frankfurt, Germany.

**Dr Ranjan Gupta’s** membership as the APLAR Young Rheumatologist was confirmed.

## 9.39. Surgical Disciplines

### Professor and Head

Sunil Chumber

### Professors

Rajinder Parshad  
Virinder Kumar Bansal

Sandeep Aggarwal

V Seenu  
Anita Dhar

### Additional Professor

Hemanga K Bhattacharjee

### Associate Professors

Asuri Krishna  
Mohit Joshi

Piyush Ranjan  
Yashwant Rathore  
Suhani

Manjunath Maruti Pol  
Kamal Kataria

### Assistant Professor

Om Prakash

## HIGHLIGHTS

The department of Surgical Disciplines is involved in Minimal Invasive, Thoracic, Vascular, Renal transplant, Breast, Endocrine, Gastrointestinal, Bariatric and general Surgery. The department has actively contributed its services during the ongoing COVID 19 pandemic by providing services (including conducting operations) in COVID designated areas as well as non-COVID area. It has adapted to the changing times by incorporating telehealth, telemedicine and tele education. The department participated in the National grand rounds on COVID-19 on urgent/semi-urgent surgery in COVID 19 positive patient and guidelines for surgery in the same. The department runs specialized breast cancer, bariatric, renal transplant and follow up clinics. The department conducted multiple courses in the wet lab for providing simulation-based training on open and laparoscopic procedures as the hands-on training was restricted due to COVID 19 pandemic. The department organized the annual conference of the Delhi state chapter of association of surgeons of India with an emphasis on imparting knowledge in focused areas of surgical armamentarium such as breast, minimally invasive, bariatric, thoracic surgery. Our department faculty has been actively participating in various academic activities including development of simulation-based teaching and skill modules for improving various undergraduate and post-graduate teaching programs. Our residents and faculty have been regularly presenting research work at various national and international fora and have received awards as well as appreciation for the same. The department has been awarded the rolling trophy for conducting the best monthly meet of Delhi state chapter of Association of Surgeons of India during the annual conference of the society held in November 2020. The department has actively participated in public awareness activities for diseases such as breast cancer, obesity and now COVID-19.

## EDUCATION

1. Postgraduate Seminar: Once weekly.
2. MCh Minimal Access and general surgery seminar: Once weekly
3. MCh Breast endocrine and general surgery seminar: Once weekly
4. Mortality and mortality discussions: Once in a week in each unit.
5. Lectures, Teaching Schedule in OPD/Ward for MBBS students.
6. Internal Assessment for Postgraduates and MCh Residents, MBBS students.
7. Lectures for Nursing students
8. Lectures for BSc. OT technicians
9. Skill based training sessions at SET facility for PG and MCh students
10. **CCRs** presented by the Department:  
National Grand round on COVID-19: urgent/semi-urgent surgery in COVID-19 positive patient and guidelines for surgery  
Unit I: An unusual target in an adult!  
Unit II: Once in a blue moon  
Unit III: Well doctor, there is no problem!  
Unit IV: COVID: the gut feeling

## 11. CGRs by the Department:

Unit I: Care of Breast Health: A journey over 3 decades

Unit II: Splenectomy in very low platelets in ITP, surgery in impossible: A decade experience from 2010 till now

(\*During the COVID-19 pandemic, departmental academic activities are conducted as virtual/hybrid meetings)

### CMEs/Workshops/Symposia/National and International Conferences

1. Hands on training workshop on Basic surgical procedures; 17 October 2020; SET facility, AIIMS, New Delhi
2. Hands on training workshop on surgical Staplers and electrosurgery; 24 October 2020; SET facility, AIIMS, New Delhi
3. Basic Laparoscopy skill course; 21 November 2020; SET facility, AIIMS, New Delhi
4. Annual conference of the Delhi state chapter of Association of Surgeons of India: SURGICON 2020, 06-08 November 2020, Delhi (virtual).
5. Basic Laparoscopy skill course; 05 December 2020; SET facility, AIIMS, New Delhi
6. Basic Laparoscopy skill course; 26 December 2020; SET facility, AIIMS, New Delhi
7. Monthly meeting, Delhi state chapter of Association of Surgeons of India, 20 February 2020; virtual

### Lectures delivered:

**Sunil Chumber: 2**

**Rajinder Parshad: 10**

**V Seenu: 4**

**Sandeep Agarwal: 19**

**Virinder Kumar Bansal: 8**

**Hemanga K. Bhattacharjee: 5**

**Piyush Ranjan: 4**

**Manjunath Maruti Pol: 2**

**Mohit Joshi: 6**

**Kamal Kataria: 1**

**Suhani: 7**

**Yashwant Singh Rathore: 1**

### Sunil Chumber

1. Examiner/panelist breast cancer, right iliac fossa lump, LHMC surgery clinical update 3rd Edition, 28 January 2021, Virtual
2. Management of Hyperthyroidism, Surgery Update: Maulana Azad Medical College, 4 February 2021, Delhi

### Rajinder Parshad

1. Minimally invasive management of thymic malignancy-VATS and RATS approach in Thymic Malignancies, MIS in Thymic Malignancies organized by SRI Ramachandra Institute of Higher Education and Research, Chennai, 30 August 2020, virtual
2. Role of Minimal Access Thymus Surgery MIS in Thymectomy, Indian association of endocrine surgeons (IAES), 10 September 2020, virtual
3. Moderator for Webinar “Doctors and COVID”, “Doctors and COVID”, 18 September 2020, virtual
4. Video base talk on VATS Thymectomy, Joint National Conference cum live operative organized by SELSI and IHS, 30-31 October 2020, virtual
5. Video based talk on Laparoscopic Heller myotomy, INDO-UK SURGICON 2020, 15-16 October 2020, virtual
6. Principles and technique of Laparoscopic Fundoplication, SURGICON 2020, 6-8 November 2020, virtual
7. 3D vs 4K in Heller myotomy, 1st Edition of the EAES Virtual Week Meeting, 23-26 June 2020, virtual
8. 3D vs 4K in Laparoscopic cholecystectomy, 1st Edition of the EAES Virtual Week Meeting, 23-26 June 2020, virtual
9. “Thymectomy in Myasthenia: Controversies and Technical Challenges”, 67th Annual Conference of the Indian Association of Cardiovascular-Thoracic Surgeons (IACTS), 26-28 February 2021, virtual
10. Blunt chest trauma and flail chest: When to intervene? ISTSTCon-2021(Indian Society of Thoracic Surgeon), 13 March 2021, virtual

### V Seenu

1. Papillary lesions of breast, Focused studies in breast cancer, 18 July 2020, virtual
2. Axillary sentinel node biopsy, Focused studies in breast cancer, 12 September 2020, virtual
3. Incidence of Postoperative Hypocalcemia after Indocyanine Green Fluorescence Guided v/s Conventional assessment of Parathyroid function following Total Thyroidectomy—A Pilot Randomised Controlled Trial, Annual Meeting of Indian Association of Endocrine Surgery, 10 September 2020, virtual
4. Breast oncoplasty: Evolution or semantics, ASOMACON 2020 (Asian Society of Oncology), 5 December 2020, virtual

### **Sandeep Agarwal**

1. Is Bariatric Surgery a Solution to NAFLD? Obesity & NAFLD Webinar, 15 April 2020, virtual
2. Peri operative care of Bariatric Patient post lock down, Webinar on Bariatric Surgery during COVID-19, 25 April 2020, virtual
3. Introduction to Medical Writing – Developing a research idea into an article, Indian Association of Gastrointestinal Endo-surgeons – Journal of Minimal access Surgery (IAGES-JMAS) Course on Basic Medical Writing, 19-20 August 2020, virtual
4. Why do Editors Reject Articles, IAGES-JMAS Course on Basic Medical Writing, 19-20 August 2020, virtual
5. How to Minimize risks of COVID-19 Infection Among Bariatric surgeons and Bariatric Patients, International Federation for Surgery of Obesity and Metabolic Disorders (IFSO) Endorsed Webinar on “Restarting Bariatric Surgery during the normal era”, 28 May 2020, virtual
6. Weight Regain Management - Who, How & When?, International Collaborative Webinar: Indian Association of Gastrointestinal Endo-surgeons (IAGES), 25 June 2020, virtual
7. Laparoscopic surprises-Course Correction, IAGES Webinar, 19 July 2020, virtual
8. All you need to know about Bariatric Surgery, Surgical Academia, 29 September 2020, virtual
9. Reflux after sleeve– An Evidence based analysis, INDO – UK SURGICON 2020, 15-16 October 2020, virtual
10. Panel Discussion on Video Demonstration of Bariatric Surgery–Sleeve Gastrectomy, FALS UPPER GI FELLOWSHIP COURSE, January 2021, virtual
11. Roux-En-Gastric Bypass- Technique, SURGICON 2020, 6 November 2020, virtual
12. Introduction to Medical Writing – Developing a research idea into an article, JASICON 2020 organized by Jharkhand Chapter of ASI, 7-8 November 2020, virtual
13. Impact of Bariatric Surgery on NAFLD and OSAS AMASICON 2020, 22 November 2020, virtual
14. Sleeve Gastrectomy and DJB, Virtual Bariatric Surgery University webinar, 23 November 2020, virtual
15. Panel Discussion- Should Surveillance Endoscopy Be Routine After One Anastomosis Gastric Bypass to Detect Marginal Ulcers? 30th International Bariatric Club (IBC) University of Oxford Hot Topics in Surgery Webinar 16 February 2021, virtual
16. Sleeve Technique and Management of Perioperative Complications, Virtual Bariatric University and International Federation for Surgery of Obesity and Metabolic Disorders (IFSO) Webinar, 01 March, 2021, virtual
17. Legends in Surgery- Conversation with Prof M C Misra, IAGES – Legends in Conversation, 22 November 2020, virtual
18. Moderator in Panel Discussion - “Bariatric Surgery for Beginners SELSI Webinar, 2 July 2020, virtual
19. Revisional Bariatric Surgery Except Weight Regain, IAGES Course on Bariatric Surgery, 25 February 2021, virtual

### **Virinder Kumar Bansal**

1. eTEP Repair For Incisional and Ventral Wall Hernia- Moving beyond IPOM and IPOM+ -, Joint IHS and SELSI Webinar, 14 June 2020, virtual
2. Minimal Access Adrenal Surgery AIIMS Experience of Two Decades, Preconference Workshop on Endocrine Surgery, 10 September 2021, virtual
3. Is Minimally Invasive Surgery Worse Hit Than Open Surgery-, Department of Surgery, GMCH, Patiala, 5 October 2020, virtual
4. Integrating Training In Minimal Access Surgery In General Surgery Curriculum, 13th SELSICON and 12th IHSCON, 30 October 2020, virtual
5. eTEP v/s IPOM For Laparoscopic Incisional Hernia- Preliminary Results Of A Randomized Controlled Trial, IEHS Annual Meeting, 12 December 2020, virtual
6. Lap CBD Exploration - Our Experience Over Past Two Decades, Prof SC Mishra Oration, KGMU, 13 February 2021, virtual
7. Status of Renal Transplant in Paediatric ESRD, MAMC Pediatric Surgery Update, 11 March, 2021, virtual
8. Laparoscopic Surgery for Pseudocyst, AMU Surgical Week, 6 April, 2021, virtual

### **Hemanga K Bhattacharjee**

1. Guidelines for surgery during COVID-19, AIIMS-National Grand Round on COVID-19. All India Institute of Medical Sciences, 23 September, 2020, New Delhi
2. Right iliac fossa mass, The Regional Refresher Course, Association of Surgeons of India, 23 September 2020, virtual



3. Management options for rectal prolapse, The Annual Conference of the Delhi State Chapter of Association of Surgeons of India: SURGICON-2020, 6-8 November 2020, virtual
4. Right hemicolectomy, SCOPE 2021, Surgery Clinical Oriented Post-graduate Examination, 6-9 January 2021, virtual
5. Laparoscopy in emergency, Surgery Update 2021, Annual postgraduate CME in Surgery, 2-5 February 2021, New Delhi

#### **Piyush Ranjan**

1. Breast cancer, PG classes in Surgery, 7 February 2021, virtual
2. Can Genomic Profiling Eliminate the Need for Sentinel Lymph Node Biopsy in Postmenopausal, ER-Positive, T1-2 Breast Cancer, Best of SABCS, 19 February 2021, virtual
3. Should we write obituary to open hernia surgery- debate, ACSCON, 23 March 2021, virtual
4. Damage control surgery, ACSCON, 23 March 2021, virtual

#### **Manjunath Maruti Pol**

1. Judge for Award interactive poster session I, Tenth Annual Conference “TRAUMA 2020 VIRTUAL”, 3-5 December 2020, virtual
2. Judge for e-poster session, SURGICON 2020 (virtual platform), 6-8 November 2020, virtual

#### **Mohit Joshi**

1. Online PG teaching in COVID epoch: The ways, CMCL-FRI Alumni club initiative webinars to support teaching during COVID-19, 18 April 2020, virtual
2. Engaging learners during on-line classes, Department of Health Professions education BPKIHS, Dharan, Nepal, 14 June 2020, virtual
3. Pancreatic injuries, Webinar on management of abdominal trauma, organized by ISTAC and AITCC, 8 August 2020, virtual
4. The concept and advances in chest tube management, SURGICON 2020, 8 November 2020, virtual
5. On-line PG Quiz, TRAUMA 2020 VIRTUAL, 5 December 2020, virtual
6. Examiner for clinical case presentation, SCOPE 2021, 7 January 2021, virtual

#### **Kamal Kataria**

1. Transoral Thyroidectomy, SURGICON 2020 (Annual Conference of Delhi State Chapter), 6-8 November 2020, virtual

#### **Suhani**

1. Quiz moderator, SURGICON 2020, 12 April 2020, virtual
2. Muscle sparing LD Flap: How I do it? ASOMACON 2020, 5 December 2020, virtual
3. Examiner/panelist Locally advanced breast cancer, SCOPE 2021, 7 January 2021, virtual
4. Examiner/panelist breast cancer, right iliac fossa lump, LHMC surgery clinical update 3rd Edition, 28 January 2021, virtual
5. Comparing survival differences between breast-conserving therapy and mastectomy in patients with early-stage breast cancer undergoing surgery as the first intervention: The University of Texas MD Anderson Cancer Center, Best of SABCS, 19 February 2021, virtual
6. Laparoscopic Cholecystectomy: How I do it? Patliputra ACSCON (Annual conference of the American College of Surgeons: Indian chapter), 23 March 2021, Virtual
7. How I do it: Muscle sparing LD Flap: volume replacement technique in breast oncoplasty, Patliputra ACSCON (Annual conference of the American College of Surgeons: Indian chapter), 25 March 2021, Patna/online

#### **Yashwant Singh Rathore**

1. Management of inguinal wounds, virtual conference on wound management; AIIMS Rishikesh, 24 October 2020, Virtual

#### **List of oral papers/posters presented: 58**

1. Abraham J, Parshad R, An interesting case of intralobar pulmonary sequestration, ISTSTCon-2021 (Indian Society of Thoracic Surgeon), March 2021, virtual

2. Agarwal H, Bhattacharjee HK, Suhani, Parshad R, Kriplani A, Comparison of learning curve on two-dimensional (2D) Endovision system, ultra-high definition (HD) (4K) Endovision system and three-dimensional (3D) HD Endovision system for standardized phantom Tasks: An ex-vivo study, SURGICON 2020 (Annual Conference of Delhi state chapter-Association of Surgeons of India), 07 November 2020, virtual
3. Aprajita, Rathore Y, Chumber S, Cancellation of elective surgeries: evaluation of factors responsible and solution implemented, ASI VIRTUAL ASICON-2020, 17-19 December 2020, virtual
4. Baksi A, Jain S, Aggarwal S, Stapling And Section Of The Nasogastric Tube During Roux En Y Gastric Bypass, IFSO-EC 2020, 11 December 2020, virtual
5. Bansal VK, Baksi A, Jain M, Om Prakash, Krishna A, Kumar S, Bhattacharjee HK, Mishra MC, Laparoscopic Cholecystectomy - Two-Decade Experience of over 3000 Cases from a Tertiary Care Center, IHBPA, 2020, 27-29 November, virtual
6. Bansal VK, Krishna A, Jain M, Ergonomic Analysis of Muscle Activity During Laparoscopy Using Surface Electromyography (EMG) and Influence of Training, SAGES 2020, 11-13 August 2020, virtual
7. Bansal VK, Krishna A, Jain M, Prajapati O, Bail Out Strategies For Difficult Laparoscopic Cholecystectomy- Experience Of 3726 Cases From A Tertiary Care Centre, SAGES 2020, 11-13 August 2020, virtual
8. Bansal VK, Krishna S, Om Prakash, Jain M, Kumar S, Mishra MC, TAPP v/s TEP: An Experience of Over 1500 Cases of Laparoscopic Groin Hernia Surgery At A Tertiary Care Centre, ACS, Clinical Congress, 2020, 3-7 October 2020, virtual
9. Bansal VK, Krishna S, Om Prakash, Rai SK, Dhall J, Mishra MC, TAPP vs TEP: An experience of over 1500 cases of Laparoscopic groin hernia surgery at a tertiary care centre, 13th SELSICON and 12th IHSCON, 30 October 2020, virtual
10. Bansal VK, Om Prakash, Krishna A, Aggarwal K, Jain M, Kumar S, Mishra MC, Transperitoneal laparoscopic Adrenalectomy: Experience of more than 100 cases at a Tertiary Care Hospital, 13th SELSICON and 12th IHSCON, 30 October 2020, virtual
11. Bansal VK, Om Prakash, Krishna A, Kumar S, Jain M, Mishra MC, Large Scrotal Hernias: TEP or TAPP? 13th SELSICON and 12th IHSCON, 30 October 2020, virtual
12. Chaliyadan S, Bhattacharjee HK, Mishra AK, Agarwal H, Suhani S, Joshi M; Parshad R, Comparison of ultra-high definition (4k), three-dimensional (3d) HD and two-dimensional (2d) HD endovision systems: an ex-vivo randomized study, EAES (Annual conference of European Association of Endocrine Surgeons), 24 June 2020, virtual
13. Divya, Baksi A, Aggarwal S, “An interesting case of twisted and herniated fundus leading to severe dysphagia, excessive weight loss and severe gastroesophageal-reflux following sleeve-gastrectomy converted To Roux-en-Y Gastric Bypass”, IFSO-EC 2020, 11 December 2020, virtual
14. Gupta E, Suhani, Parshad R, Jana M, Mathur S, Breast Pain, Palpable Nodularity & a Perplexing Diagnosis, ASICON 2020 (Annual Conference of Association of Surgeons of India), 14 December 2020, virtual
15. Gupta E, Suhani, Parshad R, Jana M, Mathur S, Duct Ectasia: An uncommon presentation of common entity, SURGICON 2020 (Annual Conference of Delhi state chapter- Association of Surgeons of India), 7 November 2020, virtual
16. Gupta K, Kataria K, Srivastava A, Dhar A, Ranjan P, Agarwal S, A comparison of NIFTP and FVPTC, SURGICON 2020, November 2020, virtual
17. Gupta K, Kataria K, Srivastava A, Dhar A, Ranjan P, Arulselvi S, A case of COVID-19 related stomach gangrene after an abortion. (1st prize for ePoster), SURGICON 2020, November 2020, virtual
18. Gupta K, Kataria K, Srivastava A, Dhar A, Ranjan P, Sharma MC, Transthoracic IOUS in Hepatopulmonary Hydatid cyst disease: seeing beyond the horizon. (3rd prize for ePoster), SURGICON 2020, November 2020, virtual
19. Gupta S, A Three Arm RCT to Compare Sexual Functions Following Open Mesh Hernioplasty, Laparoscopic TEP and TAPP Repair of Groin Hernia, SAGES 2020, 11-13 August 2020, Virtual
20. Jain M, Om Prakash, Krishna A, Kumar S, Bansal VK, Comparison Of eTEP Vs IPOM For Management Of Primary And Incisional Hernia In Terms Of Early Outcomes And Cost Effectiveness – A Randomized Controlled Trial, 13th SELSICON and 12th IHSCON, 30 October 2020, virtual
21. Jain M, Om Prakash, Krishna A, Kumar S, Bansal VK, Preventing Delayed Gastric Emptying after Whipple’S Procedure - Isolated Roux Loop Reconstruction with Pancreatico-Gastrostomy, IHBPA, 2020, 27-29 November, virtual
22. Jarrah AA, Vuthaluru S, Saadi HA et al, Can sentinel lymph node biopsy be avoided in patients of breast cancer with normal preoperative ultrasound of axilla ASBrS 21st Annual Meeting. (American Society of Breast Surgeons), April 29–May 3 2020, Las Vegas, USA
23. Kaul A, Kumar A, Baksi A, Singla V, Aggarwal S, Gulati G, Narang R, Kashyap L, Impact of bariatric surgery on carotid intima-medial thickness and cardiovascular risk: results of a prospective study, INDO UK SURGICON, 15-16 October 2020, virtual

24. Khan WF, Krishna A, Om Prakash, Jaryal AK, Kishore D, Bhattacharjee HK, Sreenivas VB, Bansal VK, Ergonomic Analysis Of Muscle Activity During Laparoscopy Using Surface EMG And Influence Of Training, 13th SELSICON and 12th IHSCON, 30 October 2020, virtual
25. Krishna A, Baksi A, Jain M, Om Prakash, Krishna A, Kumar S, Bansal VK, Garg P, Misra MC, Primary Closure after Laparoscopic CBD Exploration- Experience of More than 400 Cases over 12 years at a Tertiary Care Center, IHBPA, 2020, 27-29 November, virtual
26. Krishna A, Bansal VK, Initial Experience of Lap Assisted Whipple Procedure from a Tertiary Care Institute, IHPBA 2020 virtual, October 2020, virtual
27. Krishna A, Bansal VK, Prajapati OP, Agarwal A, Jain M, Kottu HS, Transperitoneal Laparoscopic And Open Resection Of Abdominal Paragangliomas– 5 year Experience At A Tertiary Care Hospital, 13th SELSICON and 12th IHSCON, 30 October 2020, Virtual
28. Krishna A, Jain M, Maheshwari P, Om Prakash, Kumar S, Garg P, Sagar R, Bansal VK, Quality of Life Outcomes Following Single Stage Laparoscopic Common Bile Duct Exploration Versus Two Stage Endoscopic Retrograde Cholangiopancreatography Followed By Laparoscopic Cholecystectomy In Management Of Cholelithiasis With Choledocholithiasis, 13th SELSICON and 12th IHSCON, 30 October 2020, virtual
29. Krishna A, Om Prakash, Bansal VK, A three arm randomized controlled study to compare Sexual functions following open mesh hernioplasty, Laparoscopic totally extra peritoneal (tep) and trans Abdominal pre-peritoneal (tapp) repair of groin hernia, SAGES 2020, 8 April 2020, virtual
30. Krishna A, Om Prakash, Bansal VK, Bail out strategies for difficult laparoscopic Cholecystectomy-experience from 3095 cases from a tertiary Care centre, SAGES 2020, 8 April 2020, virtual
31. Krishna A, Om Prakash, Bansal VK, Ergonomic Analysis of Muscle Activity During Laparoscopy using surface EMG and Influence of Training, SAGES 2020, 8 April 2020, virtual
32. Krishna A, Jain M, Om Prakash, Kumar S, Bansal VK, Bhattacharjee HK, Misra MC, Jayaraj P, 13 years experience of Laparoscopic Management of Hydatid Disease at a Tertiary Care Centre, IHBPA, 2020, 27-29 November, virtual
33. Kumar A, Baksi A, Yadavalli SD, Aggarwal S, Incidental Jejunal Lesion Necessitating Intraoperative Change of Plan During Bariatric Surgery: A Video Case Report, ASICON, 2020, 17-19 December, 2020, virtual
34. Kumar A, Parshad R, Outcomes following minimal access thymectomy in patients with thymoma., ISTSTCon-2021 (Indian Society of Thoracic Surgeon), March 2021, virtual
35. Kumar A, Parshad R, Robotic plication for diaphragmatic eventration, ISTST Con-2021 (Indian Society of Thoracic Surgeon), March 2021, virtual
36. Moin, Rathore Y, Chumber S, Surgery in the impossible: splenectomy (open and laparoscopy) in ITP with very severe thrombocytopenia (platelet count <10000/cumm), ASI VIRTUAL ASICON, 17-19 December 2020, virtual
37. Om Prakash, Jain M, Bansal VK, Krishna A, Kumar S, Misra MC, Comparison Of Uncomplicated With Complicated Groin Hernia Patient Undergoing TAPP Repair- Our Experience of Over One Decade, 13th SELSICON and 12<sup>th</sup> IHSCON, 30 October 2020, virtual
38. Om Prakash, Krishna A, Bansal VK, Primary Closure after Laparoscopic CBD Exploration- Experience of More than 400 Cases over 12 years at a Tertiary Care Center, IHPBA 2020 virtual, October 2020, virtual
39. Om Prakash, Krishna A, Kumar S, Bansal VK, Jain M, Bakshi A, Garg P, Khan WF, Garg P, Initial Experience of Lap Assisted Whipple's Procedure from a Tertiary Care Institute, IHBPA, 2020, 27-29 November, virtual
40. Om Prakash, Prasanth J, Krishna A, Bansal VK, Garg P, Jagannath S, Comparison Of Outcomes In Patients Undergoing Laparoscopic Cholecystectomy For Biliary Pancreatitis Vs. Uncomplicated Gall Stone Disease, 13th SELSICON and 12th IHSCON, 30 October 2020, Virtual
41. Prasanna R A, Aggarwal S, Kumar R, Singh P, To study the effect of bariatric surgery on urinary incontinence in obese individuals, ASICON, 2020, 17-19 December 2020, virtual
42. Prasanna R A, Aggarwal S, Kumar R, Singh P, To study the effect of bariatric surgery on urinary incontinence in obese individuals, INDO-UK SURGICON, 15-16 October 2020, virtual
43. Rathore Y, Chumber S, Pratap B, Incidental carcinoma gall bladder: Risk factors and factors affecting survival- A tertiary care institute experience., E-Poster in virtual conference EAES, 23-26 June 2020, virtual
44. Rathore Y, Joshi G, Splenectomy in very low platelets, E-Video, in virtual conference EAES, 23-26 June 2020, virtual
45. Ravithi, Dhar A, Sharma S, Gulathi G, Srivastava A, Saga of rare pseudoaneurysm following trauma in, TRAUMA 2020, 05 December 2020, virtual
46. Ritwik, Rathore Y, Chumber S, Splenectomy in ITP: a decade experience, ASI VIRTUAL ASICON, 17-19 December 2020, virtual
47. Singh D, Aggarwal S, Bhambri A, Importance of Bowel walk in Gastric Bypass, IFSO-EC 2020, 11 December 2020, virtual

48. Singh D, Aggarwal S, Kashyap L, Shinde D, Ahuja V, Shalimar, Rakesh, A prospective randomized control study to compare antral resection versus antral preservation during Laparoscopic Sleeve Gastrectomy for Morbidly Obese, SURGICON 2020, 6 November 2020, virtual
49. Singh D, Aggarwal S, Vyas S, Kumar R, A prospective randomized control study to compare antral resection versus antral preservation during Laparoscopic Sleeve Gastrectomy for Morbidly Obese, INDO UK SURGICON, 15-16 October 2020, virtual
50. Singh D, Kirit A, Aggarwal A, Malhotra N, Ganie A, Importance of Bariatric Surgery on PCOS, World Congress of European Association of Endoscopic Surgery EAES, 24 June 2020, virtual
51. Suhani, Bhargava P, Parshad R, Bhattacharjee HK, Manchanda S, Mathur S, Oncological outcomes of breast conservation surgery in patients with locally advanced breast cancer post neoadjuvant chemotherapy: An ambispective cohort study, Virtual ASICON 2020 (Annual Conference of Association of Surgeons of India), 18 December 2020, virtual
52. Suhani, Shafneed CH, Singh M, Nitin, An innovative Low fidelity manikin for teaching Core needle biopsy:, Virtual ASICON 2020 (Annual Conference of Association of Surgeons of India), 16 December 2020, virtual
53. Toshib A, Suhani, Parshad R, Bhattacharjee HK, A Goyal, R Sharma, A Saraya, MA Khan, Assessment of post cholecystectomy quality of life: A prospective cohort study, ASICON 2020 (Annual Conference of Association of Surgeons of India), 16 December 2020, virtual
54. Toshib A, Suhani, Parshad R, Bhattacharjee HK, Goyal A, Sharma R, Saraya A, Khan MA, Effect of laparoscopic cholecystectomy on gastro-intestinal specific quality of life- A prospective cohort study, SURGICON 2020 (Annual Conference of Delhi state chapter- Association of Surgeons of India), 07 November 2020, virtual
55. Venugopal R, Dhar A, Srivastava A, Cousic P, Kataria K, Ranjan P, A randomized controlled trial for evaluating the effect of PRP on wound healing in PAD with chronic diabetic foot ulcer, SURGICON 2020, 07 November 2020, virtual
56. Vuthaluru S, Chowdhary DP, Saha S, Srivastava A, Evaluation of incidence of local recurrence and cosmesis following conventional breast conserving surgery and oncoplastic breast surgery: A randomized controlled trial Abstract Id: 787170, ASBrS 21st Annual Meeting, (American Society of Breast Surgeons), 29 April–3 May 2020, Las Vegas, USA
57. Vuthaluru S, Srivastava A, Seenu V, Evaluation of role of MR Spectroscopy in evaluation of sentinel node in breast cancer Abstract Id: 787778, ASBrS 21st Annual Meeting (American Society of Breast Surgeons), 29 April–3 May 2020, Las Vegas, USA
58. Yadav S, Chumber S, Rathore Y, To study the concordance of thyroid imaging and data system (TIRADS ) and the BETHEAD system with final histopathology in STN, ASI VIRTUAL ASICON, 17-19 December 2020, virtual

## RESEARCH

### Funded projects

#### *Ongoing*

1. A Label Extension, Single Arm Multicentric Phase III Study To Assess The Efficacy And Safety Of Approved Product Stempeucel® In Patients With Critical Limb Ischemia Due To Buerger's Disease, Anita Dhar, Stempeutics Pvt Ltd, 4 years, December 2018-December 2022, Rs 33,075
2. A Study of Gut (oral, fecal and bile) Microbiome in Patients with Gallbladder Cancer, Asuri Krishna, Institute Research Grant, 2 years, 2019-2021, Rs 10 lakhs
3. Checking the feasibility of aortoplasty balloon catheter for endovascular occlusion of aorta, Mohit Joshi, AIIMS (Intramural research grant), 1 year, 2020-2021 (continuing), Rs 75,000
4. Comparison of wire-guided lumpectomy versus sonographic hematoma guided lumpectomy in management of nonpalpable breast cancers. (Intramural Project), Kamal Kataria, Research Section, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
5. Complete estrogen Blockade in recalcitrant mastalgia: A randomized clinical trial, Suhani, Intra-mural research grant, 2 years, 2019-2021, Rs 5 lakhs
6. Development of aptamer-based assay for the diagnosis of breast tuberculosis (Breast TB), (AIIMS-THSTI collaborative project), Kamal Kataria, Research Section, AIIMS and THSTI Faridabad, 2 years, 2019-2021 (November), Rs 20 lakhs
7. Identification of factors predictive of Weight loss After Bariatric Surgery-Building a model for improving outcomes and maintaining weight, Sandeep Aggarwal, ICMR, 3 years, 30 March 2021-29 March 2024, Approx 70 Lakhs
8. Long Term Outcome of Patients With Walled Off Necrosis/Pseudocyst Of Pancreas In Terms of Recurrence of acute Pancreatitis, Fluid Collection And Functional Consequences Following Internal Drainage By Laparoscopic or Endoscopic Method, Om Prakash, Institute Research Grant, 2 years, 2019-2021, Rs 10 lakhs



9. “Solid Tumor Targeting Using Homing Peptides and plasmonic Photothermal Technique”, Piyush Ranjan, DBT, 3 years (extended), 2018-2021, Rs 2.72 crore
10. Study of effectiveness of Maharishi Amrit Kalash on Breast cancer as adjunct therapy along with Neo Adjunct Chemotherapy: An open Randomized controlled clinical Trial, Anita Dhar, Maharishi Ayurveda Corporation Ltd, 3 years, 2018-2021, Exempted
11. Study of Gut Microbiome in patients with gall bladder carcinoma–Intramural Project under AIIMS research grant, Asuri Krishna, AIIMS intramural, 2, 2019-2021, 10 lakhs
12. Study to evaluate the presence of SARS-Cov-2 in different body fluids in SARSCOV-2 positive/suspect patients undergoing laparoscopic, open surgery and endoscopic procedures, Asuri Krishna, AIIMS intramural, 2 years, 2020-2022, 1 lakh
13. To study the pattern of FOXP3, OX40, PD1, and TIM-3 among renal allograft patients and its correlation with risk of kidney injury, Manjunath Maruti Pol, AIIMS intramural, 2 years, 2020-2022, 10 lakhs
14. Transcendental meditation (TM) to reduce stress and enhance immunity of health care workers during COVID-19 pandemic: A randomized trial (TURMERIC trial), Hemanga K Bhattacharjee, SATYAM, DST, Government of India, 1 year, 2021-2022, Rs 14,74,184

### **Completed**

1. A Label Extension, Single Arm Multicentric Phase III Study To Assess The Efficacy And Safety Of Approved Product Stempeucel® in Patients With Critical Limb Ischaemia Due To Atherosclerotic Peripheral Arterial Disease, Anita Dhar, Stempeutics Pvt. Ltd., 1 year, 2019-2020, Rs 22050

### **Departmental projects**

#### **Ongoing**

1. A Prospective Randomized trial comparing Laparoscopic Vs Endoscopic drainage for Walled Off Necrosis following Acute Pancreatitis
2. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG.
3. A randomized control study to evaluate the use of oral metronomic chemotherapy versus conventional systemic chemotherapy, and to further conduct a randomized control trial on patients amenable to breast conservation surgery after chemotherapy
4. A randomized control trial comparing mesh fixation with penetrating fixation device versus fibrin sealant during laproscopic repair of ventral hernia
5. A Randomized controlled trial to compare efficacy of complete decongestive therapy vs complete decongestive therapy and placement of hydrophobic silicone tube and look for their long term patency by ICG in upper limb lymphedema following ALND in breast cancer
6. A randomized controlled trial to compare the safety and outcome of trans-oral vestibular and axillo breast approach for endoscopic hemithyroidectomy in patients with benign thyroid swellings
7. A study of fluorescein spectrometry, indocyanine green imaging, Raman spectrometry and Doppler flowmetry analysis comparing malignant and benign lesions of breast
8. A study to evaluate the predictors of outcome in patients with blunt liver trauma Prospective Observational study
9. A study to explore the role of gamma synuclein as a potential biomarker in breast cancer.
10. A study to quantify the burden of insulin resistance in breast cancer women and its relation with other known prognostic and predictive factors of breast cancer
11. A study to validate the accuracy of the AIIMS modification of Paddington score in diagnosing phyllodes tumours, followed by a randomized control trial to evaluate the safety and efficacy of 1CM versus 2CM resection margin in phyllodes tumours
12. Analysis of genes related to metabolic flexibility in subjects undergoing weight reduction surgery
13. Assessing effectiveness of a video-based intervention administered across a virtual platform on the existing knowledge, attitude and practices of breast cancer awareness and breast self-examination among literate women in the metropolitan city of Delhi: A Quasi-experimental community based interventional study
14. Assessment of lateral thermal spread and tissue damage associated with the use of various electro-surgical devices
15. Assessment of transferability of skills acquired on 3D HD and 4K HD endovision system to 2D HD endovision system: An ex vivo study
16. Assessment of workload And Musculoskeletal Symptoms Among Minimal Access Surgeons – A Prospective Study



17. Association of different modalities of treatment with the expression of various subset of T Lymphocytes in patient with Breast Cancer and their clinical outcome
18. Comparison between banded and Non-Banded Laparoscopic Sleeve Gastrectomy for Weight Loss in Obese subjects. A Randomized Controlled Trial
19. Comparison of Early Outcomes of Interrupted Double 'X' suture vs Continuous Near Far- Far Near Method for closure of abdominal wall incisions: A Double Blinded Randomized Control Trial
20. Comparison of eTEP vs IPOM for Management of Primary and Incisional Hernia in Terms of Early Outcomes and Cost Effectiveness-A Randomized Controlled Trail.
21. Comparison of Gastroesophageal Reflux after Antral Preserving and Antral Resecting Laparoscopic Sleeve Gastrectomy in people with Severe Obesity: An Ambispective Study
22. Comparison of identification rate and cost effectiveness of Indocyanine green vs fluorescein for sentinel lymph node detection in ladies with operable breast cancer - a randomised controlled trial
23. Comparison of muscle activity and fatigue among Expert and Novice surgeon during laparoscopic surgery using intraoperative surface electromyography and survey of musculoskeletal dysfunction among general surgeon
24. Comparison of patient reported outcomes in patients with blood related nipple discharge undergoing mammary duct excision with 2.5 verses 5 cm length. A randomized controlled exploratory study.
25. Comparison of Quality of Life and oncological outcomes of Skin Sparing Mastectomy with Autologous Fat Grafting versus Skin Sparing Mastectomy with silicone implant versus Breast Conservative Therapy among ladies with Early Breast Cancer: A Randomized comparison
26. Comparison of quality of life between patients undergoing endoscopic thyroidectomy and conventional open thyroid Surgery
27. Comparison of Quality of Life, cosmesis and oncological outcomes of skin sparing mastectomy with total breast reconstruction using autologous fat grafting versus skin sparing mastectomy with silicone implant reconstruction versus breast conservative therapy among patients with early breast cancer: A Randomized controlled study
28. Define the role of umbilical hygiene in laparoscopic cholecystectomy
29. Development of aptamer-based assay for the diagnosis of breast tuberculosis (Breast TB)
30. Diagnostic study evaluation in patients presenting with sign and symptoms of abdominal and inguinoscrotal region
31. Early Versus Delayed Laparoscopic Cholecystectomy in Moderate and Severe Acute Biliary Pancreatitis: A Randomised Controlled trial (ELCAP trial)
32. Effect of Yoga Therapy on Quality of Life in Patients Undergoing Laparoscopic Incisional and Ventral Hernia Repair- A Randomized Control Trial
33. Electrolyte and acid-base disturbances in renal transplant patients – A prospective observational study
34. Evaluation of Dual dye technique for sentinel lymph node biopsy in breast cancer: Two arm open label parallel design Non-inferiority Randomized controlled trial
35. From RECIST to PERCIST: Evolving considerations for pet response criteria in carcinoma breast
36. Functional outcome of patients undergoing thoracic surgery for benign pulmonary and pleural diseases: An ambispective cohort study
37. Hydrostatic dilatation plus balloon angioplasty versus hydrostatic dilatation plus malleable vascular dilator for 2mm or less caliber veins used during creation of arteriovenous fistula for hemodialysis. A randomized controlled trial
38. Illness Wellness Scale: A new grading system to assess the performance status of COVID or non-COVID surgical patients during the global pandemic
39. Impact of Concomitant Hiatal Hernia Repair on Gerd Q Score in Patients Undergoing Laparoscopic Sleeve Gastrectomy for Obesity: A Prospective Observational Study
40. Impact of transcendental meditation™ on acute and chronic stress among surgeons in training: An open labelled randomized controlled trial.
41. Improving Pain management Following Laparoscopic surgery: A Randomised Quality Improvement study
42. Incidence of Barret's Esophagus in Morbidly Obese Patients after Laparoscopic Sleeve Gastrectomy
43. Incidence of Postoperative and Long Term Hypocalcemia After Indocyanine Green Fluorescence Guided V/S Conventional Assessment of Parathyroid Function Following Total Thyroidectomy: A Randomised Controlled Trial
44. Long term outcomes in breast cancer patients in terms of overall disease-free survival and locoregional recurrence (2 decades of surgical audit of breast cancer patients)
45. Multi-Model Autofluorescence, fluorescence, Polarization, Microendoscopy and Spectroscopy based detection of common cancers of breast

46. Neoadjuvant chemotherapy and short course Radiotherapy in locally advanced Rectal cancers: A pilot study.
47. Neurological outcomes following minimally invasive thymectomy in non-thymomatous Myasthenia Gravis.
48. Omega Loop Gastric Bypass (Mini Gastric Bypass) versus Roux-en-Y Gastric Bypass for the resolution of TYPE-2 Diabetes Mellitus in Obese Subjects: An Ambispective Study
49. Outcome of abdominal wall closure using poly 4 hydroxy butyrate suture in emergency midline laparotomy: An ambispective study
50. Outcomes following abdominal wall closure using MonoMax (poly 4 hydroxy butyrate) suture in emergency midline laparotomy: An ambispective study
51. Outcomes of laparoscopic sleeve gastrectomy with or without hiatal hernia repair in terms of resolution of symptoms of GERD
52. Patient reported outcome measures and objective assessment of achalasia cardia following Laparoscopic Heller's myotomy and angle of His accentuation
53. Prospective Open Label clinical trial for evaluating the feasibility, safety and efficacy of left gastric artery embolization for reduction of the weight in class I obesity
54. Quality of life and surgical outcome in IPOM and IPOM plus in small and medium size ventral hernia: RCT
55. Questionnaire Based Survey of Musculoskeletal Dysfunction among General Surgeons and Comparison of Muscle Activity and Fatigue among Expert and Novice Surgeons during Laparoscopic Surgery using Surface Electromyography
56. Randomized control trial comparing angle of his accentuation v/s toupet fundoplication as a anti reflux procedure in patients of achalasia cardia undergoing Hellers Cardiomyotomy
57. Randomized controlled study comparing stainless steel clip with silicone tube tip for localization of breast cancer after neoadjuvant chemotherapy within patients with breast cancer. A Non-inferiority study.
58. Short term and long term outcomes following laparoscopic and open donor nephrectomy: An ambispective comparative study
59. Standardized umbilical hygiene to reduce port site complications in laparoscopic cholecystectomy –A prospective randomized controlled study.
60. Stapled versus concurrent stapled and handsewn anastomosis in gastro intestine surgery performed by trained residents: a randomized controlled trial.
61. Study of heavy metals and trace elements (Arsenic, cadmium, chromium, and nickel, selenium, zinc, copper, lead, mercury, lead, cobalt) in gall bladder cancer and cholelithiasis patients
62. Study the epidemiology of thyroid injury in neck trauma.
63. Study to develop an objective scoring system to grade the difficulty of laparoscopic cholecystectomy
64. Study to Evaluate the Predictors Of Outcome In High Grade Blunt Liver Trauma
65. Surgical audit of Renal transplantation data of a single surgical unit over the last decade
66. Surgical outcomes following Ileostomy and Colostomy in Elective and Emergency surgeries: A Retrospective Study
67. Symptomatic outcomes in patients of asymptomatic gall stones after laparoscopic cholecystectomy
68. Telecommunication: An effective tool for early operative follows up during the COVID-19 pandemic
69. The Doppler ultrasound renal resistive index and semiquantitative power doppler ultrasound for early detection of acute kidney injury after perforation peritonitis surgery
70. To assess the cost effectiveness of laparoscopic standardized laparoscopic mesh repair in ventral hernia.
71. To assess the functional outcomes in patients undergoing standardized laparoscopic mesh repair in small and medium ventral midline hernias.
72. To determine the best non-invasive marker or a combination of them correlate the most with liver biopsy in extent of fibrosis in morbidly obese patients with non-alcoholic fatty liver disease undergoing bariatric surgery.
73. To determine the non-invasive investigations which correlate with liver biopsy in extent of fibrosis in morbidly obese patients undergoing bariatric surgery
74. To establish an algorithm for the management of axilla in patients of early operable breast cancer with clinically negative axilla
75. To evaluate the outcome of patients and anatomical status of pancreas after nonoperative management of grade III and IV traumatic pancreatic injuries at a level I trauma centre
76. To record the long-term outcome of patients suffering from benign breast disease: an ambispective study
77. To review mortality and morbidity of a patients undergoing emergency abdominal surgery in COVID-19 pandemic times

78. To study the complications of laparoscopic inguinal repair.
79. To study the correlation between pre operative pain threshold measured using Quantitative Sensory Testing with post operative pain scores using Visual Analogue Score in patients with laparoscopic groin hernia repair - A case control study.
80. To study the correlation between pre-operative pain threshold measured using Quantitative Sensory Testing with post-operative pain scores using Visual Analogue Score in patients with laparoscopic groin hernia repair – A case control study
81. To study the effect of handgrip exercise on the outcome of arteriovenous fistula surgery. A randomized controlled trial.
82. To study the usefulness of pre-operative USG guided FNAC in avoiding radical surgery in patients with gallbladder wall thickness or polyp associated with gall stone disease
83. Validation of a careful clinical examination with venous Doppler studies in the management of patients presenting with varicose veins

### ***Completed***

1. A prospective randomized control study to compare antral resection versus antral preservation during Laparoscopic Sleeve Gastrectomy for Morbidly Obese
2. A randomized controlled trial to compare the Safety and outcome of trans-oral vestibular and Axillo breast approach for endoscopic Hemithyroidectomy in patients with benign Thyroid swellings
3. A study of gut microbiome in patients with gallbladder cancer
4. A study to validate the routine use of CECT torso in patients presenting with dangerous mechanism of injury in level I trauma Centre
5. A Three Arm Randomized Controlled Study to Compare Sexual Functions Following Open Mesh Hernioplasty, Laparoscopic Totally Extra Peritoneal (TEP) and Trans Abdominal Pre-Peritoneal (TAPP) Repair of Groin Hernia
6. Assessment of post cholecystectomy symptoms and quality of life evaluation: a prospective cohort study
7. Assessment of transferability of skills acquired on 3D HD and 4K endovision system to 2D endovision system: An ex-vivo study.
8. Comparison of different rates of intraoperative fluid therapy on early graft Function during live related renal transplantation.
9. Comparison of learning curve on Two-Dimensional (2D) endovision system, Ultra-High Definition (HD) (4K) endovision system and three-dimensional (3D) HD endovision system for standardized phantom tasks: An ex-vivo study
10. Comparison of mesotherapy (non operative) with surgery in management of superficial lipomas.
11. Effect of Low Dose Ketamine on Inflammatory Markers and on Perioperative Analgesia in Patients Undergoing Laparoscopic hernia surgery - A prospective, randomized, double-blind, comparative study
12. Epidemiology and analysis of predictors of mortality in trauma patients at a level I Trauma Center
13. Ergonomic analysis of muscle activity during laparoscopy and influence of training
14. Feasibility of enhanced recovery after surgery protocol in general thoracic surgery: Prospective cohort study”
15. Follow up study to evaluate correlation of imaging and operative findings with clinical and biochemical outcome in patients with primary Hyperparathyroidism
16. ICG fluorescence imaging for identifying and assessing the perfusion of parathyroid gland during thyroid surgery
17. Il10 and micro RNA 106a correlation with survival in patients with carcinoma Breast
18. Impact of laparoscopic ultrasound on laparoscopic management of Hepatobiliary diseases (benign and malignant), a prospective observational Study
19. Incidence of post operative hypocalcemia after indocyanine green Fluorescence versus conventional assessment of parathyroid function Following total thyroidectomy - a randomized controlled trial
20. Indocyanin green fluorescence imaging for identifying and assessing the Perfusion of parathyroid glands during thyroid surgery - A pilot study
21. Nipple discharge in women; evaluation and Randomized trial comparing limited length Ductal cone excision (1.5 cm) with 3 cm ductal Cone excision in women presenting with non-Bloody nipple discharge.
22. Oncological outcomes of breast conservation surgery in patients with locally advanced breast cancer post neoadjuvant chemotherapy
23. Outcome of early mesh laparostomy in patients with abdominal trauma at Level I trauma centre

24. Outcomes following minimal access thymectomy in patients with thymoma.
25. Pilot study on parathyroid dissection and preservation from thyroidectomy specimen and correlation with postoperative calcium and parathormone levels
26. RCT comparing quality of life following single stage lcbde+lc vs two stage Ercp&gt;lc for management of concomitant gall stones with cbd stones
27. Spectrum of injuries and management of pediatric trauma patients admitted to Trauma Surgery in level-1 Trauma centre
28. Stent vs no stent in ureteroneocystostomy in live related renal transplant: a prospective randomized controlled trial
29. Study of risk factors for breast cancer in Indian Women: a case control study
30. Study of Significance of Tumor infiltrating Lymphocytes in Breast Cancer Patients
31. Study port placement and ergonomics in laparoscopic splenectomy
32. Three Arm Randomised Comparison of Laparoscopic Peritoneal Dialysis Catheter Insertion with or Without Omentectomy Versus Conventional Open Peritoneal Dialysis Catheter Insertion in Chronic Kidney Disease Stage 5 Patients in Terms of Catheter Malfunction and Post-operative Complications
33. To define surgical outcome in patients who are converted to minimally invasive surgery to open procedure.
34. To Evaluate the effect of Bariatric Surgery on Sleep Disordered breathing parameters using overnight polysomnography
35. To Evaluate the role of age adjusted Charlson Comorbidity index score in assessing 3 day post operative outcome in patients undergoing surgery under general and regional anaesthesia.
36. To study causes of cancellation among patients scheduled for elective operations.
37. To Study effect of Bariatric Surgery induced weight loss on urinary incontinence in Obese individuals
38. To study the Surgical outcome in geriatric population.

## **Collaborative projects**

### ***Ongoing***

1. A molecular and immunohistochemical study of human colorectal carcinomas to classify them according to the consensus molecular subtypes and to evaluate its prognostic and therapeutic relevance, Department of Pathology, AIIMS, New Delhi
2. A pilot study to compare interstitial multi-catheter brachytherapy (IMB) versus volumetric modulated arc therapy (VMAT) for accelerated partial breast irradiation in early breast cancer: An adaptation, toxicity, and cosmesis comparison, Department of Radiation Oncology, AIIMS, New Delhi
3. A Randomized, Multiple-dose, Multicenter, Comparative, Parallel Study to Evaluate the Efficacy, Safety and Pharmacokinetic Characteristics of Intravenous Infusion of Trastuzumab (Test, Hetero) and Reference Medicinal Product (Reference, Roche) in combination with standard chemotherapy in Patients of HER2-positive Metastatic breast cancer (TRUMAB Study), Department of Radiation Oncology, AIIMS, New Delhi
4. A study of immune responses in the pathophysiology of human chronic pancreatitis". Biochemistry, AIIMS, New Delhi
5. An institutional phase I/II study to evaluate safety and efficacy of high dose weekly hypofractionated palliative breast radiotherapy in fungating advanced unrespectable or metastatic breast cancer, Department of Radiation Oncology, AIIMS, New Delhi
6. Desflurane Vs Total Intravenous Anesthesia with propofol : Effects on Inflammatory Biomarkers and Respiratory Mechanics in Laparoscopic Bariatric Surgery, Anesthesiology, AIIMS, New Delhi
7. Development of labyrinth based mechanical and fast isolation technique for identifying circulating tumour cells of colorectal carcinomas for metastatic evaluation, Department of Pathology, AIIMS, New Delhi
8. Effect of Paravertebral Anaesthesia on Quality of Life Scores and Circulating Tumour Cells in Breast Cancer Patients, Anaesthesiology, AIIMS, New Delhi
9. Extracellular Matrix Remodelling In Obesity Induced Adipose Tissue Dysfunctions And Insulin Resistance, Biochemistry, AIIMS, New Delhi
10. Immunohistochemical and Quantitative Analysis of Cytokeratin19 and cKIT in Gastrointestinal and Respiratory Neuroendocrine Tumors" submitted for the award of degree of Doctor of Medicine (Anatomy) is the bona fide work of Sapna Singh conducted under our guidance and supervision in the Department of Anatomy, All India Institute of Medical Sciences, New Delhi, India, Anatomy, AIIMS, New Delhi
11. Investigation of the involvement of plasma membrane ATP binding cassette transporter A1 (ABCA1) in adipose tissue mediated insulin resistance, Biochemistry, AIIMS, New Delhi
12. Role of T-Regulatory cells (T-regs) in obesity and their clinical correlation in obesity associated inflammation in type 2 diabetic and chronic kidney disease (CKD), Nephrology, AIIMS, New Delhi

13. Sonographic assessment of suprahyoid airway parameters in adult patients Planned for elective proseal placement-a pilot, observational study, Anesthesia, AIIMS, New Delhi
14. Study of Androgen Receptors mediated events and molecular heterogeneity in Breast Cancer, Biochemistry, AIIMS, New Delhi
15. Study of the expression of vascular endothelial growth factors A (VEGFA), and its isoforms in Obesity, and their association with insulin sensitivity, Biochemistry, AIIMS, New Delhi
16. The Modulation of Insulin resistance and HDL quality by adipose tissue ABCA1 and metabolic status, Biochemistry, AIIMS, New Delhi
17. To study the role of regulatory T cells in immune suppression in patient with colorectal cancer, Department of Transplant Immunology and Immunogenetics, AIIMS, New Delhi
18. Utility of Artificial Intelligence in differentiating Non-invasive Follicular Thyroid Neoplasm with Papillary like Nuclear Features from other follicular-patterned thyroid benign and malignant lesions. (Extramural Project, DBT), DBT funded Project

### **Completed**

1. Effect of Low Dose Ketamine on Inflammatory Markers and on Perioperative Analgesia in Patients Undergoing Laparoscopic hernia surgery - A prospective, randomized, double-blind, comparative study, Anaesthesiology Anesthesiology, AIIMS, New Delhi
2. Effect of Low Dose Ketamine on Inflammatory Markers and on Perioperative Analgesia in Patients Undergoing Laparoscopic hernia surgery - A prospective, randomized, double-blind, comparative study, Anesthesia, AIIMS, New Delhi
3. Efficacy and safety of Semaglutide 2.4 mg once weekly in subjects with overweight and obesity, Endocrinology, AIIMS, New Delhi
4. Electrolyte and acid base disturbances in renal transplant patients – A prospective observational study, Nephrology, AIIMS, New Delhi
5. Evaluation of Autonomic Function in Difference Types of Achalasia Diagnosed by High Resolution Manometry, Physiology, AIIMS, New Delhi
6. To Compare Diaphragmatic thickness fraction in patients undergoing VATS with erector spinae plane block vs with local infiltration, Anaesthesiology Anesthesiology, AIIMS, New Delhi

### **PUBLICATION**

**Journals: 97**

**Abstracts: 10**

**Chapters in books: 5**

### **PATIENT CARE**

The department is providing regular services in multiple fields including multimodality treatment for breast cancer patients, minimally invasive surgery, renal transplantation, Hepatobiliary and pancreatic surgery, thoracic and thoracoscopic surgery, endocrine surgery, metabolic and bariatric surgery, vascular surgery including surgery for vascular access in end stage renal disease patients and cancer surgery. Our department is actively involved in indoor and outdoor patient management. The department runs the following special clinic besides regular General surgery OPD:

- Bariatric Clinic,
- Breast Cancer clinic,
- Combined pulmonary surgery clinic
- Follow up Clinics
- Renal Transplant clinic

During the COVID-19 pandemic, the department has been providing telephonic consultations of various outdoor patients and emergent patient care as per the institutional SOPs. The department faculty and residents have contributed significantly to care of COVID patients by providing services in COVID dedicated areas as well as conducting emergent surgeries on COVID positive patients. Regular Online Patient Support Group Meetings for Bariatric Surgery patients were held in July 2020, November 2020 and February 2021. A letter on instructions for patients who have undergone bariatric surgery was prepared and sent to all the patients who have undergone bariatric surgery at AIIMS. This letter highlighted various precautions to be adopted by the patients. 24 x 7 helpline numbers were shared with the patients to contact the surgical team in case of any clinical issues



## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

The department received rolling trophy for conducting best monthly meet of the Delhi state chapter of the Association of Surgeons of India during the virtual annual conference SURGICON 2020 held in November 2020.

Dr Toshib GA and Dr Prasanna Ramana were awarded the first prize for Dr C Palanivelu best PG thesis paper during virtual ASICON 2020.

Dr Prasanna Ramana and Dr Devender Kuntal were nominated for the Best thesis Awards of the Indian Association of Gastrointestinal Endoscopic Surgeons (IAGES) for year 2020

**Professor Sunil Chumber** was Organizing Co chairman SURGICON 2020.

**Professor Rajinder Parshad** was Organizing secretary SURGICON 2020; Chairperson in CME: Revisiting Laparoscopic Surgery: Back to Basics.

**Professor V Seenu** was Organizing secretary SURGICON 2020.

**Professor Sandeep Aggarwal** Nominated for the “Best Researcher Award” of Indian Association of Gastrointestinal Endoscopic Surgeons (IAGES) for year 2020; Member of the Editorial board of ‘Obesity Surgery’ journal; Convenor of the Research Committee of Indian Association of Gastrointestinal Endoscopic Surgeons (IAGES); Executive council member of Obesity and Metabolic Society of India (OSSI), IAGES; Scientific Advisory Committee of Obesity and Metabolic Society of India (OSSI); Editor of ‘Journal of Minimal Access Surgery’ (JMAS); Received Obesity Surgery Editors Recognition Award for Distinction in Reviewing 2020.

**Professor Virinder Kumar Bansal** was Member, Institute Body of JIPMER, Puducherry (May 2019-May 2024) & AIIMS, Rishikesh (May 2020-May 2025); Member Operation Theatre Committee, AIIMS New Delhi; Member: Academic Committee & Hospital Affairs Committee JIPMER, Puduchery; Member Academic Committee, Standing Finance Committee and Chairperson, Standing Selection Committee AIIMS Rishikesh; Subject Expert, Standing Selection Committee PGIMER Chandigarh, JIPMER, Puduchery, AIIMS Bibinagar, Kalyani, Bhopal; Co-Chairman, Surgery Expert Group for Standard Treatment Workflow for ICMR and National Health Authority, Ayushmann Bharat, New Delhi 2019; Member, Apex Technical Committee for Renal Transplantation under NOTTO, January 2020; Honorary Vice President Indian Hernia Society, 2020; President, Society of Endoscopic and Laparoscopic Surgeons of India, 2020-2021; Honorary Secretary, International College of Laparoscopic Surgeons, 2020; Member, International Expert Consensus on Laparoscopic Pancreaticoduodenectomy.

**Professor Anita Dhar** Presented National Surgery Grand Round on 23 September 2020 under chairmanship of Director, AIIMS, New Delhi. Gangrene of stomach? cause, in a COVID-19 positive patient.

**Dr Piyush Ranjan** was Member of expert committee (CBSE) for drafting Guidelines for schools after re opening of schools; Resource person for iGOT platform (MOHFW); Expert group meeting in drowning (DGHS); COVID awareness for CBSE, NCERT school teachers; Training of Noida traffic police in post-crash management; Chaired session at SURGICON 2020, SELSICON 2020.

**Dr Mohit Joshi** Invited as Subject expert, OSCE writing workshop. Conducted by National Board of Examinations, New Delhi. 7-8 Feb 2021; Received Membership of COPE (Committee on Publication Ethics); Invited as member of Ethics Committee of National Institute of Tuberculosis and Respiratory Diseases (NITRD), New Delhi; Joint organizing secretary SURGICON 2020; Chairperson in CME : Revisiting Laparoscopic Surgery: Back to Basics and AIIMS Pulmocerit.

**Dr Suhani** was Associate editor/working group member of the Indian Journal of Cancer; Joint organizing secretary SURGICON 2020.

**Dr Yashvant** was Chairperson Virtual SURGICON 2020, 13th SELSICON, 12th IHSCON.

## 9.40. Transfusion Medicine

### Medical Superintendent and Head

DK Sharma

### Assistant Professors

Hem Ch. Pandey  
(Main Hospital)

Rahul Chaurasia  
(JPNATC)

Gopal Patidar  
(CN Centre)

Diptiranjana Rout  
(NCI, Jhajjar)

### CMOs

Poonam Coshic  
Main Blood Bank

Anjali Hazarika  
CN Centre Blood Bank

Vedanand Arya Sulekha Karjee  
JPNATC, Blood Bank JPNATC, Blood Bank

### HIGHLIGHTS

The department is committed to provide patients with quality safe blood and works tirelessly to achieve its aim of providing “Right blood to right patient at right time”. The blood bank services are provided 24x7 throughout the year. Despite the ongoing pandemic the department ensured that the services remain uninterrupted and maintained a sufficient inventory of blood products. The department started collecting COVID-19 convalescent plasma using apheresis to contribute to the treatment of COVID-19 patients. The department worked tirelessly to conduct blood donation camps and collected around 38,000 blood units annually. Efforts to increase the voluntary blood donation program were done despite the challenges due to pandemic and we conducted a mega blood donation campaign on 3 February 2021 where more than 2250 blood units were collected in a day. The department also conducted a plasma donation camp during the pandemic and motivated public to donate plasma for this noble cause. Blood safety is an ongoing effort and all blood units collected in the three existing blood banks 100% are tested with NAT, in addition to serologic testing thereby providing an additional layer of safety. NAT laboratory of Main Blood Bank is the central testing facility for infectious markers for CNC blood bank and JPNATC blood bank. Blood bank is supporting ABO incompatible kidney transplants by performing plasmapheresis procedures and antibody titer testing for the patients. Extended phenotyping of blood units has also started on regular basis and patients requiring extended phenotyped blood are being provided the facility. The setting up of the “Blood Center” at National Cancer Institute, AIIMS, Jhajjar campus is under process. Academic activities were continued with regular conduction of both digital and physical seminars and journal clubs and presently eight students are pursuing MD course.

### EDUCATION:

1. MBBS UG classes on Blood banking.
2. Regular training of OT technicians (B.Sc. OTT) in various laboratory techniques related to safe blood transfusion practices.
3. Regular orientation and training programmes for AIIMS nursing students.
4. MD Transfusion Medicine: Presently nine students are pursuing this programme.
5. Teaching of Postgraduate students from Department of Pathology, Lab Medicine and Hematology is being done during their posting.
6. Training classes for Nursing officers posted at National Cancer Institute, AIIMS, Jhajjar campus regarding “Safe Bed-side transfusion practices.”

### Lectures delivered

**Hem Chandra Pandey: 3**

**Gopal Kumar Patidar: 3**

### Hem Chandra Pandey

1. Inventory Management During COVID-19 Pandemic, 45th Annual Conference, ISBTI, TRANSCON 2020, 27 February 2021, Chennai, Virtual
2. Pre-transfusion testing and compatibility issues, NHM “Training of Trainers for Strengthening of Blood Services and e-Rakt Kosh” for blood bank officials of Haryana, 18 March 2021, Noida, Virtual

3. Advancing transfusion safety: Evidence-based practices, Workshop on - Medication safety: Going beyond the "Rights", 18 March 2021, Noida, Virtual

### **Gopal Kumar Patidar**

1. Recipient Haemovigilance, International Society of Blood Transfusion (ISBT) Hemovigilance Working Party Meeting in ISBT Conference, November 2020 Program of India, 4 December 2020, Virtual
2. Effect of Adverse Conditions on Platelet Quality, TRANSCON, 2020, Indian Society of Blood Transfusion and Immunohaematology, 28 February 2021, Virtual
3. Role of Therapeutic Plasma Exchange in COVID-19, Transfusion Medicine virtual CME COVID-19 Pandemic: Lessons Learnt by Department of Transfusion Medicine ESIC Medical College Hospital, Sanath Nagar, Hyderabad, 27 March 2021, Virtual

### **List of oral papers/posters presented: 8**

1. Chaurasia R, Akhtar N, Arya V, Karjee S, Subramanian A. Revisiting the definition for massive transfusion in trauma patients presenting with hemorrhagic shock, 36th International Congress of the ISBT 2020, 12 – 16 December 2020, Virtual Congress
2. Chippy C, Pandey H, Mahapatra M, Chaurasia R, Patidar G, Coshic P, Thapliyal R, Sharma V. Prospective observational study to find the prevalence and to serologically characterize autoimmune hemolytic anemia (AIHA) patients in a tertiary care teaching center, 36th International congress of ISBT, 12-16 December 2020, Virtual Congress
3. Dhiman Y, Patidar GK. Environmental influences and natural selection on ABO and Rh (D) blood Groups in Indian subcontinent, 36th International congress of ISBT, 12 – 16 December 2020, Virtual Congress
4. Krishna A, Chaurasia R, Subramanian A, Meher R. One year experience with massive hemorrhagic protocol at an urban level 1 trauma centre in India, 36th International Congress of the ISBT 2020, 12-16 December 2020, Virtual Congress
5. Pandey HC, Coshic P, Kumar R, Jamshed N, Subramaniam R. Evaluation of radio frequency identification technology for inventory management and patient identification before transfusion, 36th International congress of ISBT, 12-16 December 2020, Virtual Congress
6. Pandey HC, Varghese M, Rana A, Kumar R, Kumar P. Estimation of Incidence Rates & Residual Risks of HIV, HBV and HCV in Indian Settings Using NAT Window Period Yield Cases, 36th International congress of ISBT, Virtual Congress
7. Patidar GK, Dhiman Y, Kumawat V, Knowledge, Attitude, and Practice(KAP) study among Indian transfusion medicine experts regarding peer review process, 36th International congress of ISBT, 12 – 16 December 2020, Virtual Congress
8. Vijayaran M, Aggarwal M, Gudala SP, Dass J, Pandey HC, Seth T, Mahapatra M, CMV infection in an infant presenting as steroid refractory AIHA , HEMATOCON 2020 VIRTUAL, 21-22 November 2020, Virtual Conference

### **RESEARCH**

#### ***Ongoing***

1. A randomised control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients, Rahul Chaurasia, AIIMS (Intramural), 2 years, 2019-2021, 10 lakhs
2. Diagnostic accuracy of using cell free fetal DNA isolated from mother's plasma for determination of fetal Rh D status during antenatal period as compared to determination of D status using serological tests in cord blood, Hem Chandra Pandey, AIIMS (Intramural), 2 years, 2019-2021, 10 lakhs
3. Epidemiology of SARS-CoV-2 antibodies in healthy blood donors and its implication in transfusion safety, Rahul Chaurasia, AIIMS (Intramural), 1 year, 2020, 10 lakhs

#### ***Completed***

1. A Randomized Control Trial for evaluation of Transfusion Related Immuno-modulation in patients with meningioma, Gopal Kumar Patidar, AIIMS (Intramural), 2 years, 2019-2020, 10 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients
2. Analysis of current Transfusion Practices in neonatal patients of  $\leq 28$  Days of Age.

3. Analysis of quality parameters for platelet concentrates prepared from whole blood stored overnight at ambient temperature.
4. Characterization of initially reactive discordant results tested by chemiluminescence (CLIA) and nucleic acid testing (NAT) during blood donor screening for hepatitis-B and hepatitis-C
5. Evaluation of effect of early use of Cryoprecipitate on blood components usage in severely bleeding trauma patients
6. Impact of SARS-CoV-2 on aspects of product quality and transfusion safety during the initial phase of the pandemic
7. Incidence of adverse transfusion reactions and analysis of factors associated with these reactions: A four-year experience from a tertiary care hospital from India
8. Incidence of delayed adverse events in blood donors following whole blood donation in Indian setting
9. One year experience with massive hemorrhage protocol at an urban level-1 trauma center
10. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion in an Indian setting
11. Randomized controlled trial to determine the effectiveness of acute normovolemic hemodilution (ANH) for peri-operative blood management in patients undergoing scoliosis surgery.
12. Retrospective analysis of differences in red blood cell usage across different gender, age groups and specialties in a tertiary care hospital
13. Retrospective review of the transfusion practices in hospitalized COVID-19 patients
14. Vasovagal reaction prevention strategies in whole blood donors: A quadri-armed randomized control trial

### ***Completed***

1. Analysis of ABO antibody titre in healthy blood donors
2. Assessment of ABO antibody titre and coagulation factors level after mixing and dilution with normal saline of A and B blood group donor plasma
3. Blood supply management in times of SARS-CoV-2 pandemic – challenges, strategies adopted, and the lessons learned from the experience of a hospital-based blood center
4. Clinical and serological characterization of autoimmune haemolytic anemia
5. Comparison of seroprevalence among asymptomatic donors from two groups at high risk of exposure to COVID-19: Is it safe to donate?
6. Estimation of incidence rate of HIV, HBV and HCV in healthy blood donors and their residual risk of transmission after ID- NAT screening
7. Evaluation of Biolog-id solution (a RFID based system) for red blood cell traceability and inventory management - implementation at Main Blood Bank AIIMS, New Delhi.
8. Reappraisal of the concept of massive transfusion in trauma patients presenting with hemorrhagic shock
9. The outcomes of leukoreduced and non-leukoreduced blood component transfusion in patients undergoing cardiac surgery

### **Collaborative projects**

#### ***Ongoing***

1. Analyzing the effect of novel Pyrazole-based small molecule inhibitor on endosomal TLR-induced signaling activation in healthy peripheral blood mononuclear cells, Department of Biotechnology
2. Analyzing the effect of novel Pyrazole-based small molecule inhibitor on cell surface TLR-induced signaling activation in healthy peripheral blood mononuclear cells, Department of Biotechnology
3. Complement factor H (CFH)-related protein 1 (CFHR1) and its role in maintenance of immunological tolerance”, Regional Center for Biotechnology, Faridabad
4. Determination of reference ranges for healthy individuals for new red blood cell and reticulocyte parameters in Indian population, Department of Laboratory Medicine
5. Evaluation of immunomodulatory activities of Toll-like receptor signaling inhibitors in lupus peripheral blood mononuclear cells, Department of Biotechnology
6. Evaluation of the potential impact of determination of paternal RhD zygosity and non-invasive fetal RhD genotyping using circulating cell-free fetal DNA from maternal plasma in the antenatal monitoring of alloimmunized pregnant women: A pilot study on cost-benefit analysis, Department of Obstetrics and Gynecology
7. H1-MR Spectroscopy based evaluation of metabolic abnormalities in anterior cingulate cortex, hippocampus and amygdala in treatment naïve patients with unipolar and bipolar depression and its relationship with peripheral glutaminase., Department of Psychiatry

## **PUBLICATIONS**

**Journals: 6**

**Abstracts: 8**

**Chapter in book: 1**

## **PATIENT CARE:**

(a) Facilities available in the department (including special clinics and/or special laboratory facilities):

- Autologous blood donation
- Autologous platelet donation
- Voluntary blood donation camp facility.
- Apheresis procedures( SDP, TPE, PBSC)
- Automated blood grouping and serology.
- Automated infectious markers testing
- ID-NAT testing of all donated units of three blood banks of AIIMS.
- 100% blood component preparation.
- Irregular antibody identification.
- Antibody screening.
- Antibody titers.
- Leucodepleted blood/components.
- Irradiation facility.

(b) Apheresis: SDAP collection, TPE, PBSC, LDL apheresis and granulocyte harvesting.

Registry created of voluntary SDP donors to support hemato-oncology patients.

(c) Community services/camps etc.:

- Main blood bank organized total 59 voluntary donation camps in Delhi NCR and collected over 8000units.
- Main blood bank continued providing blood to providing blood components for use of cancer patients.

(d) Main blood bank organized convalescent plasma collection camp and collected over 25 units in a single day.

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Gopal Patidar:** Elected as secretary ISBT Hemovigilance working party; Member of reviewing and analysis of reports of donor reaction submitted in Donor-Vigil software under National Blood Donor Hemovigilance Programme, India.



## 9.41. Transplant Immunology and Immunogenetics

### Professor and Head

DK Mitra

### Assistant Professors

Uma Kanga

Rakesh Kumar Deepak

### Scientist II

Sunil Kumar

Lata Kumari

### Scientist I

Sanjeev Goswami

Sonia Verma

### HIGHLIGHTS

During the year 2020-2021, our department trained 12 students/doctors from various hospitals and institutions from India and abroad. These candidates received training on laboratory techniques in Transplant Immunology, Immunogenetics-HLA testing, post-transplant monitoring and other immunological investigations for immune deficiency. Short-term training-AIIMS (1-2 weeks): The Department provided short term training to the Junior residents from Pathology (5), Laboratory Medicine (3) and Senior Residents (DM Students) of Nephrology (1), Hematology (6), Biochemistry (3), Medical Oncology (3), Transfusion Medicine (3), Pediatrics (2) from AIIMS. Long-term training-National (6 months): One candidate received Long-term training. During the year, the faculty and scientists of the department participated and delivered several lectures in National and International conferences. Our department regularly provides training on various cell culture assays, including flowcytometry based assays to students and visiting trainees. Our department coordinates a national level Quality Control exercise for DNA based typing of HLA genes for assessment of Quality of testing by other HLA laboratories in India. The Faculty also delivered special lectures in departments of Biotechnology and Pathology, AIIMS as part of the academic curriculum of these departments. Faculty/Scientists delivered lectures to MD/DM residents from Pediatrics, Hematology, Anatomy, Nephrology, Biochemistry, Medical Oncology, Pathology and Laboratory Medicine. Several lectures on Transplant Immunology were also delivered to College of Nursing students of our institute.

### Lectures delivered

**Uma Kanga: 4**

#### Uma Kanga (National):

1. Air pollution triggering Immune Disorders and reasons for general state of Malice, Webinar on 'Air Quality and Public Health Challenges' Organized by The Energy and Resource Institute (TERI), 28 January 2021, Online
2. Women Scientists at the fore front of fight against COVID-19, International Day for Women and Girls in Science Organized by Civil Services Academy and WDEC of Vignan's Foundation for Science, Technology and Research, AP, 11 February 2021, Online

#### Uma Kanga (International):

1. Advances in HLA typing for Thoracic Organ Transplantation: Future role of Virtual Cross match and other state of the art technologies, HLA Immunogenetics and Transplant Immunology in Thoracic Organ Transplants- where are we heading?' Organized by Indian Society of Heart and Lung Transplantation (INSHLT), 22-23 January, 2021, Online
2. Quality and Standards for Transplant Immunology and Immunogenetics, 1<sup>st</sup> International Diagnostic Conclave on Strategic planning in Quality Management Organized by Consortium of Accredited Healthcare Organizations (CAHO), 27 March 2021, Online

### RESEARCH

#### Funded

#### Ongoing

1. Development of a model healthcare network based on Integrated Medical devices for screening monitoring of prognosis continuity of care and machine learning based predictive modelling on Non-Communicable Diseases, DK Mitra, IMPRINT(HRD+ ICMR), 2 years, 2021-2023, Rs 25 lakhs

2. "Efficacy of  $\alpha$  PD-1 as an Adjunct Immunotherapy in Tuberculosis Patients". DK Mitra, Azure Software Pvt Ltd, 3 years, 2021-2024, Rs 140.20448 lakhs
3. Evaluation of panel reactive antibodies (PRA), major histocompatibility complex (MHC) and donor specific antibodies in the outcome of post heart transplant rejection status: Clinico-pathological study, Rakesh K Deepak (PI), Lata Kumari, (Co-PI), AIIMS, Intramural, 2 years, 2019-2021, Rs 10 lakhs
4. Exosomes based immune profiling of Multi Drug Resistant (MDR) Tuberculosis", DK Mitra, ICMR, 3 years, 2021-2024, Rs 70 lakhs
5. Genome wide transcription analyses in DR Mtb: Identification and Immunomodulation of novel targets, DK Mitra, DBT, 3 years, 2018-2021, Rs 148 lakhs
6. Identification of novel biomarkers for prediction of Renal Allograft Rejection, Uma Kanga, AIIMS-THSTI, 1 year, 2019-2020, Rs 5 lakhs
7. In Silico Trial for Tuberculosis Vaccine Development (STriTuVaD) European Commission Horizon 2020, DK Mitra, DBT, 4 years, 2020-2024, Rs 398.36224 lakhs
8. NKT cell subsets: Impact on Mycobacterium tuberculosis specific effectors T cell responses", DK Mitra, DBT, 3 years, 2018-2021, Rs 70 lakhs
9. Studies to delineate the Immunoregulatory role of PD-L1/PD-1 pathway and exploring it as a potential tool for vaccination strategies against Visceral Leishmaniasis", DK Mitra, DST, 3 years, 2018-2021, Rs 70 lakhs
10. To study the role of regulatory T cells in patients with colorectal cancer, Lata Kumari (PI), Rakesh K Deepak (Co-PI), AIIMS, Intramural, 2 years, 2019-2021, Rs 10 lakhs

### **Completed**

1. "Development of a Remote Healthcare Delivery System: Early Diagnosis, Therapy, follow-up and Preventive Care for NCDs (cardio-pulmonary)", DK Mitra, IMPRINT(HRD+ ICMR), 3 years, 2017-2020, Rs 64.85 lakhs
2. "Functionalization and Validation of a Cloud based Integrated Medical Device (IMD): Delivery of Specialized diagnostic, therapeutic & follow up care to the remote underserved population." DK Mitra, Azure Software Pvt. Ltd., 3 years, 2017-2020, Rs 16.44 lakhs
3. Genomic analysis of HLA and Non HLA genes and humoral profile of Type 1 Diabetes Mellitus in the population of North East India, Uma Kanga, DBT (BCIL), 3 years, 2017-2020, Rs 127.8 lakhs (Total NE and AIIMS)
4. Immunogenetic correlates of Dengue infection: Analysis of HLA and KIR genes in North Indian Population, Uma Kanga, AIIMS, 1 year, 2019-2020, Rs 5 lakhs
5. "NKT cell subsets: Impact on Mycobacterium tuberculosis specific effectors T cell responses", DK Mitra, ICMR, 3 years, 2017-2020, Rs 70.26 lakhs

### **Collaborative Projects:**

#### **Ongoing**

1. A Phase III, Randomized, Double-blind, Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac (Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients, Department of Centre for Community Medicine, AIIMS, New Delhi
2. An evaluation of HLA, phagocytic function and trace elements in cases of sinusitis, invasive fungal sinusitis and non-invasive fungal sinusitis, Department of ENT, AIIMS, New Delhi
3. Association between immunological characteristics and clinical outcomes in COVID-19 patients, Department of Medicine, AIIMS, New Delhi
4. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy in improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Department of Centre for Community Medicine, AIIMS, New Delhi
5. Evaluation of novel forensic exhibits and informativity of Y-STR markers in chimersm situation, Department of Forensic Medicine, AIIMS, New Delhi
6. Genetic Diversity Among the Indian Gorkhas from Darjeeling Himalaya: Next Generation Sequencing (NGS) based In Phase Polymorphism Analysis of HLA Minigenome, Sikkim University

7. Genetic Propensity to Nasopharyngeal Carcinoma in Nagas from North East India, Naga Hospital and Authority, Nagaland
8. Identification of metabolic markers in Rheumatic Heart Disease (RHD) with Atrial Fibrillation using untargeted LC/MS based Metabolic Approach, Department of Pathology, Safdarjung Hospital, New Delhi
9. Study of HLA allele, T-cell epitope recognition & virus variations in COVID-19: Bioinformatics & Immunoinformatic approach, Savitribai Phule University, Pune and National AIDS Research Institute (ICMR), Pune
10. Study to evaluate effectiveness of BCG Vaccine in reducing morbidity and mortality in Elderly individuals in COVID-19 Hotspots in India, Department of Pulmonary, Critical Care & Sleep Medicine (PMSD), All India Institute of Medical Sciences, New Delhi
11. The Role of HLA antigens in primary IgAN in Indian patients: a case control study, Department of Nephrology, AIIMS, New Delhi
12. To study the prevalence and clinical characteristics of Pediatric Multisystem Inflammatory Syndrome associated with COVID-19, Department of Pediatrics, AIIMS, New Delhi
13. To study the prevalence and types of refractory celiac disease, as well as to work out the best possible cost effective diagnostic panels, in a cohort of non responsive patients with celiac disease, Department of Pathology, AIIMS, New Delhi

## Departmental projects

### Ongoing

1. Association of HLA class II DR/DQ alleles in children and adolescents with rheumatic heart disease from a tertiary care centre in north India
2. Clinico-sero-pathological classification and pathogenesis of Idiopathic inflammatory myopathies (IIMs)
3. Development of cost effective in-house assays for HLA diagnostic services
4. Effect of anesthetic technique on anti-tumor immunity and its markers in patients undergoing surgery for Gall Bladder Cancer: A prospective randomized comparative study.
5. Establishment of heterogeneity in genetic markers: potential use in transplant monitoring
6. “Exosome based immune profiling in renal transplant Patients: relevance in acute graft dysfunction”
7. Identification of Signatures for predicting rejection in Renal Transplantation
8. “Immune reconstitution following haploidentical Hematopoietic stem cell transplantation”
9. Impact of checkpoint inhibitors on suppressed state of immunity in tuberculosis
10. Inhibiting Check Point Molecules in Tuberculosis: Impact on Efflux Pump in Mycobacterium tuberculosis”
11. Inhibiting PD-1 in tuberculosis: impact on immunological and clinical outcome in drug resistant and drug sensitive patients
12. In-phase polymorphism analysis of HLA genes in North East Indian tribal populations
13. NKT Cells in Tuberculosis: Impact on Protective T cell response.

## PUBLICATIONS

Journals: 19      Abstracts: 1

## PATIENT CARE

### RENAL TRANSPLANTATION

Nephrology, AIIMS & other referrals

Renal Transplant Service	Recipients	Donors	Total
Live Related Transplant	107	116	223
Cadaver Transplantation (Kidney)	11	0	11
Cross Match Test - CDC (Serology)	141		
Cross Match Test – (Flowcytometry)	112		
Luminex PRA	147		
Luminex SAB (DSA monitoring)	128		

## BONE MARROW / HEMATOPOIETIC STEM CELL TRANSPLANTATION

Hematology, AIIMS & Other Referrals

Diagnosis	Recipients	Donor	Total
Aplastic Anemia	49	135	184
Acute Leukemia (AML+ALL)	48	143	191
Thalassemia	8	24	32
Chronic Leukemia (CML+JMML)	7	21	28
Others	18	53	71
<b>Total</b>	<b>130</b>	<b>376</b>	<b>506</b>

S.No.	Diagnosis	No. of Tests 2020-21
<b>A</b>	<b>Low Resolution HLA Typing</b> (PCR-SSP or PCR-SSO Luminex based)	
1.	HLA-A locus	506
2.	HLA-B locus	506
3.	HLA-C locus	300
4.	HLA-DRB1 locus	126
5.	HLA-DRB3/4/5 loci	5
<b>B</b>	<b>High Resolution HLA Typing</b> (Sequence Based Typing (SBT)/ Next Generation Sequencing (NGS)/SSO Luminex)	
6.	HLA-A locus	15
7.	HLA-B locus	18
8.	HLA-C locus	15
9.	HLA-DRB1	15
10.	HLA-DQB1	15
11.	HLA-DQA1	15
<b>C</b>	<b>Donor Specific Antibody (DSA) Monitoring - Luminex</b>	
12.	Mixed Screen (HLA class I & II)	29 + 29
13.	HLA class I (SAB)	8
14.	HLA class II (SAB)	8
<b>D</b>	<b>Chimerism studies in BMT</b>	
15.	Post HSCT recipients	12
16.	Pre HSCT recipients	10
17.	HSCT Donors	10
	<b>TOTAL TESTS</b>	<b>1528</b>
<b>E</b>	<b>Unrelated Donor searches for BMT</b> * During the year requests received by Asian Indian Donor Marrow Registry for HLA matched donors	5*

### II. Disease Association HLA Screening tests

	Diseases	HLA Test	No of Tests
1.	Ankylosing Spondylitis & other Spondyloarthropathy	HLA- B-27	208
2.	Coeliac Disease	HLA-DQA1	2
3.	Coeliac Disease	HLA-DQB1	2
4.	Narcolepsy/Cataplexy	HLA-DQB1	1
5.	Behcets' Disease	HLA-B*51	31

	Diseases	HLA Test	No of Tests
6.	Drug hypersensitivity screening	HLA-B*57:01, B*15:02	3
	<b>Total</b>		<b>247</b>

	All Patient care services	No. of Tests
	HSCT related & Quality Assurance Program	1528
	Disease association screening	247
	<b>Total</b>	<b>1775</b>

#### BONE MARROW TRANSPLANTATION- IRCH, AIIMS Referrals

Diagnosis	Recipients	Donor	Total
Acute Leukemia- ALL	28	87	115
Acute leukemia-AML	57	136	193
Chronic Leukemia – (CML+JMML)	09	32	41
Others	07	24	31
<b>Total</b>	<b>101</b>	<b>279</b>	<b>380</b>

S. No.	Diagnosis	No. of Tests 2020-21
<b>A</b>	<b>Low Resolution HLA typing (PCR-SSP or PCR-SSO Luminex based)</b>	
	HLA-A locus	426
	HLA-B locus	424
	HLA-C locus	25
	HLA-DRB1 locus	72
<b>B</b>	<b>High Resolution HLA typing (Sequence Based Typing (SBT) / -SSO Luminex)</b>	
	HLA-A locus	08
	HLA-B locus	08
	HLA-C locus	08
	HLA-DRB1	08
	HLA-DQB1	08
	HLA-DQA1	08
<b>C</b>	<b>Donor Specific Antibody (DSA) Monitoring Luminex based assays</b>	
	HLA class I (SAB)	04
	HLA class II (SAB)	04
<b>D</b>	<b>Chimerism Study in BMT</b>	
13.	Post HSCT recipients	01
14.	Pre HSCT recipients	01
15.	HSCT Donors	01
	<b>TOTAL TESTS</b>	<b>1006</b>



### Disease Association HLA Screening tests

S.no.	Diseases	HLA test	No. of Tests
16.	Ankylosing Spondylitis & other Spondyloarthropathy	HLA- B-27	85
17.	Coeliac Disease	HLA-DQA1	02
	Coeliac Disease	HLA-DQB1	02
18.	Behcets Disease	HLA-B*51	15
	<b>TOTAL</b>		<b>104</b>

### PRIMARY IMMUNODIAGNOSTICS

Diagnostics (2020-21)	
Immune Deficiency Disorder	<b>6237</b>

Free of cost service provided for Primary & Secondary Immunodeficiency Diseases

Total No. of Tests (2020-21)			
S.No.	Diagnosis	Markers/Assays	No. of Tests
1.	T Cell Frequency	CD3 <sup>+</sup> /CD4 <sup>+</sup> /CD8 <sup>+</sup>	1052
2.	B Cell Frequency	CD19 <sup>+</sup> /CD20 <sup>+</sup>	1321
3.	NK Cell Frequency	CD3 <sup>-</sup> /CD16 <sup>+</sup> /CD56 <sup>+</sup>	631
4.	NK Cell Activity	CD3 <sup>-</sup> /CD56 <sup>dim</sup> /Perforin <sup>+</sup>	329
5.	NK Cell Activity	sIL2R	18
6.	ALPS	CD3 <sup>+</sup> /CD4/8/TCR $\alpha\beta$ <sup>+</sup>	52
7.	Leukocytes Adhesion Deficiency	CD18 <sup>+</sup> /CD11a <sup>+</sup> /CD11b <sup>+</sup>	251
8.	<u>Chronic Granulomatous Disease</u>	DHR	1123
9.	Hyper IgM	CD3 <sup>+</sup> /CD8 <sup>-</sup> /CD69 <sup>+</sup> /CD154 <sup>+</sup>	15
10.	T cell function (IFN-gamma)	CD3 <sup>+</sup> /CD4 <sup>+</sup> /IFN- $\gamma$ <sup>+</sup> /IL-2 <sup>+</sup>	125
11.	Class Switch Memory	CD19 <sup>+</sup> /CD27 <sup>+</sup> /IgD <sup>-</sup>	59
12.	Degranulation Assay	CD3 <sup>-</sup> /CD56 <sup>dim</sup> /CD107a <sup>+</sup>	9
13.	IL-12 Assay	CD14 <sup>+</sup> /IL-12 <sup>+</sup>	13
14.	Memory T cell	CD3 <sup>+</sup> /CD45RA <sup>+</sup> /CD45RO <sup>+</sup>	16
15.	Serum IgA		325
16.	Serum IgM		362
17.	Serum IgG		351
18.	Serum IgE		156
19.	Serum IgG Subclasses		29
<b>Total</b>			<b>6237</b>

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Uma Kanga** was re-elected for 2nd term as “Asia Pacific Region - Councillor” of the Asia Pacific Histocompatibility and Immunogenetics Association (APHIA) (2020-2022); continues as Treasurer of Indian Immunology Society (IIS) - (2018-2021); was elected Vice-President of the Asia Pacific Histocompatibility and Immunogenetics Association (APHIA) (2020-2022); was designated the Co-Chair of the “International Committee” of the American Society of Histocompatibility and Immunogenetics (ASHI).

## 9.42 Urology

### Professor and Head

Amlesh Seth

### Professor

Rajeev Kumar

### Additional Professor

Prabhjot Singh

### Associate Professor

Rishi Nayyar

Brusabhanu Nayak

### Assistant Professor

Siddharth Jain

Manoj Kumar

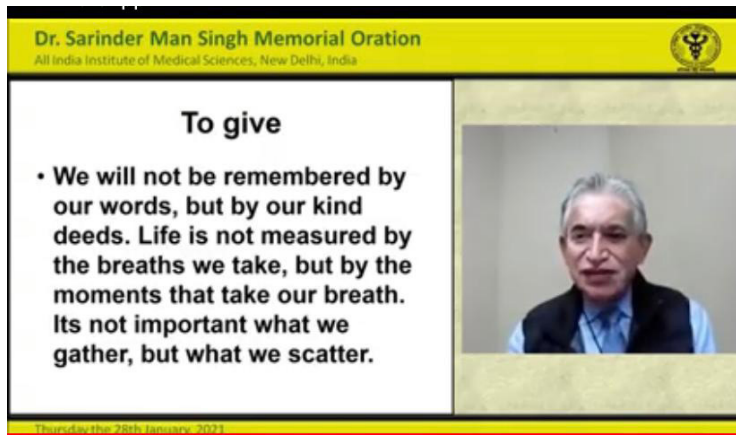
Sanjay Kumar

## HIGHLIGHTS

- A) The department organized an USI-IJU international webinar on “Effective Communication and Presentation” on 21 June 2020.
- B) The department organized an USI-ISU international webinar on “Uncommon advanced urological reconstructions” on 2<sup>nd</sup> July 2020.
- C) The department organized an international webinar “Uro-Oncology Update: Bladder Cancer” on 19<sup>th</sup> September 2020. Dr Badrinath Konety (USA) and Dr Ashish Kamat (USA) attended the event as International Faculty.
- D) The 5<sup>th</sup> Sarinder Man Singh Memorial Oration in Urology was delivered by Dr Gopal Badlani, Professor and Vice-Chair Clinical Affairs, Urology, Wake Forest University Health Sciences, Winston, North Carolina, USA on the topic of “The people who paved the way for me in Urology” on 28<sup>th</sup> January, 2021 at AIIMS, New Delhi.
- E) Dr Amlesh Seth presided over NZ-USICON 2020 as President of the society.
- F) OPD of the department was increased and made available 4 days a week in new OPD block.
- G) The department has started regular urology surgical services in NCI, Jhajjar.



International webinar “Uro-Oncology Update: Bladder Cancer” in-progress on 19<sup>th</sup> September 2020.



5th Sarinder Man Singh Memorial Oration in Urology being delivered by Dr Gopal Badlani, USA on 28 January 2021.

## EDUCATION

The faculties of the department participated online and delivered lectures in continuing medical education programs, symposia, national and International conferences during the year. The senior faculty members are examiners for NBE and M.Ch. Urology in various universities. The faculty of the department took active part in restructuring and reframing the curriculum for M.Ch. and DNB training courses in Urology of other upcoming institutes. The faculty of the department is actively engaged in development of various Indian guidelines under aegis of Urological society of India. The Department imparted lectures for the undergraduates and nursing students (BSc and MSc). The faculty is actively involved in curriculum revision for undergraduates. The department trains 11 postgraduates for the degree of MCh in Urology over a three year period. Post MCh Fellowship training is available for sub-specialities including minimally invasive urology, uro-oncology, reconstructive urology and urogynecology. 1 candidate each successfully completed their respective fellowships in the field of ‘Minimally invasive urology’ and ‘Reconstructive urology’ in Dec 2020. 1 candidate (Urogynecology) was rotated for three months from Department of Obst & Gyn. The department also recruited 3 non-academic residents for the year. MS (Gen Surg) residents also rotated for urological training as per their curriculum. Faculties of the department have actively taken part in development of various modules of skill sets for students, which is a step forward towards e-learning. Faculty also took lectures for the SET facility towards their faculty development program. Training of interns and MBBS students for urethral catheterization: male and female on mannequin pelvis was done in the SET Facility and has been incorporated into their regular curriculum. Training on Skill Simulators (URO/PERC Mentor) is a part of regular curriculum of residents training. Due to the impact of Covid-19 pandemic, most of the education was done in online mode. Surgical skill training and ward training took major impact because of limited OT time and restrictions on admissions, in-patient beds and available OT time.

## CMEs/Workshops/Symposia/National and International Conferences

The department organized the following webinars/conferences

- USI-IJU international webinar on “Effective Communication and Presentation” on 21 June 2020
- USI-ISU international webinar on “Uncommon advanced urological reconstructions” on 2 July 2020
- International webinar on “Uro-Oncology Update: Bladder Cancer” on 19 September 2020

## Lectures delivered:

<b>Amlsh Seth: 33</b>	<b>Rajeev Kumar: 22</b>	<b>Prabhjot Singh: 16</b>
<b>Rishi Nayyar: 24</b>	<b>Brusabhanu Nayak: 17</b>	<b>Siddharth Jain: 2</b>
<b>Manoj Kumar: 1</b>	<b>Sanjay Kumar: 1</b>	

## Amlsh Seth

1. Panelist: Case scenarios of partial nephrectomy, Practical Scenarios beyond Guidelines in Uro-oncology , April 26, 2020, Online
2. Management of cavo-atrial thrombus with RCC, USI RCC Update, 29 April 2020, Online
3. Panelist: Management of Locally advanced RCC, USI RCC Update, 29 April 2020, Online
4. Chairperson-Lecture on Recent Management of Overactive bladder, NZC-USI & UP Assoc of Uro. Surgeons- Urology Update, 16 April 2020, Online
5. Organized in the capacity of President NZUSI, chaired a session and was a panelist in session of locally advanced prostate cancer, International Update on high risk localized and locally advanced prostate cancer, 3 May 2020, Online

6. Treatment of high risk non metastatic prostate cancer in 2020, Knowledge Series for Genito-Urinary Cancers -Year in Review, 16-17 May 2020, Online
7. Organized in the capacity of President NZUSI and chaired a session, Uro-Finance-Con Management during COVID Pandemic, 31 May 2020, Online
8. Organized in the capacity of President NZUSI, chaired sessions and participated as faculty, NZ USI PG Teaching Sessions (Total four sessions), 6-20 June, 5-11 July 2020, Online
9. Organized in the capacity of President NZUSI, chaired a session and was an expert in the session on Complications of TURBT, Complications in Endourology-Case Based Scenarios, 21 June 2020, Online
10. Was invited to chair a session on bladder cancer-Conference converted to virtual – provided free registration to attend, Annual Meeting of American Urology Association, 27-28 June 2020, Online
11. Panelist in the session on Opportunities in India, USI - ISU Webinar on Fellowships post MCh and DNB - Options and Prospects, 30 June 2020, Online
12. IVC Reconstruction in Urologic Surgery-Lecture and Video presentation, USI ISU Webinar on Uncommon Advanced Urological Reconstructions, 2 July 2020, Online
13. Risk Stratification in Cancer Prostate, Urology & Transplantation Foundation of Bangladesh—Master class on Prostate Cancer, 9 July 2020, Online
14. Was invited as faculty to deliver a talk on RCC with IVC Thrombus-Conference converted to virtual– provided free registration to attend, 35th Annual Conference of European Association of Urology, 17-19 July 2020, Online
15. Organized in the capacity of President North Zone USI along with Nepal Association of Urological Surgeons, International Renal Transplant Update, 18 July 2020, Online
16. Organized in the capacity of President North Zone USI, chaired sessions and participated as faculty, International Semi-live workshop on Retroperitoneoscopic Laparoscopy, 25 July 2020, Online
17. Moderator cum expert for session on Complex Robotic Reconstructions, USI ISU Webinar on Robotic Urologic Surgery-semi live, 28 July 2020, Online
18. Organizer and panelist-Collaborative effort of USI-ISU, NZC-USI and Robotic Urology Forum of India. Expert for the session on Robotic Pyeloplasty & Robotic Boari Flap, World Robotic Symposium- India 2020, 31 July 2020, Online
19. IVC Thrombus-How do I handle it? Society of Uro Oncology (SOGO) Webinar on RCC, 4 August 2020, Online
20. Panelist in the session on Castration Resistant Carcinoma Prostate, AIIMS Rishikesh Urology Webinar-Carcinoma Prostate in 2020: evolution over a decade, 23 August 2020, Online
21. Expanding indications of radical prostatectomy-are we over stretching the limits? ABVIMS-GUCSI Prostate Cancer Masterclass, 11 September 2020, Online
22. Panelist in case-based discussion, USI-ISU webinar on Diagnostic modalities in Ca Prostate: Do we have too many or too less?, 13 September 2020, Online
23. Panelist in case-based discussion on NMIBC, AIIMS Uro-Oncology Update on Bladder Cancer, 19 September 2020, Online
24. Expert comments on abstracts of Locally Advanced RCC, International review of Best of EAU 2020- Part 1 (Uro-oncology), 26 September 2020, Online
25. Lecture on Controversies in the management of small renal masses, 40<sup>th</sup> Congress of Societe' Internationale d Urologie', 10-11 October 2020, Online
26. Chairperson-session on controversies in the management of renal cancer, 40<sup>th</sup> Congress of Societe' Internationale d Urologie', 10-11 October 2020, Online
27. Organized in the capacity of President North Zone USI and chaired a session, International review of Best of EAU 2020- Part 2 (Endourology), 31 October 2020, Online
28. Expert comments on image guided interventions for prostate cancer, USI-ISU Webinar-Image guided interventions in Urology: Are we ready to take on the intervention radiologists? 1 November 2020, Online
29. Comparison of standard 12 cores systematic TRUS guided biopsy and MRI-US fusion biopsy in the detection of prostate cancer, 108th Conference of Japanese Urological Association, 23 December 2020, Online
30. Organized in the capacity of President North Zone USI, chaired lectures by invited International speakers virtually and the orations physically, 30th Annual Conference of North Zone Chapter Urological Society of India, 22-24 January 2021, Hybrid/New Delhi/Online
31. Chaired and provided expert comments in five different sessions on uro-oncology, robotic urology and reconstructive urology, 54th Annual Conference of Urological Society of India, 12-14 February 2021, Online

32. Chaired the session on Tips and Tricks of Radical Perineal Prostatectomy by Hansjorg Keller of Germany, Live/ Semi Live operative single day hybrid workshop on “The Art of Radical Perineal Prostatectomy”, 27 February 2021, Online
33. Chaired the session on en-block resection of prostate, Video workshop on Transurethral Enucleation and En-Bloc Resection Techniques, 26 March 2021, Online

#### **Rajeev Kumar**

1. Basics of Critical Appraisal, Webinar on Critical Appraisal, NMJI, 9 May 2020, Online
2. Why write, Webinar on How to write, IJU-ULTOE, 10 May 2020, Online
3. Pseudojournals, Webinar on How to write, IJU-ULTOE, 10 May 2020, Online
4. Essentials of a written manuscript, Webinar on Presentation skills, IJU-USI, 21 June 2020, Online
5. Case discussion, USI Mock Exam, 28 June 2020, Online
6. Writing a good introduction, Essentials of medical writing-the beginning, IAMJE, 21 August 2020, Online
7. Panel discussion: Pathways and challenges in national and international collaborative studies, Penile and Testicular cancer, USI, 9 August 2020, Online
8. Panel discussion, Urology Subspecialties - Indian Perspective. Urological Society of India, 23 August 2020, Online
9. Group leader (Best group award), Endoscopic Stone Management and Problem Based Learning. AUSTEG, 25 August and 5 September 2020, Online
10. Expert commentator, AIIMS Uro-oncology Update: Bladder cancer, 19 September 2020, Online
11. Writing an ‘Introduction’, 40th SIU Meeting, 2020, 10-11 October 2020, Online
12. Academics @ AIIMS during COVID-19, Innovation and Transformation of Medical Education, University of the Philippines, 20 November 2020, Online
13. Panel discussion, Authorship issues in Medical Research, AIIMS, Bhubaneswar, 10 December 2020, Online
14. Writing the Introduction, Scientific Writing- the wider perspective, IJU, 13 December 2020, Online
15. Upfront cytoreductive nephrectomy in 2020, Onco Nephrology Update 2020, SGRH, New Delhi, 19 December 2020, Online
16. Panel discussion: Teleurology symposium, Telemedicon 2020, Telemedicine Society, 19 December 2020, Online
17. Robot for low-volume surgeons-levelling the playing field, JUA Annual Meeting 2020, 22-24 December 2020, Kobe, Japan/ Online
18. Moderator-International oral session, JUA Annual Meeting 2020, 22-24 December 2020, Kobe, Japan/ Online
19. Moderator-Educational course: MRI in Urology, NZUSICON 2020, 24 January 2021, Online
20. IJU Session: Presentation etiquette, USICON 2021, 14 February 2021, Online
21. Authorship and acknowledgements, Scientific communication, SGPGI, Lucknow, 22-26 February 2021, Online
22. Pediatric urolithiasis, 13th Pediatric Surgery Update, MAMC, 12 March 2021, Online

#### **Prabhjot Singh**

1. A rare chest complication following PCNL, NZUSI Mid Term CUE – Complications in Endourology, 21 June 2020, Online
2. Adult Extrophy: Mucosectomy and continent pouch, USI-ISU Webinar: Uncommon advanced Urological reconstructions: What a urologist needs to know, 2 July 2020, Online
3. Moderated case discussion, NZUSI PG teaching session : 3-5 July 2020, Online
4. Panelist in “RCC management case discussion”, GUCSI Webinar: Recent clinical management of prostate cancer and RCC, 31 August 2020, Online
5. Chaired: a session, Prostate Cancer Master Class, RML Hospital, Delhi, 11 September 2020, Online
6. Convener and moderated sessions of webinar, AIIMS Uro-oncology Update: Bladder cancer, 19 September 2020, Online
7. Conventional Intra-vesical therapy, AIIMS Uro-oncology Update: Bladder cancer, 19 September 2020, Online
8. Convener of whole webinar, NZUSI Webinar: Best of EAU 2020, 26 September 2020, Online
9. Moderator and expert opinion in Brief evidence based update, NZUSI Webinar: Management of Carcinoma Penis from current to controversies, 12 December 2020, Online
10. Panelist in “Prostate cancer case discussion”, NZUSICON 2020, Uro-Oncology session, 22 January 2021, Online
11. Convener of Whole session, NZUSICON 2020, “Best article Review” session, 24 January 2021, Online



12. "Obturator block" Lecture in Rapid fire in urology session, USICON 2021, 12 February 2021, Online
13. Moderator of Session "RIRS in challenging scenarios", USICON 2021, 13 February 2021, Online
14. "Ligasure Lecture in "With great power comes greater responsibility!" session, USICON 2021, 14 February 2021, Online
15. Moderator for TURP module session, UROMET program under USI-ISU, 13-14 March 2021, Gurgaon
16. "Steps of TURP" lecture, UROMET program under USI-ISU, 13-14 March 2021, Gurgaon

### **Rishi Nayyar**

1. Panelist: 'Decision making in NMIBC', Webinar of Rajasthan/Royal Urology society: 'A masterclass on bladder cancer management', 24 May 2020, Online
2. BPH with overactive bladder, USI-ISU webinar, Saturday school of Urology, on Update on BPH, 30 May 2020, Online
3. Laparoscopic salvage of VVF associated with neovaginal reconstruction, USI-ISU Webinar on Complications in Urology (OMG!! How did it happen?), 18 June 2020, Online
4. Robotic pyeloplasty: overcoming the bumps on road, USI-ISU webinar on 'Uncommon advanced urological reconstructions: What a urologist should know', 2 July 2020, Online
5. Moderator: Clinical case discussion, USI-ISU webinar on 'Uncommon advanced urological reconstructions: What a urologist should know', 2 July 2020, Online
6. Panelist: 'Management of high risk nLUTD', USI-ISU webinar on Neurovesical Dysfunction - Current strategies of management, 10 July 2020, Online
7. Retroperitoneoscopic superselective hilar tumor partial nephrectomy, NZUSI 3<sup>rd</sup> Midterm CME: Current updates on Retroperitoneoscopy, 25 July 2020, Online
8. Robotic bladder diverticulectomy, USI-ISU Webinar: Robotic Urological Surgery - Semi Live, 28 July 2020, Online
9. Illustrative case discussion, USI-ISU Webinar: Grafts and Flaps in Reconstructive Urology – When, why and where, 6 September 2020, Online
10. Moderator: "Specific applications of Grafts and Flaps", USI-ISU Webinar: Grafts and Flaps in Reconstructive Urology – When, why and where, 6 September 2020, Online
11. Moderator: Clinical case discussion, AIIMS Uro-oncology Update: Bladder cancer, 19 September 2020, Online
12. Risk stratification in Bladder Cancer, Webinar "Uro-Oncology Update: Bladder Cancer", 19 September 2020, Online
13. Debate: PCNL (For Lower cayceal 2.5cm calculus, 1500HU in a solitary functioning kidney), USI-ISU webinar: "Crossfires in Endourology", 29 November 2020, Online
14. LHRH agonist versus antagonists for hormonal treatment of prostate cancer, Scientific Webinar, 10 December 2020, Online
15. COVID precautions in OPD, 17th DUSCON 2020, 3 January 2021, Delhi
16. Chaired: "Safe Urological Practices in Corona Times", 17th DUSCON 2020, 3 January 2021, Delhi
17. Examiner/Panelist: Clinical oriented postgraduate examination course, ASI Delhi Chapter - SCOPE (PG Class), 9 January 2021, Online
18. Principles of female PFUI repair, NZ-USICON 2020, 22-24 January 2021, Online
19. Chaired "Resident's Hot debate: We need good robotic training program in residency – Its future", NZ-USICON 2020, 22-24 January 2021, Online
20. Chaired "Recent updates on female Urology", NZ-USICON 2020, 22-24 January 2021, Online
21. Skill trained: young urologists and consultants on TURP / Da Vinci Robotic modules, UROMET program under USI-ISU, 30-31 January 2021, Gurgaon
22. Scenario based urological case discussion, 38<sup>th</sup> National CME in Surgery, MAMC, 2-5 February 2021, Delhi
23. Female pelvic fracture associated urethral stricture, Reconstructive Urology session, USICON 2021, 12-14 February 2021, Online
24. Long segment bilateral ureteric stricture, SAARC session, USICON 2021, 12-14 February 2021, Online

### **Brusabhanu Nayak**

1. Intra Operative Blast - Why/How to prevent Implications, USI-ISU Webinar: TURBT Unravelling, 9 June 2020, Online
2. Conventional intravesical chemotherapy in NMIBC, USI-ISU Webinar on "An update on NMIBC", 4 July 2020, Online

3. Persistent Nephropleural fistula following PCNL, NZUSI Mid Term CUE – Complications in Endourology, 21 June 2020, Online
4. Advance RCC management, sequencing of TKI, Real World TKI virtual Forum by Novartis, 3 July 2020, Online
5. Diagnostic modalities in Ca Prostate: Do we have too many or too less, USI-ISU Webinar, 13 September 2020, Online
6. Convener of the webinar & Moderator for NMIBC session, AIIMS Uro-oncology Update: Bladder cancer, 19 September 2020, Online
7. Speaker Debate: Radical cystectomy in Oligometastatic bladder cancer : Yes, AIIMS Uro-oncology Update: Bladder cancer, 19 September 2020, Online
8. NZUSI Best of EAU Abstracts 2020 Theme: Uro Oncology: MIBC, NZUSI – Best of EAU abstracts, 26 September 2020, Online
9. RIRS: Best abstracts, NZ: Best of EAU Endourology abstract -2020, 31 October 2020, Online
10. MRI-TRUS fusion biopsy: When and How?, USI-ISU Webinar: Image guided interventions: Are we ready to take on the intervention radiologists?, 1 November 2020, Online
11. Applied anatomy of adrenal glands, International Masterclass on minimally invasive adrenalectomy, 19 December 2020, Online
12. Panel discussion on Renal cell cancer – Uro-oncology Session, NZ-USICON 2020, 22 January 2021, Online
13. Convener for Minimally Invasive surgery (Lap & Robotics), NZ-USICON 2020, 22 January 2021, Online
14. Video demonstration on B/L simultaneous robotic ureteric reimplantation in minimally invasive surgery session, NZ-USICON 2020, January 22, 2021, Online
15. Survivor debate in endourology, NZ-USICON 2020, January 24, 2021, Online
16. Open Surgical Skills which have lasted test of time: Neo-bladder creation, USICON 2021, 12 February 2021, Online
17. How I do it: Laparoscopic management of Level 1 IVC thrombus, USICON 2021, 14 February 2021, Online

#### **Siddharth Jain**

1. Moderator: muscle invasive bladder cancer, AIIMS Uro-oncology Update: Bladder cancer, 19 September 2020, Online
2. An Update on Renal cell Carcinoma, 38<sup>th</sup> National CME in Surgery, MAMC, 2-5 February 2021, Delhi

#### **Manoj Kumar**

1. Moderator: non-muscle invasive bladder cancer, AIIMS Uro-oncology Update: Bladder cancer, 19 September 2020, Online

#### **Sanjay Kumar**

1. Moderator: Clinical case discussion, AIIMS Uro-oncology Update: Bladder cancer, September 19, 2020, Online

#### **List of oral papers/posters presented: 11**

1. Garg H. Changing clinical trends in robot-assisted radical prostatectomy: a paradigm shift, USICON 2021, 12-14 February 2021, Online
2. Kumar S, Unusual cases of ureteric obstruction secondary to acute pancreatitis, NZUSICON 2020, 22-24 January 2021, Online
3. Nayak B, Garg H, Goel R, Singh P, Nayyar R, Kumar R, Seth A, Contemporary outcomes of open radical cystectomy: A 5 years' experience from a tertiary care center, 108th JUA 2020, 22-24 December 2020, Kobe, Japan (Online)
4. Nayak B, Garg H, Singh P, Nayyar R, Seth A, Survival analysis and predictors of long term outcomes following radical nephrectomy with Inferior Vena Cava (IVC) thrombectomy in renal cell carcinoma, 108th JUA 2020, 22-24 December 2020, Kobe, Japan (Online)
5. Nayak B, Saini S, Singh P, Nayyar R, Seth A, Cutaneous ureterostomy or ileal conduit urinary diversion: Can we spare the bowel following radical cystectomy in patients with solitary functioning kidney?, 13th EMUC, 13-14 November 2020, Online
6. Nayyar R, Sharma K, Saini S, Das CJ, Singh P, Nayak B, Panaiyadiyan S, Seth A [3], Clinical value of patient-specific three-dimensional printing of kidney before partial nephrectomy, USICON 2021, 12-14 February 2021, Online

7. Panaiyadiyan S, Nayak B, Singh P, Seth A, Karmakar S, Kaushal S [1], Role of Circulating Tumor Cells in Patients with Metastatic Clear-cell Renal Cell Carcinoma, NZUSICON 2020, 22-24 January 2021, Online
8. Panaiyadiyan S, Nayak B, Singh P, Seth A, Kaushal S, Karmakar S [4], Prognostic and Predictive Role of Intratumoral CXCR1 Expression in Patients Receiving Tyrosine Kinase Inhibitors for Metastatic Clear-Cell Renal Cell Carcinoma, USICON 2021, 12-14 February 2021, Online
9. Panaiyadiyan S, Nayyar BU, Nayyar R, Kumar N, Seth A, Kumar R, Singh P, Nayak B, Kumar M, Impact of vesicovaginal fistula repair on urinary and sexual function: Patient reported outcomes over long term follow-up following transabdominal and transvaginal repairs, NZUSICON 2020, 22-24 January 2021, Online
10. Singh P, Kumar S, Singh PR, Dogra PN, Seth A [2], Repair of rectourethral fistula using gracilis muscle flap interposition – A tertiary care center experience, NZUSICON 2020, 22-24 January 2021, Online
11. Singh P, Nayyar R, Bagga B, Sharma S, Seth A, Singh P, Nayak B, Effects of use of bolster and its orientation on kidney position in reference to prone percutaneous nephrolithotomy, NZUSICON 2020, 22-24 January 2021, Online

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. A novel therapeutic approach of anti-B7H4 therapy in Urinary bladder cancer, Prabhjot Singh, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
2. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Prabhjot Singh, ICMR, 3 years, 2019-2022, Rs 1 crore
3. Environmental exposure of heavy metals, toxic elements and its impact on bladder cancer induction and progression, Brusabhanu Nayak, AIIMS, 2 years, 2020-2022, Rs 8 lakhs
4. Environmental exposure of heavy metals, toxic elements and its impact on renal cell carcinoma induction and progression, Brusabhanu Nayak, ICMR, 3 years, 2019-2022, Rs 43,05,000
5. Identification of Potential Molecular markers (PRL3 phosphates, CAV2, LAMA4 and GRP78) in Renal Cell Carcinoma (RCC): Predicting tumour behaviour, Manoj Kumar, AIIMS, 2 years, 2019-2021, Rs 5 lakhs
6. The Role of 68Ga-PSMA-PET/CT Scan as a Staging Modality in Prostate Cancer, Sanjay Kumar, ICMR, 3 years, 2019-2022, Rs 48,85,740
7. The Role of Trace Elements in Renal Stone Disease, Sanjay Kumar, ICMR, 3 years, 2021-2022, Rs 97,61,605
8. To evaluate the role of seminal miRNA's and inflammatory markers in cases of suspected prostate cancer and correlate with mpMRI and Biopsy findings, Siddharth Jain, AIIMS, 2 years, 2019-2021, Rs 5 lakhs

#### ***Completed***

1. Clinical value of patient-specific three-dimensional printing of kidney before partial nephrectomy: Quantitative and qualitative assessments, Rishi Nayyar, AIIMS, 1+1 (extension) year, 2018-20, Rs 5,00,000

### **Departmental projects**

#### ***Ongoing***

1. 68 Gallium PSMA PET / CT in metastatic renal cell cancer
2. A 3-arm randomized control trial to compare the efficacy of recirculant hyperthermic intravesical chemotherapy versus intravesical BCG versus conventional intravesical mitomycin C therapy for intermediate risk NMIBC
3. Evaluation of PDL1 expression and tumor mutational burden (TMB) in subtypes of muscle invasive bladder cancer (MIBC)
4. Evaluation of seminal biomarkers for the diagnosis of obstruction as the cause of azoospermia in infertile men
5. Feasibility, Safety and Efficacy of Prostate Artery Embolization in Patients with Catheter Dependent Bladder Outlet Obstruction Induced by Advanced Prostate Cancer
6. Long-term outcomes of RARP
7. Prospective evaluation of Tc99m SestaMIBI scan to differentiate benign solid renal mass from more aggressive malignant RCC
8. Prospective study to evaluate the etiology of Voiding Lower tract symptoms in young male patients
9. Randomized trial on single dose perioperative instillation of intravesical gemcitabine versus mitomycin –C following complete resection of nonmuscle invasive bladder cancer: Evaluation of efficacy and tolerance

10. Role of redo/extended medical expulsive therapy in patients of ureteric calculus
11. Role of urethral povidone-iodine instillation before catheterization in routine urological surgery
12. Serum PSA trends and rate of prostate cancer detection on follow-up in men with a prior negative biopsy-an ambispective study
13. Unilateral versus bilateral vasoepididymal anastomosis: prospective randomized trial

### **Completed**

1. Long-term sexual and incontinence outcomes in patients undergoing VVF repair
2. Outcomes of Robot-Assisted Radical Prostatectomy: 10-year experience from a single center
3. Radiological anthropometric assessment of various bolster positions for PCNL
4. Role of mp MRI using VIRAD (Version 1) in predicting the stage and grade of disease in carcinoma urinary bladder

### **Collaborative projects**

#### **Ongoing**

1. Characterization of Renal Cell Carcinoma with Dual Energy Computed Tomography and Multiparametric Magnetic Resonance Imaging and Correlation with Histopathology, Radiology/AIIMS
2. Hemodynamic profile in the perioperative period in patients undergoing pheochromocytoma and paraganglioma surgery with and without low dose diltiazem infusion, Anesthesia/AIIMS
3. Incidence of various urogynecological problems in post-partum patients and its relation to the mode of delivery, Obst and Gynae/AIIMS
4. Molecular profiling and phenotype-genotype correlation of patients with Pheochromocytoma/Paraganglioma: Deciphering implications in management and prognostication, Pathology/AIIMS
5. Preoperative intravascular volume status measured by inferior vena cava collapsibility index in patients with Pheochromocytoma and paraganglioma undergoing surgical tumor removal: a prospective observational cohort study, Anesthesia/AIIMS
6. Randomized double blinded placebo controlled clinical trial for the evaluation of effect of vitamin K supplementation on bone mineral density in prostate cancer patients, Pharmacology/AIIMS
7. Study of Association of Methylenetetrahydrofolate Reductase (MTHFR) Polymorphisms in Infertile Men, Anatomy/AIIMS
8. Telomere status and DNA repair mechanisms in idiopathic male infertility, Anatomy/AIIMS
9. Use of PET-CT with Gallium-68 Labeled Prostate Specific Membrane Antigen in the Diagnosis and Follow-up of Patients with Prostate Cancer, Nuclear Medicine/AIIMS

#### **Completed**

1. A prospective randomized control trial to compare the efficacy of darifenacin versus mirabegron for treatment of overactive bladder, Obst and Gynae, AIIMS
2. Clinico-microbiological profile and outcome of patients with Urosepsis, Microbiology, AIIMS
3. Evaluation of incontinence in patients undergoing bariatric surgery, Surgery/AIIMS
4. In-vitro urinary and serum NMR based metabolomics in prostate cancer, NMR/AIIMS
5. Role of Gene Xpert urine in GUTB patients, Medicine/AIIMS
6. Role of In-bore MR guided Biopsy in detection of Prostate Cancer, NMR/AIIMS
7. Ultrasound Guided Erector Spinae Plane Block for Postoperative Analgesia in Patients undergoing Percutaneous Nephrolithotomy – A double-blinded, randomized controlled trial, Anesthesia /AIIMS

### **PUBLICATIONS**

Journals: 32

Abstracts: 5

Chapters in books: 7

Books and monographs: 1

### **PATIENT CARE**

**(a) Facilities available in the department (including special clinics and/or special laboratory facilities)**

**Main Hospital OPD**

New cases: 3715

Old cases: 6640

Follow up Teleconsultations 1526

(The OPD was shifted from old RAK to New RAK building w.e.f. 16<sup>th</sup> March 2020)**BRAIRCH Uro-malignancy clinic**

New cases: 270

Old Cases: 2519

**Andrology and Infertility Clinic**

New cases: 59

Old cases: 48

**Admissions**

Long Admissions: 834

Short Admission: 365

Discharges: 1199

**Main OT Surgical Procedures: 636****Open surgery: 139**

Radical cystectomy	19	Radical or cytoreductive nephrectomy	14+2
Radical cystectomy with nephroureterectomy	1	Radical nephrectomy with IVC thrombectomy	4
Salvage cystectomy	0	Radical Nephroureterectomy	6
Partial cystectomy	1	Simple nephrectomy	4
End To End Urethroplasty	2	Partial nephrectomy	9
Anterior lay open	0	Heminephrectomy	0
Transpubic Urethroplasty	0	RPLND	6
Augmentation Cystoplasty	0	Graft urethroplasty	0
Adrenalectomy	1	Second stage closure	1
Adrenalectomy with IVC thrombectomy	0	Pyeloplasty	3
Paraganglioma excision	0	Continent catheterisable pouch	0
Ureteric Reimplant	2	Boari flap	0
VVF repair	0	Ureteroureterostomy	0
Vesicouterine fistula repair	0	Total penectomy	0
Orchidopexy/orchiectomy (undescended testis)	29	Prostatectomy	0
AUS implantation/Penile prosthesis	1	Partial Penectomy	0
Perineal urethrostomy	1	Hypospadias repair	1
Ureterolithotomy/Cystolithotomy	1+2	TVT/TOT	0
Ilioinguinal lymph node dissection	1	Ureterocalycostomy	0
High Inguinal Orchiectomy	3	Circumcision	20
		Others	5



**Endourology: 435**

<b>Upper tract: 111</b>		<b>Lower tract: 323</b>					
PCNL	34	TURP/TUIP/TUEB	18	CLT	9	DJS	112
URS	43	TURBT	113	PCCLT	0	DJR	14
RIRS	33	TUR fulguration	4	HOLEP	0	OIU/BNI/ Endodilatation	6
PCNUL	1	TURED	0	HOLCT	0	Deflux injection	0
Endopyelotomy	0	Clot evacuation	1	PVP	0	Laser welding	0
		Endoevaluation/RGP	28	Ureterocele incision	3	Others	16

**Laparoscopic: 26**

Radical or cytoreductive nephrectomy	8	Partial nephrectomy	0
Simple nephrectomy	3	Adrenalectomy	7
Simple nephroureterectomy	1	Radical Nephroureterectomy	2
Retroperitoneoscopic nephrectomy/nephroureterectomy	1	Ureterolithotomy	2
Pyeloplasty	0	Lap radical prostatectomy	0
Pyelolithotomy	0	Paraganglioma excision	0
Ureteric reimplant	0	Diagnostic lap	0
Lap radical cystectomy±nephroureterectomy	1	Others	1

**Robotic: 33**

Radical prostatectomy	7	Radical cystectomy	2	Pyeloplasty	4
Ureterolithotomy	0	Simple prostatectomy	0	Ureteric reimplant	2
Partial nephrectomy	14	Radical Nephrectomy	3	Others	1

**Microsurgery: 3**

VEA	3	VVA	0	MVL	0
Scrotal exploration	0	TESE	0		

**Minor OT: 3928**

Endoscopic	973
Open	5
Minor cases	1418
Uroflowmetry	1429
Urodynamic Study	103

**ESWL: 151**

New cases	61	Old cases	90
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**Ultrasound procedures: 55**

Prostate TRUS biopsy	27	SPC	1
MRI- TRUS Fusion biopsy	13	PCN	3
In Bore biopsy	1	USG	10

**(b) community services/camps etc.**

1. Several health talk shows on Doordarshan (Amlesh Seth)
2. Live talk on “Prostate health and care” on Facebook Live on 30 November 2020 for ‘Movember’ Campaign for Men’s Health (Rishi Nayyar)

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Amlesh Seth** was Executive council member—World Uro-Oncology forum; Chairman—Committee of ICMR for Standard Treatment Workflows in Urology; Chairman- Urology Expert Group for consultation on Health Benefit Packages with NHA under PM JAY; Member- Subject Expert Committee on Urology and Reproduction under DCGI.

**Professor Rajeev Kumar** was Member, Governing Body, University College of Medical Sciences, New Delhi; Member, Project Review and Steering group, Ministry of Electronics and Information Technology, Government of India; Member, Expert Committee on Centre of Excellence on Additive Manufacturing, Ministry of Electronics and Information Technology, Government of India; Associate Dean (Academics), AIIMS, New Delhi; Co-Chair Scientific Committee and Member, Board of Directors, Société Internationale d’Urologie; Chairman Scientific Committee and Co-opt executive member, Urological Association of Asia; Chief editor, Indian Journal of Urology; Associate editor, National Medical Journal of India; International consulting editor, Journal of Urology; Editorial board member, Indian Journal of Medical Research; Editorial board member, Journal of Endourology; Executive member, British Journal of Urology International; Associate editor, International Journal of Urology; Editorial board member, Investigative and Clinical Urology; Editorial board member, Asian Journal of Urology; Honorary secretary, Indian Association of Medical Journal Editors.

**Dr Prabhjot Singh** was Core Faculty for the Board of Education of Urological Society of India UROMET program; Faculty for the SET (Skill-e Learning-Telemedicine) Facility

**Dr Rishi Nayyar** was Member, Convener group, Reconstructive Urology Subsection of USI, 2020-2022; First Robotic radical cystectomy with intracorporeal ileal conduit at AIIMS, New Delhi; First Robotic radical cystectomy with intracorporeal neobladder at AIIMS, New Delhi; Achiever’s award 2020 from Delhi Urological Society, Jan 2021; Awarded Scroll of honour for being a Mentor in ‘UroEducation and UROMET’ for ISU-USI, Feb 2021; Member of the Subject Expert Committee (SEC) (New Drugs including Investigational New Drugs (IND), Clinical Trials & New Medical Devices etc) under DGHSs, Office of DCGI (India); Theses evaluation of DNB (Genito-urinary surgery) for NBE, New Delhi; Core Faculty for the Board of Education of Urological Society of India UROMET program; Faculty for the SET (Skill-e Learning-Telemedicine) Facility; Member of the Subject Expert Committee (SEC) (Reproductive and Urology) under DGHSs, Office of DCGI (India); Co-opted member and subject expert (Urology) for DTAB under DGHS, Office of DCGI (India); Editorial committee member, Indian Journal of Urology.

**Dr Brusabhanu Nayak** was Awarded Fellowship of IMSA (International Medical Sciences Academy); Awarded IJU 2020 best original article for paper titled “Randomized controlled trial to compare outcomes with and without the enhanced recovery after surgery protocol in patients undergoing radical cystectomy”. Indian J Urol 2020; 36:95-100; CKP Menon Best Paper Award in 54th USICON Annual conference for paper titled “Prognostic and Predictive Role of Intra-tumoral CXCR1 Expression in Patients Receiving Tyrosine Kinase Inhibitors for Metastatic Clear-Cell Renal Cell Carcinoma”; Marudhar Jodhpur Best Paper award in 30th NZ-USICON 2021 for paper titled “Role of Circulating Tumor Cells in Patients with Metastatic Clear-cell Renal Cell Carcinoma”.

## 10.1. Cardiothoracic Centre

### Cardiology

#### Professor and Head

Anita Saxena

#### Professors

SS Kothari  
R Narang  
Rakesh Yadav  
Gautam Sharma

Balram Bhargava  
S Seth  
N Naik  
S Singh  
S Ramakrishnan

KC Goswami  
S Mishra  
G Karthikeyan  
Ambuj Roy

#### Additional Professors

Saurabh K Gupta

#### Associate Professors

Deepti Siddharthan  
Jay Relan

Satyavir Yadav

Raghav Bansal  
Arvind B

### Cardiothoracic and Vascular Surgery

#### Professor and Head

SK Choudhary

#### Professors

UK Chowdhury  
Milind P Hote

AK Bisoi

V Devagourou  
Sachin Talwar

#### Additional Professors

Manoj Kumar Sahu

P Rajashekar

#### Associate Professors

Sarvesh Pal Singh

Ramesh P Menon

#### Assistant Professors

Pradeep Ramakrishnan

Ummed Singh Dhatteerwal

Sukhjeet Singh (On Contract)

### Cardiac Anaesthesiology

#### Professor and Head

Sandeep Chauhan

#### Professors

Neeti Makhija  
Sambhunath Das

Poonam Malhotra  
Parag Gharde

Minati Choudhury  
Vishwas Malik

#### Associate Professors

Suruchi Hasija

Arindam Choudhury

### Cardiac Biochemistry

#### Professor

Lakshmy Ramakrishnan

#### Scientist I

Manoj Kumar Tembhre

### Cardiac Nuclear Medicine

#### Professor

Chetan D Patel

**Cardiac Pathology**

**Professor**

Ruma Ray

**Additional Professor**

Sudheer Kumar Arava

**Cardiovascular Radiology and Endovascular Interventions**

**Professor and Head**

Sanjiv Sharma

**Professor**

Priya Jagia

**Associate Professor**

Sanjeev Kumar

**Assistant Professors (On Contract)**

Amarinder Singh Malhi

Niraj N Pandey

Manish Shaw

**Stem Cell Facility**

**Professor and Head**

Sujata Mohanty

**Blood Transfusion Services**

**Chief Medical Officer– Sr Adm Grade**

Anjali Hazarika

**Assistant Professor**

Gopal Patidar

**Sup. Medical Social Service Officer**

Veena Belani

**Chief Technical Officers**

Bijay Majhi  
Gajendra Singh Chauhan

Gulshan Mehta  
PS Rajput

**HIGHLIGHTS**

**Cardiology**

In the year 2020-2021, the department of Cardiology catered to nearly 35,000 outpatient visits even during the pandemic and a substantial number of teleconsultations. More than 1000 patients underwent interventional procedures including angioplasty, pacemakers, device implantations and balloon valvoplasties even during the COVID-19 pandemic. The department offered cardiology services in COVID and non- COVID areas during these challenging times. During this period, the Department participated in several research projects studying patients across a wide spectrum of cardiac diseases including the impact of COVID on heart attacks, heart failure and congenital heart disease admissions and outcome. Important publications relating to STEMI, hypertension, heart failure, rheumatic heart disease, and congenital heart disease were published in high-impact scientific journals. The department organized a few online cardiology meetings. The faculties of the department are part of major cardiology journals including Indian heart journal, Annals of pediatric cardiology and JPCVS. Various faculty members were part of important committees. In addition to patient-care, research and teaching, the department was involved in a major way in furthering the academic discourse in cardiology in the country. Faculty members from the department have been elected to executive positions in the national and regional cardiology bodies and have helped refocus on the academic agenda.

**Cardiac Thoracic Vascular Surgery**

Despite the raging COVID-19, and severe restrictions and drains placed on the functioning of AIIMS and the department, the department of CTVS actively pursued the goals of patient care, teaching and research in the subspecialty of Cardiothoracic and Vascular surgery. In keeping with policy decisions that were alerted, and as per the needs of the situation, the surgical work of the department was continued with utilization of available resources in an effective manner. Because Cardiac patients require

emergent care, and emergent surgery is the only option, this factor was kept in mind in selecting those patients who were critical and those who were vulnerable. In spite of these restrictions, a total of 1297 patients underwent urgent cardiac surgical procedures as a life saving procedure. 624 of these were adult patients and 673 were those with varying forms of congenital heart diseases ranging from a critical ill neonate to patients into infancy and adults with severe forms of neglected congenital heart diseases. Needless to say, these encompassed the entire spectrum of cardiothoracic and vascular surgery. Even successful transplant was done after procuring heart a thousand miles away. The Department also re-initiated its VAD program. The intensive care team of the department was very active in infection control and aggressively screened the patients for COVID-19 prior to surgery to prevent an outbreak in the department.

In conjunction with department of Cardiology, more than 2949 patients were treated on an in-patient basis and close to 206,362 patients were attended to in the outpatient services. In addition, unlimited patients were seen on teleconsultation basis three days on weekly OPD days and emergency telephone consultations were available on dedicated telephone numbers specifically assigned for this purpose. The department also actively contributed to towards care of critically ill COVID-19 patients admitted in various wards of AIIMS. Another important focus of the department was on research, publications and collaboration with National and International centers. Invited lectures and paper presentations were exclusively online as per part of webinars. The departmental faculty delivered 57 invited lectures and presented research papers at various conferences and had more than 75 publications in peer reviewed national and international journals of repute. The educational activities of the department consisted of participation in webinars encompassing adult, pediatric, aortic surgery and Critical and Intensive care.

### **Cardiac – Anesthesiology**

- The Faculty and the Resident doctors from the department of Cardiac Anaesthesia were awarded in National and International Conferences
- All Professors and Additional Professors had been examiners for various DM Cardiac Anaesthesia, MD Anesthesia and DNB anaesthesia course all over India and setting of the examination papers
- Department has been a pioneer in starting a Fellowship in Pediatric Cardiac Anaesthesia and approval sanctioned to start fellowship in vascular Anaesthesia soon
- All the faculties in the department are the Editors, Editorial board/Review members of various national and international Cardiac Anaesthesia, Anaesthesia and Echocardiography journals
- Dr. Neeti Makhija is continuing as Member of ICCA
- Dr Poonam Malhotra is continuing as the President of SCA-Delhi and NCR Branch (non-elected) and Nominated as Chairman of Steering Committee of Education/Simulation and Communication of SWACELSO (non-elected)
- She is Editor-in-chief of Journal of Cardiac Critical Care (JCCC). Released 4 issues in 2020-21
- Most faculty members are on the Editorial/Advisory board of the Journal of Cardiac Critical Care
- 57 publications by the Department of Cardiac Anaesthesia published in various national and international journals
- The faculties of Department attended several international conferences and presented papers /delivered lectures

### **Cardiac – Biochemistry**

The department is active in research as evidenced by extra mural grants as chief investigators and many collaborative projects involving several departments. Three students are currently pursuing PhD and the faculty from cardiac biochemistry is involved in 6 other PhD theses as co-guide. Faculty of the department is involved as technical advisory committee member for a nutrition survey being conducted by UNICEF and health ministry. The faculty from the department is also a member of technical advisory committee for AP government for a project on chronic kidney disease. This is in addition to being an expert member of project review committee for ICMR in the area of non-communicable diseases and endocrinology.

### **Cardiac – Nuclear Medicine**

Nuclear Medicine in Cardiothoracic Centre (CTC) performs diagnostic nuclear cardiology procedures and is equipped with a Dual Head SPECT-CT Gamma Camera. This year the number of elective diagnostic procedures performed were less due to lockdown during the COVID pandemic, however the department was functional during the entire period and provided services to in-patients in the cardiology department and to cancer patients from IRCH awaiting chemotherapy. The unit was also actively involved in teaching and research work. Post graduate students pursuing MD degree in Nuclear Medicine and MSc. Nuclear Medicine Technology were trained on rotational basis in nuclear cardiology procedures. I was involved in thesis or research paper work of 9 DM, MD and PhD students where nuclear cardiology is part of their research work. Myocardial perfusion SPECT with Tc99m-labeled tracers and PET studies with F-18 FDG were performed. We successfully evaluated the use of non-FDG tracer like Gallium-68 DOTANOC for cardiac sarcoidosis and inflammatory pathologies, the results of which are published in peer reviewed journals. A study comparing cardiac MR and Gallium-68 DOTANOC in cardiac sarcoidosis is submitted for publication. We have also assessed the feasibility of F-18 FDOPA for evaluation of cardiac sympathetic innervations, which was accepted for publication in Journal of Nuclear Cardiology. Recently, we have started imaging for



cardiac amyloidosis using Tc99m Pyrophosphate (PYP) and are participating in a project titled “Establishing International Amyloidosis Centers of Excellence in India, Kuwait and South Africa” conducted by Brigham and Women’s Hospital/Harvard Medical School, USA. I am Chief Investigator in international multi–center research project titled “International study on imaging in Cardio-Oncology Study (iCOS)”, funded by International Atomic Energy Agency, Vienna, Austria.

### **Cardiac – Pathology**

- Routine diagnostic reporting of Histopathology & Cytopathology cases
- Teaching of undergraduate students (Lectures, practical’s, seminar, Group discussion, Clinicopathological case discussion, gross and microscopy demonstration)
- Teaching of Postgraduate students
- Teaching of Superspeciality students (DM, Mch)
- Coordinating post graduate seminars, journal clubs
- Conducting cardiopulmonary Pathology interdepartmental conferences
- Research and developmental activities, especially related to Cardiac and Pulmonary and Dermatopathology Pathology
- Departmental maintenance and in charge of departmental library committee
- Regular contribution of MCQ based questions to AIIMS Examination section
- Other duties as & when rendered by the department and the Institute

### **Cardiovascular Radiology and Endovascular Interventions**

#### **EDUCATION**

The faculty of the department delivered **lectures** at various national and international scientific meetings. The department organized various online CME program for education and teaching on various aspects of cardiovascular imaging and endovascular interventions. The faculties are members of editorial boards and reviewers for numerous scientific journals.

#### **RESEARCH**

The departmental faculty has been running research projects and thesis. They published research papers in various peer reviewed international journal. Papers were presented at an international meeting. In addition, chapters were published in books.

#### **Clinical care**

The department continues to provide cardiovascular imaging and vascular interventional treatment services to patients referred from various specialty departments in the hospital.

#### **Stem Cell Facility**

Stem Cell Facility (SCF) is committed to rendering excellent patient care services with an integral part dedicated towards basic, preclinical and clinical research in Stem Cell & Regenerative Medicine, during the past financial year, 2020-2021. Department of Biotechnology (DBT), Govt. of India has extended its financial support in Phase II from July 2017-Dec 2021, towards developing this Facility as Centre of Excellence in Stem Cell Research. Overall, the Facility is currently engaged in 11 ongoing projects in collaboration with other departments of AIIMS and funded by DBT, ICMR, DST, IUSSTF, AIIMS etc. The Faculty-in-charge, Professor Sujata Mohanty, takes utmost initiative in organizing various educational programs involving training (both theory and hands-on-experience) to post graduates and professionals from different institutions in India in the field of Stem Cell, Regenerative Medicine & Stem cells & Ethics. In terms of ad-hoc manpower, a dedicated team of 11 Ph.D, researchers, and 2 MD, DM students are registered for degree, along with a team of 05 Scientists currently recruited in Govt. funded projects at the Facility. Research scholars from other reputed Institutes of India, like IISER Mohali, IIT Delhi, IIT Guwahati, IIT-Kharagpur, Delhi University-South Campus, IGIB, NII, THSTI, NBRC, ICPO have also been co-supervised in their PhD work. In the current year, the Facility has successfully published a total of 22 research publications in high impact peer reviewed journals presented at various scientific forums (meetings, conferences). Dr Mohanty, is involved in several reputed international scientific organizations as a member of the editorial board committee in Scientific Reports (Nature publishing group), Translational Surgery, current Trends in Stem cells and Regenerative Medicine, Insights in Stem Cells, etc. She is also an active member of various International & National bodies like International Society for Cellular Therapy (ISCT), International Society for Stem Cell Research (ISSCR) and International Society of Biological Chemists, Indian Science Congress (ISC), Indian Immunology Society (IIS). She has delivered several lectures (as invited speaker) in several Research Institutes/Universities across the country. Moreover, she has been providing continuous support and contribution towards the evaluation of various research projects under Research & Development section of the funding agencies like DBT, DST, ICMR, Bio-CARE, BIRAC, etc. During this financial year, the Facility has initiated scientific collaborations with five international universities (University of Michigan, Bridgeport University, Indiana University and Purdue University, USA and Iran University of Medical Sciences, Iran).

## **Blood Transfusion Services**

The Blood Transfusion services of CN Centre caters to round the clock transfusion needs of patients admitted in CN Centre of AIIMS by collecting, processing and providing safe and quality blood and blood components. The activities include both inhouse and outdoor blood collection, blood donor motivation and pre-donation and post-donation counseling, blood component preparation, various serological tests and special procedures like apheresis and therapeutic phlebotomy. Components like packed red cells, plasma, fresh frozen plasma, platelet rich plasma, platelet concentrate, cryoprecipitate, leucodepleted red cells and platelets are available in adequate nos. at all times. Facility for Apheresis procedures and autologous donation is available. Surplus plasma is being sent for plasma product fractionation. Blood components are subjected to irradiation for heart transplant patients. Serological tests performed in the BTS include tests for blood grouping, screening for irregular antibodies, compatibility tests using latest technology like column agglutination and SPRCA assay. Every unit of blood collected is tested for transfusion transmissible infections like Hepatitis B, Hepatitis C, HIV-1 and 2, syphilis, Malaria. Automation is used in most of the laboratories in the department for better output and quality. Donor blood samples are also being subjected to NAT (Nucleic Acid Amplification test) screening as an additional screening test to detect HIV/HCV/HBV and thus improve blood safety. Quality management system is in place for its products like blood and blood components, equipments, processes, and services. The BTS also participates in External Quality Assessment Scheme by SDMH Jaipur and IRCS Mumbai, for its various Lab Tests. Haemovigilance, the department participates in the Haemovigilance Programme of India. (HvPI) for both recipient as well as donor haemovigilance on a regular basis. Pneumatic Tube System is available for transporting Patient blood samples and forms. Computerisation of the Blood Bank procedures through e-blood bank software module by NIC, for real time data generation and integration with the HIS is in place.

## **EDUCATION**

### **Cardiology**

Department of cardiology is involved in the education and training of undergraduate, postgraduates. The daily online academic activities include journal club, mortality meeting, cath conferences, short and long seminars, debates, clinical case discussion and spotters by faculty.

### **Lectures delivered:**

**Anita Saxena: 2**

**Ambuj Roy: 6**

**SS Kothari: 2**

**Gautam Sharma: 4**

**S Ramakrishnan: 18**

**Saurabh K Gupta: 11**

**Satyavir Yadav: 2**

### **Anita Saxena**

1. How we are doing it: ACHD in India, 30th International Symposium on Adult Congenital Heart Disease, 6 October 2020, Online
2. Atrial arrhythmia in ACHD: Moderator and commentator Panel discussion concerning EP practices in pediatrics, Asia-Pacific Pediatrics EP physicians Education the 4th webinar, 21 March 2021, Webinar

### **Ambuj Roy**

1. Evidences in favour of Remedial Measures reducing CVD, International Air Pollution Day Conclave by Cardiological Society of India, 6 September 2020, Online
2. SGLT2 Inhibitor in 2020, 25th Annual Conference by Cardiological Society of India, 18 to 20 September 2020, Online
3. Use of Heart to beat CVD, Society of Cardiac Nurses by Society of Cardiac Nurses, India, 29 September 2020, Online
4. Heart Failure classification and Epidemiology in India: The patterns and Numbers that we must know, Heart Failure Symposia by Cardiological Society of India, 15 October 2020, Online
5. Targets of Hypertension in Acute and Chronic Settings, 34th Annual Conference of Delhi CSI Cardiological Society of India, 28 November 2020, Online
6. Management of Asymptomatic LV systolic dysfunction, 35th Hybrid Annual Conference by Cardiological Society of India, Delhi, 20 March 2021, Online

### **SS Kothari**

1. Fontan in Developing world, Heart University Webinars, California, 2 June 2020, Online
2. Clinical evaluation, ICC Ahmedabad 2020, 6 December 2020, Online

### **Gautam Sharma**

1. Pulmonary vein isolation: anatomy or EP-guided, Virtual IHRS 2020, 3 October 2020, Online
2. AF ABLATION: More than PV isolation, Virtual IHRS 2020, 3 October 2020, Online
3. Rate vs. Rythm control, Virtual ISECON 2021, 21 February 2021, Online
4. NOACs in Non-valvular Atrial Fibrillation: Choosing the right one for my patient, CSI Delhi Annual Conference 2021, 21 March 2021, Online

### **S Ramakrishnan**

1. Panelist, PHFI- Cardiology master class, Monthly, Online
2. National Coordinator, National PG course, Monthly, Online
3. Approach to RHD/Hemodynamics, SRMC CME for PG, Monthly, Online
4. 5 talks, Delhi CSI – PG Course, Weekly, Online
5. PAH with CHD –Operability testing, Interventions in CHD 2020, 21-24 April 2020, Online
6. NSTEMI–An update, Update in Cardiovascular Diseases (UCD), 1-2 August 2020, Online
7. RSOV device closure, SCICON 2020, 4-6 September 2020, Online
8. Biggest enemy is hypertension, TAPICON 2020, 6-8 November 2020, Online
9. Echo in CHD, Echo India 2020, 7-9 November 2020, Online
10. Understanding different phenotypes of HCM, Hypertrophic Cardiomyopathy Symposium, 20-21 November 2020, Online
11. NOACS – Choices and preferences, 34th Annual Delhi CSI conference, 28-29 November 2020, Online
12. National Intercollegiate Quiz, CSI 2020, 11 December 2020, Ahmedabad, online
13. Approach to hemodynamics, CSI 2020, 9-12 December 2020, Online
14. Research methodology in resource constrained environment, CSI 2020, 9-12 December 2020, Online
15. Vagal stimulation devices, CSI 2020, 9-12 December 2020, Online
16. ECG in CHD, ISECON 2021, 19-21 February 2021, Online
17. Management of Hypertension in young, Challenges in young hypertension, 26 March 2021, Online
18. NOACS – An update, North India Medical Clinics, 27-28 March 2021, Mussorrie, online

### **Saurabh K Gupta**

1. Approach to cyanotic congenital heart disease, Delhi CSI PG track online program, 1 May 2020 Online
2. Saline Contrast Echocardiography, Indian Academy of Echocardiography Webinar, 26 July 2020, Delhi
3. Stepwise approach to cyanotic CHD, Delhi CSI PG track online program, 12 November 2020, Delhi
4. Cardiac Hemodynamics, CSI 2020, 6 December 2020, Online
5. TEE for evaluation of ASD, CSI 2020, 10 December 2020, Online
6. Fifth arch artery – a cardiologist's quest, Congenital Heart Academy, 8 January 2021, Online
7. Superior sinus venosus defect, Congenital Heart Academy, 15 January 2021, Online
8. Echocardiography in congenital heart defects, NBE webinar, 16 January 2021, Delhi
9. Restrictive versus constrictive physiology: a deeper understanding, (DNB Ped Cardiology teaching program), 16 January 2021, Delhi
10. Totally anomalous systemic venosus connection, Delhi CSI PG track online program, 18 February 2021, Online
11. SV physiology–preoperative evaluation, Congenital Heart Academy, 19 February 2021, Online

### **Satyavir Yadav**

1. Statistical premier for medical professionals-Part 1, 33rd Edition of the webinar of Unique Pearl: PG Tracks Program (Chair the session), 3 December 2020, Online
2. Optimal consumption of Salt: quantity and type? Does it matter, 35th Annual Conference of Cardiology Society of India-Delhi Branch, 20 March 2021, Online

### **List of oral papers/posters presented: 2**

1. Arvind B, Kothari SS, Saxena A, Ramakrishnan S, Gupta S et al, Ivabradine vs amiodarone in postoperative JET, 72nd annual conference of Cardiological Society of India, 13 December 2020, Ahmedabad (Online) 2,3
2. Arvind B, Kothari SS, Saxena A, Ramakrishnan S, Gupta S et al, Ivabradine vs amiodarone in postoperative JET, 34th Annual conference of Cardiological Society of India- Delhi Branch, 29 November 2020, New Delhi (Online) 1

## Cardiac Thoracic Vascular Surgery

The department was actively involved in the teaching of undergraduates, post-graduates, MCh students, BSc and MSc Nursing students. Currently 27 students are pursuing MCh in CTVS, 5 are pursuing DM in cardiac surgical intensive care, 3 are pursuing fellowship in aortic surgery. 10 students have completed and passed in MCh in CTVS. Six qualified post-MCh Senior Residents have actively contributed towards clinical and educational activities of the department. The department imparted short term training to 13 postgraduates and 5 postdoctoral students from within AIIMS Delhi.

### CMEs/Workshops/Symposia/National and International Conferences

1. Workshop (Webinar) on “Proximal Aorta: Evaluation & Decision making”, 31 October 2020, Delhi/Online
2. Workshop (Webinar) on “Proximal Aorta: Bentall’s Procedure”, 7 November 2020, Delhi/Online

### Lectures delivered:

**Shiv Kumar Choudhary: 32**

**V Devagourou: 9**

**Milind Hote: 3**

**Sachin Talwar: 5**

**Manoj Kumar Sahu: 2**

**Sarvesh Pal Singh: 6**

### Shiv Kumar Choudhary

1. Tips and Tricks in management of Acute Type A Dissection., IACTS Master Class, 13 April 2020, Bengaluru/Online
2. Cannulation strategy in Acute Type A dissection, IACTS Master Class, 6 May 2020, Bengaluru/Online
3. Stopping Tobacco Industry Interference (Panelist), 5th National Conference on Tobacco or Health, 25-26 September 2020, Chandigarh/Online
4. Natural History and evidence-based guidelines, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
5. Decision making in Proximal Aortic Aneurysm, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
6. Work-up in proximal aorta, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
7. Technique of Bentall’s procedure, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
8. Diagnostic Evaluation in Type A Dissection, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
9. Emergency Room management in Type A Dissection, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
10. Preparations for Type A Dissection Repair, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
11. Surgical Repair of Type A dissection, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
12. Video Lecture I: Type A Dissection Repair, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
13. AIIMS protocol of cerebral protection, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
14. Prevention of bleeding in proximal aortic surgeries, Workshop on “Proximal Aorta”, 31 October 2020, Delhi/Online
15. Video Lecture Bentall’s Procedure, Workshop on “Proximal Aorta”, 7 November 2020, Delhi/Online
16. Video Lecture Hemiarch replacement with cannula translocation technique, Workshop on “Proximal Aorta”, 7 November 2020, Delhi/Online
17. Video Lecture Femoral Cannulation, Workshop on “Proximal Aorta”, 7 November 2020, Delhi/Online
18. Video Lecture Axillary Cannulation, Workshop on “Proximal Aorta”, 7 November 2020, Delhi/Online
19. Video Lecture Bio-Bentall’s, Workshop on “Proximal Aorta”, 7 November 2020, Delhi/Online
20. Video Lecture: Pericardial packing, Workshop on “Proximal Aorta”, 7 November 2020, Delhi/Online
21. Video Lecture: Trans-aortic edge to edge mitral valve repair, Workshop on “Proximal Aorta”, 7 November 2020, Delhi/Online
22. Video Lecture: Ventral aorta repair, Workshop on “Proximal Aorta”, 7 November 2020, Delhi/Online
23. Ozaki Procedure in adults (Moderator), Workshop on Aortic Valve Neo-cuspidization, 7 November 2020, Kottayam/Online
24. Ozaki Procedure in adults (Moderator), Workshop on Aortic Valve Neo-cuspidization, 14 December 2020, Kottayam/Online
25. In-expensive way to manage the arch in Acute Type A dissection, 9th International Aortic Summit, 12-13 December 2020, Chennai/Online
26. Surgical Management of Malignant Cardiac Tumors, 6th Annual Toronto Cardiac Tumour Conference, 27 January 2021, Toronto/Online
27. Cerebral protection in arch surgery, ACTSCON 2021 - A Virtual Symposium, The 67th Annual Conference of the IACTS, 26-28 February 2021, Bengaluru/Online
28. Descending Thoracic Aorta (Moderator), ACTSCON 2021 - A Virtual Symposium, The 67th Annual Conference of the IACTS, 26-28 February, 2021, Bengaluru/Online

29. Symposium on Aorta (Moderator), ACTSCON 2021 - A Virtual Symposium, The 67th Annual Conference of the IACTS, 26-28 February 2021, Bengaluru/Online
30. Tissue valve through the ages and down, ACTSCON 2021 - A Virtual Symposium, The 67th Annual Conference of the IACTS, 26-28 February 2021, Bengaluru/Online
31. Tissue valve banking, 7th Batch of Transplant Coordinators' Training Course, NOTTO, 15-19 March 2021, Delhi/Online
32. Health care worker safety- Building a personal safety culture, Workshop on Health care worker safety, 24 March 2021, Delhi/Online

#### **V Devagourou**

1. Heart Lung Transplantation (Panelist), A-z Lung and Heart Transplantation Webinar, 15-22 May 2020, Bengaluru/Online
2. Cardiac Surgery During Covid Pandemic (Panelist), Cardiac Surgery in Covid Pandemic Conclave, 17 May 2020, Delhi/Online
3. Surgical management Congenital Mitral Valve lesions, IACTS Webinar, 30 May 2020, Bengaluru/Online
4. Mitral Valve Repair in RHD, MAX Heart Valve Conclave 2020, 1 November 2020, Delhi/Online
5. Perioperative Echocardiography- Valvular Function (Panelist), 9 Comprehensive Perioperative Echo Webinar, 3 December 2020, Bengaluru/Online
6. MICS Mitral Valve Repair (Panelist), SMICTSI Skill Development Courses, 9 January 2021, Delhi/Online
7. Short term Mechanical Circulatory Support (MCS) Device (Panelist), 7th Annual Conference of Heart Failure Association of India, 12-14 February 2021, Bengaluru/Online
8. Challenges in Adult Coarctation, WSPCHS Coarctation, Hypoplastic Aortic Arch Global Perspective on Treatment, 20 February 2021, Toronto/Online
9. Management of TGA VSD PS, 67th Annual Conference of IACTS-2021, 26-28 February 2021, Bengaluru/Online

#### **Milind Hote**

1. Long term outcomes in Heart Transplantation, HFAI 2021 Virtual, 14 February, 2021, Bengaluru/Online
2. Surgical video presentation – Heart transplant recipient surgery, Indian Association of Cardiovascular & Thoracic Surgeons Conference 2021, 28 February, 2021, Bengaluru/Online
3. Contraindications for Heart Donation, NOTTO –7th Batch of Transplant Coordinators' Training Course, 17 March 2021, Delhi/Online

#### **Sachin Talwar**

1. Myocardial Protection, (21 April 2020), Webinar of Indian Association of Thoracic & Cardiovascular Surgery, 21 April, 2020, Bengaluru/Online
2. Fontan Circulation: Indications & management of the single ventricle patient, Webinar of Indian Association of Thoracic & Cardiovascular Surgery, 23 April 2020, Bengaluru/Online
3. Cognitive Outcomes following Complex Congenital Heart Surgery, Webinar of Indian Association of Thoracic & Cardiovascular Surgery, 15 May 2020, Bengaluru/Online
4. Surgery for Pulmonary Hypertension, Webinar of Indian Association of Thoracic & Cardiovascular Surgery of, 20 May 2020, Bengaluru/Online
5. Moderated 4th PCSI on Webinar on protocols and guidelines, Academic meeting of Pediatric Cardiac Society of India, 5 December 2020, Mumbai/Online

#### **Manoj Kumar Sahu**

1. MiniAccordion– “MY experiences with ECMO in adverse circumstances” 7th annual virtual conference on critical care advances in the millennium organized by anesthesia and critical care foundation, 9 January 2021, Vancouver/Online
2. Heart Transplant Guidelines”, IACTSCON 2021, 67th Annual Conference of the Indian Association of Cardiovascular-Thoracic Surgeons - A Virtual Symposium IACTS, 28 February 2021, Bengaluru/Online

#### **Sarvesh Pal Singh**

1. INSHLT Task force recommendations for Thoracic organ transplant during COVID 19 Pandemic, Perspectives in Thoracic organ transplantation and MCS during COVID 19 Pandemic organized by Indian Society of Heart and Lung Transplantation (INSHLT), 24 April 2020, Hyderabad/Online



2. Donor management, Organ Procurement and preservation: Nuts and Bolts, A to Z of Lung and Heart Lung Transplantation, 16 May, 2020, Bengaluru/Online
3. Is there a need for national transplant database and what data to capture?, Basics and Advancements of Heart Transplantation, 15 August, 2020, Bengaluru/Online
4. Donor Management - for heart harvest, HFAI 2021, 7th annual conference of Heart Failure Association of India, 12-14 February 2021, Bengaluru/Online
5. Cold static storage of Heart – no more research?, IACTSCON 2021, 67th Annual Conference of the Indian Association of Cardiovascular-Thoracic Surgeons - A Virtual Symposium IACTS, 26-28 February 2021, Bengaluru/Online
6. Maintenance of a potential brain-dead organ donor, Transplant Coordinators Training course organized by NOTTO, DGHS, MOH&FW, GOI, 15-20 March 2021, Delhi/Online

**List of oral papers/posters presented: 6**

1. Bipin C, Sahu MK, Enigma of apnea test for brain death on ECMO - an ongoing discussion, 27th Annual conference of Indian Society of Critical Care Medicine (ISCCM), Ahmedabad, 26 February 2021, Ahmedabad/Online
2. Bipin C, Sahu Mk, Singh SP, Devagourou V, Hote MP, Rajashekar P, Talwar S, Choudhary SK, Tracheostomy in postoperative pediatric cardiac surgical patients - The earlier, The better (Awarded Third Prize), Society of Cardiac Anesthesiology-Delhi & NCR Branch online CME series at Dr VA Punnose Young Scientist award Session, 19 December 2020, Delhi/Online
3. Bipin C, Sahu MK, Singh SP, Devagourou V, Rajashekar P, Hote MP, Talwar S, Choudhary SK, Tracheostomy in postoperative pediatric cardiac surgical patients: A prospective study, 27th Annual conference of Indian Society of Critical Care Medicine (ISCCM), Ahmedabad, 27 February 2021, Ahmedabad/Online
4. Singh SP, Yagani S, Parul, TP Shamsiya, Pandey S, Sahu MK, Dhattewal US, Impact of an Evidence-Based Antibiotic Protocol on Common Gram-Negative Bacteria's Antibiotic Resistance in a Cardiac Surgical Intensive Care Unit, Post Graduate Assembly of the society of Cardiac Anesthesiology Delhi NCR branch, 19 December 2020, Delhi/Online
5. Talwar S, Vasubaba G, Joshi R, Choudhary SK, Assessment of Hepatic fibrosis after Fontan using Fibro scan IACTSCON 2021, 67th Annual Conference of the Indian Association of Cardiovascular-Thoracic Surgeons - A Virtual Symposium IACTS, 26-28 February 2021, Bengaluru/Online
6. Vaswani P, Sahu MK, Rajashekar P, Devagourou V, Outcomes of Delayed Sternal Closure in Paediatric Cardiac Surgical Patients – A Prospective single centre study.”, Eastern Cardiothoracic Surgical Society conference, Florida, 9 October 2020, Manalapan, Florida/Online

**Cardiac – Anesthesiology**

Six DM candidates including 1 sponsored and 9 other MD-Junior resident doctors from Main Anesthesia department have undergone super specialty training in Cardiac-Thoracic-Anesthesia. 6 MD candidates from Lady Harding Medical College and two from Kolkata were imparted short term training in the specialty of Cardiac-Anesthesia. Short term training imparted to 4 DM candidates from Shree Chitra Tirunal Institute, Trivandrum. 0 Candidates including 0 faculties are doing PhD in the department.

**CME/workshops/symposia/National and international conferences organized**

1. First Postgraduate Webinar 2020 on Monitoring in ECMO, 17 May 2020, Delhi/Online
2. TSS Online CME on ECMO and Myths, 6 June 2020, Delhi/Online
3. TSS Online CME on ECMO Cannulation, 13 June 2020, Delhi/Online
4. TSS Online CME on Heparin and anticoagulation, 20 June 2020, Delhi/Online
5. TSS Online CME on Echo for Aortic Valve, 11 July 2020, Delhi/Online
6. TSS Online Webinar on Mitral Valve, 25 July 2020, Delhi/Online
7. TSS Online Webinar on Tissue Doppler and Strain & Speckle Tracking, 1 August 2020, Delhi/Online
8. TSS Online Webinar on Echo for LV and RV Systolic Dysfunction, 15 August 2020, Delhi/Online
9. TSS Online CME on ECHO in ECMO, 5 September 2020, Delhi/Online
10. TSS Online CME on Fluid Therapy in Covid-19, 12 September 2020, Delhi/Online
11. TSS Online CME on Ventilation in ECMO, 13 September 2020, Delhi/Online
12. Webinar series On TIVA by SCA Delhi And NCR Branch in collaboration with BAXTER India – Part 1, 26 September 2020, Delhi/Online

13. Webinar series On TIVA by SCA Delhi And NCR Branch in collaboration with BAXTER India – Part II, 10 October 2020, Delhi/Online
14. Webinar series on TIVA by SCA Delhi And NCR Branch in collaboration with BAXTER India – Part III, 17 October 2020, Delhi/Online
15. Organised an Online Webinar Series in Patient blood management under The Simulation Society and Werfen India – Part I, 31 October 2020, Delhi/Online
16. TSS Online Webinar on Oral and Insulin Management of Cardio Diabetes, 7 November 2020, Delhi/Online
17. TSS Online Webinar on Point of Care testing in bleeding patients in ICU, 14 November 2020, Delhi/Online
18. TSS Online Webinar on Complications in ECMO, 15 November 2020, Delhi/Online
19. Organised an Online Webinar Series in Patient blood management under The Simulation Society and Werfen India – Part II, 21 November, 2020, Delhi/Online
20. Organised an Online Webinar Series in Patient blood management under The Simulation Society and Werfen India – Part III, 28 November 2020, Delhi/Online
21. Organised an Online Webinar Series in Patient blood management under The Simulation Society and Werfen India – Part IV, 5 December 2020, Delhi/Online
22. Online Dr. VA Punnoose Young Scientist Award organised by SCA-Delhi & NCR Branch, 19 December 2020, Delhi/Online
23. Organised Online CME Series on Cardiac Nutrition in collaboration with Nutriwel Health – Part I (Introduction to Cardiac Nutrition), 26 December 2020, Delhi/Online
24. Organised Online CME Series on Cardiac Nutrition in collaboration with Nutriwel Health – Part II (Utility of Cardiac Nutrition in 2021), 28 January 2021, Delhi/Online
25. Organised Online CME Series on Cardiac Nutrition in collaboration with Nutriwel Health – Part III (Ideal Nutrition in Cardio Diabetes), 6 February 2021, Delhi/Online
26. SCA-Delhi & NCR Branch Online CME on ECMO, 17 February 2021, Delhi/Online
27. TSS Online CME Series for PGs on Echocardiography of Tricuspid Valve, 7 March 2021, Delhi/Online
28. TSS Online CME Series for PGs on Management of Hypertension in Cardio Diabetes, 20 March 2021, Delhi/Online
29. TSS Online CME Series for PGs on ECMO as bridge to transplant, 21 March 2021, Delhi/Online
30. TSS Online CME Series for PGs on Role of ECMO procedure in COVID-19 Patients, 27 March 2021, Delhi/Online
31. TSS Online CME Series for PGs on Ventilation in Covid Times, 28 March 2021, Delhi/Online

**Lectures delivered:**

**Neeti Makhija: 2**

**Poonam Malhotra Kapoor: 58**

**Minati Choudhury: 9**

**Vishwas Malik: 3**

**Suruchi Hasija: 1**

**Arindam Choudhury: 2**

**Neeti Makhija**

1. Panelist in a discussion on (i) Physiology of cardiopulmonary bypass. (ii) Application of Euro score & STS risk score for cardiac surgery. (iii) Preoperative beta-blockers: controversies and recommendations, Indian College of Anesthesiologist (ICA) academic activity, 16 September 2020, Bangalore/Online
2. Anaesthetic consideration for Endovascular surgery, 59th Annual Virtual Conference of the Indian Society of Anaesthesiologists, Delhi Branch, 2-4 October 2020, Delhi/Online

**Poonam Malhotra Kapoor**

1. ECMO in heart Failure, Global Experts Meeting on Frontiers in Heart Congress, 20 to 22 April 2020, Tokyo/Online
2. Filling pressure monitoring, 1st Postgraduate Webinar 2020, 17 May 2020, Delhi/Online
3. ECMO integrated CPB Circuit, 8th IACTA REFRESHER ONLINE COURSE-2020, 17 May 2020, Ahmedabad/Online
4. Physiology on ECMO, 8th IACTA REFRESHER ONLINE COURSE-2020, 17 May 2020, Ahmedabad/Online
5. Coagulation monitoring and thrombocytopenia, 8th IACTA REFRESHER ONLINE COURSE-2020, 17 May 2020, Ahmedabad/Online
6. Vascular ultrasound use in Peripheral Vascular Disease, Online CME Webinar by Mediknit, 22 May 2020, Delhi/Online
7. Modern TIVA in Cardiac practice: Beyond safety measures, Online CME Webinar by Baxter India, 30 May 2020, Delhi/Online
8. ECMO Myths, TSS Online CME, 6 June 2020, Delhi/Online

9. ECMO cannulation, TSS Online CME, 13 June 2020, Delhi/Online
10. Heparin and anticoagulation, TSS Online CME, 20th June, 2020, Delhi/Online
11. ECMO and LVAD in LV Dysfunction, 12th Asia Pacific Vascular Intervention Course/Virtual Meeting, 28 June 2020, Delhi/Online
12. Echo for Aortic Valve and Aortic regurgitation, TSS Online CME, 11 July 2020, Delhi/Online
13. ECMO Saves lives, Virtual 4th International Conference on Anesthesiologists and Surgeons, 13-14 July 2020, Amsterdam/Online
14. Assessment of Mitral Regurgitation, TSS Online Webinar, 25 July 2020, Delhi/Online
15. Tissue Doppler and Strain & Speckle Tracking, TSS Online Webinar, 1 August 2020, Delhi/Online
16. Echo for LV and RV Systolic Dysfunction, TSS Online Webinar, 15 August 2020, Delhi/Online
17. Strain rate and speckle tracking, ICA 2020 webinar on TEE, 26 August 2020, Bangalore/Online
18. ECHO in ECMO, TSS Online CME, 5 September, 2020, Delhi/Online
19. Fluid Therapy in Covid-19, TSS Online CME, 12 September 2020, Delhi/Online
20. Ventilation in ECMO, TSS Online CME, 13 September 2020, Delhi/Online
21. TIVA in Cardiac practice, Webinar series On TIVA by SCA Delhi And NCR Branch in collaboration with BAXTER India, 26 September 2020, Delhi/Online
22. Moderated a scientific session on :Perioperative management of patients at risk of CAD: dilemmas and lacunae, 59th Annual Virtual Conference of the Indian Society of Anaesthesiologists, Delhi Branch, 2-4 October 2020, Delhi/Online
23. Chaired a scientific session on: Perioperative Arrhythmias and management, 59th Annual Virtual Conference of the Indian Society of Anaesthesiologists, Delhi Branch, 2-4 October 2020, Delhi/Online
24. TIVA in COVID-19, Webinar series On TIVA by SCA Delhi And NCR Branch in collaboration with BAXTER India, 10 October 2020, Delhi/Online
25. TIVA for ECMO and VAD, Webinar series on TIVA by SCA Delhi And NCR Branch in collaboration with BAXTER India, 17 October 2020, Delhi/Online
26. What is role of simulation in Cardiac Anaesthesia, ACTA MUMBAI CME Webinar, 24 October 2020, Mumbai/Online
27. Sonoclot use in Bleeding Patient, Online course in Patient blood management, 31 October 2020, Delhi/Online
28. Oral and Insulin Management of Cardio Diabetes, TSS Online Webinar, 7 November 2020, Delhi/Online
29. Point of Care testing in bleeding patients in ICU, TSS Online Webinar, 14 November 2020, Delhi/Online
30. Complications in ECMO, TSS Online Webinar, 15 November 2020, Delhi/Online
31. Cardiovascular surgery and PBM Practice, Online course in Patient blood management, 21 November 2020, Delhi/Online
32. ECMO, Online course in Patient blood management, 28 November 2020, Delhi/Online
33. Tricuspid Valve-Perioperative assessment for repair/replacement, 5th perioperative Echocardiography valvular function online workshop, 4 December 2020, Delhi/Online
34. Goal-directed bleeding management, Online course in Patient blood management, 5 December 2020, Delhi/Online
35. Anaesthesia for valvular heart disease, ICA 2020 webinar, 16 December 2020, Bangalore/Online
36. Anticoagulation, Online VA Punnoose Young Scientist Award organised by SCA-Delhi & NCR Branch, 19 December 2020, Delhi/Online
37. Introduction to the Cardiac Nutrition Course: Speaker, Certificate Course in Cardiac Nutrition, 26 December 2020, Delhi/Online
38. Mechanical ventilation: Chair person, Indian College of Anaesthesia CME, 6 January 2021, Bangalore/Online
39. Point of care ultrasound: Chair person, Indian college of anaesthesia CME, 13 January 2021, Bangalore/Online
40. Utility cardiac nutrition in 2021: Moderator, TSS - Nutriwel Online CME, 28 January 2021, Delhi/Online
41. Ideal nutrition in cardiac diabetes: Speakers, TSS – Nutriwel Online Cardiac Nutrition Conference, 28 January 2021, Delhi/Online
42. Point of care testing: Moderator, Indian college of Anaesthesia CME, 28 January 2021, Bangalore/Online
43. Coronary arterial bypass grafting, APPEC-21, 8 February 2021, Delhi/Online
44. Moderated a scientific session on “ECMO”, SCA-Delhi & NCR Branch Online CME, 17 February 2021, Delhi/Online

45. Moderated a session on “NCLS Guidelines in Cardiac Practice”, NCLS CME Workshop, Narayana Hrudayalaya, 20 February 2021, Bangalore/Online
46. Anticoagulation in ECMO, ISCCM 2021 ECMO Workshop, 25 February 2021, Delhi/Online
47. Panellist in a panel discussion on: Complication and troubleshooting in ECMO, ISCCM 2021 ECMO Workshop, 25 February 2021, Delhi/Online
48. Platelet Function Test and its significance in ECMO”, ISECT VIRT-CON 2021, Hyderabad, 27 February 2021, Hyderabad/Online
49. Case Scenario and discussion on Long QT Syndrome, WCC 2021 Annual Conference, 5 March 2021, Hyderabad/Online
50. Echo of Tricuspid Valve, TSS Online Education Series for PGs, 7 March 2021, Delhi/Online
51. Extracorporeal membrane oxygenation, ICA ECMO Workshop and PG Assembly, 17-18 March 2021, Bangalore/Online
52. Management of Hypertension in Cardio Diabetes, TSS Online CME, 20 March 2021, Delhi/Online
53. Anti Hypertensive and Cardio-diabetes, TSS Online CME, 20 March 2021, Delhi/Online
54. ECMO as bridge to transplant, TSS Online CME, 21 March 2021, Delhi/Online
55. Role of ECMO procedure in COVID-19 Patients, TSS Online CME, 27 March 2021, Delhi/Online
56. Coronary Artery Disease - Antiplatelet Drugs and Cardio Diabetes, TSS Online CME, 27 March 2021, Delhi/Online
57. Ventilation in Covid Times, TSS Online CME, 28 March 2021, Delhi/Online
58. Anti-coagulation in ECMO, TSS Online CME, 28 March 2021, Delhi/Online

### **Minati Choudhury**

1. PA catheter monitoring, 1 Cardiac Symposium, Global Anesthesia Society, 8 October 2020, Liverpool/Online
2. It is all in mind, World Anaesthesia day, Global Anesthesia Society and The Anaesthetist, 16 October 2020, Liverpool/Online
3. TIVA for myocardial protection, TIVA online CME series, 17 October 2020, Delhi/Online
4. Anesthesia management of Mitral stenosis in non-cardiac Surgery, ICA, Webinar campus, 31 October 2020, Bengaluru/Online
5. Anaesthesia for aortic arch Surgery, ICA, Webinar campus, 6 January 2021, Mumbai/Online
6. How to manage anxiety before Surgery?, AOL Public awareness series, 11 January 2021, Bengaluru/Online
7. Intraoperative Hypoxia, Desaturation and Cyanosis, Crisis management symposium, Global Anesthesia Society and The Anaesthetist, 6-7 March 2021, Liverpool/Online
8. Lactate in perioperative care, Crisis management symposium, Global Anesthesia Society and The Anaesthetist, 6-7 March 2021, Liverpool/Online
9. Management of patients with ischemic heart disease and perioperative myocardial protection, ISA-ODISHA WEBCON 2021, 14 March 2021, Cuttack/Online

### **Vishwas Malik**

1. Title of talk? Invited as Speaker for in Nov 2020, Chennai Cardiac Anaesthesia update, 28 November 2020, Chennai/Online
2. Title of talk? Invited as Speaker, TEE workshop at Medanta, 2-4 December 2020, Gurugram/Online
3. Moderator for TEE Workshop, TEE workshop, PGIMER, Date? March 2021, Rohtak/Online

### **Suruchi Hasija**

1. Bivalirudin anticoagulation for cardiac surgery, 24th Annual National Conference of the Indian Society of Cardiovascular Thoracic Anaesthesiologists, 27 February 2021, Madurai/Online

### **Arindam Choudhury**

1. Changing concepts in Lung isolation, 11th National Airway Conference (NAC 2020), 9-10 October 2020, Chandigarh/Online
2. Quantifying valvular regurgitation’, 15th Annual Perioperative transesophageal and critical care echo- cardiography (TEEPGI), 25-27 October 2021, Aligarh/Online

**List of oral papers/posters presented: 5**

1. Ameya Karanjkar, Poonam Malhotra Kapoor, Sandeep Sharan, Vandana Bhardwaj, Vishwas Malik, Suruchi Hasija, Arindam Choudhury, Ujjwal Kumar Chowdhury, P. Rajashekar, Point of care testing in Cyanotic Cardiac Surgery, 59th Annual Virtual Conference of the Indian Society of Anaesthesiologists, Delhi Branch, 2-4 October 2020, Delhi/Online
2. Ritu Airan, Poonam Malhotra Kapoor, Ujjwal Kumar Chowdhury, Mixed Venous oxygenation Saturation in Cardiac Surgery, 59th Annual Virtual Conference of the Indian Society of Anaesthesiologists, Delhi Branch, 2-4 October 2020, Delhi/Online
3. Ritu Airan, Poonam Malhotra Kapoor, Ujjwal Kumar Chowdhury, Sandeep Sharan, Lakshay Sehgal, Low Flows ECMO support management in post cardiac patient, VA Punnoose Young scientist Award, 19 December 2020, Delhi/Online
4. Singh R, Choudhury A, Hote MP et al., Airway adjuncts in rescue for a successful unanticipated difficult airway management in a child with congenital heart disease (Abstract presented), National Airway conference (Submitted for publication-Under review), 9 October 2020, Aligarh
5. Singh U, Choudhury M, Hote MP, Comparison the effect of etomidate and thiopentone on left ventricular strain and strain rate at the time of anesthesia induction in patients undergoing elective coronary artery bypass surgery: A randomized double blind controlled trial, 9th peri-operative ECHO webinar, 2-4 January 2021, Gurugram

**Cardiac – Biochemistry**

1. PhD students-chief guide- 3
2. PhD students-co-guide-6
3. Involved in undergraduate teaching

**Lectures delivered:****Manoj K Tembhre: 6****Manoj K Tembhre**

1. COVID-19 and SARS-nCoV2 infection, Virtual Seminar (CME) (Organized by Amity University, Gurugram), 13 June 2020, New Delhi (NCR)
2. Importance of RT-PCR and Rapid testing in SARS-nCoV2 detection, Virtual Seminar (CME) (Organized by Galgotias University, greater Noida), 22 August 2020, New Delhi (NCR)
3. Role of alarmins in induction of NETS in psoriasis, IADVL-DERMACON (Conference), 4-5 December 2020, New Delhi
4. COVID-19 and Heart Diseases, Virtual Seminar (CME) (Organized by Amity University, Noida), 12 December 2020, New Delhi (NCR)
5. COVID-19 and Skin Diseases, Virtual Seminar (CME) (Organized by Amity University, Noida), 20 December 2020, New Delhi (NCR)
6. Increased frequency of PD1+ cytotoxic CD8+ T cells in peripheral blood and skin of vitiligo patients and its correlation with disease severity, Annual conference of Global Vitiligo Foundation (Virtual Meeting), 20 March 2021, Virtual World Vitiligo Day-USA

**List of oral papers/poster presented: 2**

1. Tembhre, MK, Parihar AS, Sharma VK, Increased frequency of PD1+ cytotoxic CD8+ T cells in peripheral blood and skin of vitiligo patients and its correlation with disease severity, Annual conference of Global Vitiligo Foundation (Virtual Meeting), 20 March 2021, Virtual World Vitiligo Day-USA
2. Tembhre, MK, Parihar AS, Sharma VK, Role of NETS in psoriasis, IADVL-DERMACON (Delhi state Chapter), 4-5 December 2020, AIIMS, New Delhi

**Cardiac – Nuclear Medicine**

- No. of Postgraduate students: 48 (30 MD Nuclear Medicine students & 18 MSc. Nuclear Medicine Technology students on rotational basis in Nuclear Cardiology)
- No. of Thesis/research papers completed: 5
- Moderator in Journal Club/Seminars/Intra-department lectures: 10
- No. of new thesis started: 6
- ‘On site’ teaching of MD students while reporting clinical studies



**Lectures delivered:****Chetan D Patel: 3****Chetan D Patel**

1. Inflammatory & Infiltrative Cardiomyopathies, Webinar conducted by Indian College of Nuclear Medicine & Society of Nuclear Medicine, India, 8 July 2020, Delhi/Online
2. Moderator in a talk titled “Perspectives of Nuclear Cardiology in 2020”, Annual conference of Association of Nuclear Medicine Physicians of India (ANMPI), 2 to 3 October 2020, Delhi/Online
3. Delivered the Homi Bhabha Oration titled “Nuclear Cardiology-Why doubt when we can affirm”, 52nd Annual Conference of the Society of Nuclear Medicine – India (SNMICON-2020), 11-13 December 2020, Raipur/Chhattisgarh

**List of oral papers/poster presented: 9**

1. Kumar D, Pandey A, Kumar R, Patel C, Image enhancement using Stochastic Resonance in <sup>99m</sup>Tc-MDP bone scan images, SNMMI 2020 Annual Meeting, USA, 11-14 July 2020, USA/Online
2. Kumar N, Pandey AK, Arora G, Bhagel V, Jaleel J, Sharma A, Kumar R, Patel C, Bal CS, Role of boundary tracing technique in identification of renal scars in Tc-99m-DMSA images, 52nd Annual conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual), 11-13 December 2020, Raipur/Chhattisgarh
3. Pandey A, Yadav D, Sharma A, Sonker D, Patel C, Bal CS, Kumar R, Evaluation of Perception based Image Quality Evaluator (PIQE) no-reference image quality score for <sup>99m</sup>Tc-MDP bone scan images, SNMMI 2020 Annual Meeting, USA, 11-14 July 2020, USA/Online
4. Pandey AK, Dhiman S, Arun Raj ST, Patel C, Bal CS, Kumar R, Designing and comparing performances of image processing pipeline for enhancement of I-131-mIBG images, 52nd Annual Conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual), 11-13 December 2020, Raipur/Chhattisgarh
5. Pandey AK, Kumar N, Sharma A, Vivek, Jasim, Madhavi, Patel C, Bal Chetan, Kumar R, Scintigraphic image denoising using pre-trained Deep Neural Network, 52nd Annual conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual), 11-13 December 2020, Raipur/Chhattisgarh
6. Pandey AK, Sunil, Sharma A, Kumar S, Patel C, Bal CS, Kumar R, ML network for co-registration of whole body PET/CT images and to extract a part of co-registered PET and CT images, 52nd Annual conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual), 11-13 December 2020, Raipur/Chhattisgarh
7. Pandey AK, Sunil, Sharma A, Kumar S, Patel C, Bal CS, Kumar R, ML network for co-registration of whole body PET/CT images and to extract a part of co-registered PET and CT images, 52nd Annual Conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual), 11-13 December 2020, Raipur/Chhattisgarh
8. Sonker D, Pandey AK, Baghel V, Jaleel J, Kumar R, Patel C, Bal CS, Restoration of Tc-99 m MDP Wholebody Bone scan images using Richardson-Lucy algorithm in order to enhance clinical confidence., 52nd Annual conference of the Society of Nuclear Medicine India (SNMICON 2020 Virtual), 11-13 December 2020, Raipur/Chhattisgarh
9. Thayumanavan T, Patel C, Bal CS, Seth S, Roy A, Pandey A, Kumar R, Kumar P, Sharma A, Fluorine-18 Fluoro L-Dihydroxyphenylalanine (F-18 FDOPA) PET-CT in evaluation of cardiac sympathetic innervation in Heart Failure patients, SNMMI 2020 Annual Meeting, USA, 11-14 July 2020, USA/Online

**Cardiac – Pathology**

- Routine diagnostic reporting of Histopathology and Cytopathology cases
- Teaching of undergraduate students (Lectures, practical's, seminar, Group discussion, Clinicopathological case discussion, gross and microscopy demonstration)
- Teaching of Postgraduate students
- Teaching of Superspeciality students (DM, Mch)
- Coordinating post graduate seminars, journal clubs
- Conducting cardiopulmonary Pathology interdepartmental conferences
- Research and developmental activities, especially related to Cardiac and Pulmonary and Dermatopathology Pathology
- Departmental maintenance and in charge of departmental library committee
- Regular contribution of MCQ based questions to AIIMS Examination section
- Other duties as & when rendered by the department and the Institute

### **CMEs/Workshops/Symposia/National and International Conferences**

1. Webinar: Cardiovascular pathology (CVP), Second Saturday of every month, Delhi/Online
2. Webinar: Under my scope from AIIMS department of pathology, Every month, Delhi/Online

### **Lectures delivered:**

#### **Sudheer Kumar A: 2**

#### **Sudheer Kumar A**

1. Interesting cardiovascular cases, Cardiovascular pathology group discussion, Second Saturday of every month, Delhi/Online
2. Dermatopathology jugalbandi, AIIMS Webinar Under my scope, 30 January, 2021, Delhi

### **Cardiovascular Radiology and Endovascular Interventions**

Undergraduates: lectures on basics of cardiovascular imaging and vascular interventions. Postgraduates: Cardiac Radiology quiz, moderating seminars in departments of allied specialties viz. Medicine, Surgery, Gastroenterology, Cardiology and Cardiothoracic Surgery. Clinico-radiology meetings with Department of Cardiology and CTVS. Participation in Clinical Combined Rounds and Clinical Grand Rounds with Allied specialties. Daily case presentations. Weekly journal clubs and seminars. Training of junior and senior radiology residents, senior residents in Cardiology, CTVS and Cardiac Anaesthesia, and external observers in techniques of cardiovascular imaging and vascular interventions.

### **CMEs/Workshops/Symposia/National and International Conferences**

1. CME (webinar) on “Basics of Interventional Radiology”, 5 December, 2020, Delhi/Online
2. CME (webinar) on “Endovascular management of peripheral artery diseases”, 9 January, 2021, Delhi/Online
3. CME (webinar) on “Endovascular management of mesenteric ischemia”, 20 February, 2021, Delhi/Online

### **Lectures delivered:**

#### **Sanjiv Sharma: 2**

#### **Priya Jagia: 11**

#### **Sanjeev Kumar: 7**

#### **Niraj N Pandey: 1**

#### **Sanjiv Sharma**

1. Radiological findings of COVID-19, Dayanand Medical College & Hospital Unit Hero DMC Heart Institute, Ludhiana, 11 July 2020, Delhi/Online
2. Embolisation of Gastric Artery: an alternative to Bariatric surgery, CSI 2020, 11 December 2020, Delhi/Online

#### **Priya Jagia**

1. Cardiac CT at India's Premier Medical Institute and its use in Pericardial Diseases, By Royal Brompton & Harefield, NHS Foundation Trust, 25 June 2020, Delhi/Online
2. As Chairpersons and a panelist for the topic of Radiation Risk in Noninvasive & invasive cardiac imaging, how safe are they, CSI, WFCICC, NCSI (collaboration), 26 July 2020, Delhi/Online
3. As Moderator of educational exercise by MODERATING the case of Endovascular Management of Acute Mesentric Ischemia, Fortis Escorts Heart Institute along with CVT India, 29 July 2020, Delhi/Online
4. Unstable plaque evaluation by CTA, CSI, WFCICC, NCSI (collaboration), 16 August 2020, Delhi/Online
5. As Eminent expert for the topic of An Acute Stroke Intervention Why I Preferred Carotid Stenting Why I Preferred CEA Combined Carotid & Coronary Disease Mesh Covered Carotid Stent, Carotid india 2020 By CVT, 12 September 2020, Delhi/Online
6. As panelist for the topic of High flow vascular malformation, CME by ISVIR, 5 September 2020, Delhi/Online
7. Cases in the ER: My best and worst cases, 7th Annual Conference of the SER, 6-7 November 2020, Delhi/Online
8. As Moderator for session on Advance Topic “Cardiac CT”, Annual conference of Indian association of cardiac imaging IACI, 7-8 November 2020, Delhi/Online
9. Vascular Access, Basics of Intervention Radiology organized by CRR&EI, 5 December 2020, Delhi/Online
10. Stress MRI, CSI -Imaging council and WFCICC-WCCICC, 20 December 2020, Delhi/Online
11. Three interesting Cardiac CT and MRI, Resident review course by Delhi IRIA, 6 February 2021, Delhi/Online

#### **Sanjeev Kumar**

1. “Radiology in the time of COVID-19”, CME of the society of emergency radiology, 22 May 2020, Delhi/Online
2. “Impact of COVID-19 on Students Coming from Social Marginal Groups and Person with Disabilities” Jointly organized by the Equal Opportunity Cell and SUGAM (A Society of students belonging to PwD students) of Ram Lal Anand College, Delhi University, 3 July 2020, Delhi/Online

3. “Different radiological manifestation of COVID-19”, Punjab government e-portal, 11 July 2020, Delhi/Online
4. “Vascular complications of COVID-19 and the role of imaging”, Society for Emergency Radiology, 17 July 2020, Delhi/Online
5. Aortic Coarctation and management of complication, ISVIR Virtual Mid Term CME 2020, 18 October 2020, Delhi/Online
6. Cardiovascular complications of Covid-19 and role of Imaging, 7th Annual Conference of the SER, 6-7 November 2020, Delhi/Online
7. Anticoagulation in angiography, Primer webinar resident course organized by CVR&EI, 5 December 2020, Delhi/Online

#### **Niraj N Pandey**

1. Panel discussion: Emergency Radiology - The highs and the lows, 7th Annual Conference of the SER, 7 November 2020, Delhi/Online

#### **List of oral papers/poster presented: 4**

1. Sharma S, Sinha M, Verma M, Jagia P, Kumar S, Long term outcomes of angiogenesis induced by intra-arterial autologous bone marrow-derived stem cells in patients with CLI, CIRSE 2020, 7 July 2020, Delhi/Online
2. Sinha M, Sreenivasa RN, Kumar S, Sharma S, Feasibility, safety and efficacy of local delivery of autologous platelet rich plasma in the management of non-diabetic patients with critical limb ischemia, CIRSE 2020, 12 July 2020, Delhi/Online
3. Sreenivasa RN, Kumar S, Ganga K, Structural conformational changes in the aortic stent graft (post-deployment) and its implications in sizing for blunt thoracic acute aortic injuries, CIRSE 2020, 12 July 2020, Delhi/Online
4. Sreenivasa RN, Sharma S, Kumar S, Ganga K, Skill development initiative for improving penetration of interventional radiology in emerging world countries in Asia & Africa, CIRSE 2020, 12 July 2020, Delhi/Online

#### **Stem Cell Facility**

The department participates in PhD, DM & MD programs

1. MSc, NA
2. PhD, 11
3. DM & MD, 2
4. **Training:** (a) Short term – 1, (b) Long term – 0

#### **CMEs/workshop/Symposia/National & International conference**

1. IUSSTF Workshop AIIMS - Indiana University Joint Virtual Workshop on Regenerative and Nano Medicine, 10 December 2020, Delhi/Online

#### **Lecture delivered:**

#### **Sujata Mohanty: 4**

#### **Sujata Mohanty**

1. Stem Cell Based Therapy for Neuromuscular Disorder, Muscle & Diseases Conference, 6 –7 November 2020, Sonapat/Online
2. Regenerative and Nano Medicine, IUSSTF Workshop AIIMS - Indiana University Joint Virtual Workshop on Regenerative and Nano Medicine, 10 December 2020, Delhi/Online
3. Stem Cell – The Novel Therapy on the Horizon., Invited Lecture at The Srimanta Sankaradeva University of Health and Sciences, Assam, 20 January 2021, Assam/Online
4. Stem Cells & Regenerative Medicine – Future Perspectives, 4th Hybrid Biennial International ISCSGCON 2021 /Online, 13-14 February 2021, Raipur/Online

#### **Blood Transfusion Services**

#### **Lectures delivered:**

#### **Anjali Hazarika: 1**

#### **Gopal Kumar Patidar: 3**

#### **Anjali Hazarika**

1. Equipment Maintenance and Use, Training of Trainers in Strengthening of Blood Services by NIB & NHM, MoHFW, GOI, 19 March 2021, Delhi/Online

## **Gopal Kumar Patidar**

1. Recipient Haemovigilance, International Society of Blood Transfusion (ISBT) Hemovigilance Working Party Meeting in ISBT Conference, November 2020 Program of India, 4 December 2020, Delhi/Online
2. Effect of Adverse Conditions on Platelet Quality, TRANSCON, 2020, Indian Society of Blood Transfusion and Immunohaematology, 28 February 2021, Delhi/Online
3. Role of Therapeutic Plasma Exchange in COVID-19, Transfusion Medicine virtual CME Covid-19 Pandemic: Lessons Learnt by Department of Transfusion Medicine ESIC Medical College Hospital, Sanath Nagar, Hyderabad, 27 March 2021, Delhi/Online

### **List of Oral papers/Posters presented: 2**

1. Gopal K Patidar, Yashaswi Dhiman, Vijay Kumawat, Knowledge, Attitude, and Practice (KAP) study among Indian transfusion medicine experts regarding peer review process, 36th International congress of ISBT, 12 December 2020, Delhi/Online
2. Yashaswi Dhiman, Gopal K Patidar, Environmental influences and natural selection on ABO and Rh (D) blood Groups in Indian subcontinent, 36th International congress of ISBT, 12 December 2020, Delhi/Online

## **RESEARCH**

### **Cardiology**

#### **Funded projects**

##### ***Ongoing***

1. A global registry to study the demographics, socioeconomic and clinical factors, etiologies, pathophysiology, management, barriers to outcomes of heart failure patients. (G-CHF), Dr. Ambuj Roy, Population Health Research Institute, Canada, 7 Years, 2016-2023, Rs. 65.00 Lakhs
2. A multicenter study to evaluate long-term safety and tolerability of open label sacubitril/valsartan in pediatric patients with heart failure due to systemic left ventricle systolic dysfunction who have completed study CLCZ696B2319, S Ramakrishnan, Novartis Healthcare Pvt Ltd, 2 years, 2020-2022, Rs 14.38 lakhs
3. A randomized controlled trial of influenza vaccine to prevent adverse vascular events (IVVE), Dr. Ambuj Roy, MRC (UK) /McMaster University, Canada, 4 years, 2016-2021, Rs 2.16 Lakhs
4. A randomized controlled trial to evaluate the efficacy of yoga on Quality of Life and psychophysiological parameters among adolescents and adult, one year post operated CCHD patients, Anita Saxena, DST, 3 years, 2020-2022, Rs 46.19 lakhs
5. Center of Excellence for Yoga and Ayurveda, Dr. Gautam Sharma, Ministry of AYUSH, Govt. of India, 5 years, 2017-2022, Rs 08.09 crore
6. Childhood and young adult predictors of myocardial structure and function at age 45 years in the New Delhi and Vellore Birth Cohorts, India, Dr. Ambuj Roy, British Heart Foundation, 4 years, 2016-2020, Rs 20 lakhs
7. Clinical efficacy of Arjuna ksheerpaka [A traditional Ayurvedic formulation of stem bark of Terminalia Arjuna (Roxb. ex DC.) Wight & Arn.] to standard treatment care in post CABG patients. A double blind, randomized placebo controlled pilot study, Dr. Gautam Sharma, Dabur India Ltd, 3 years, 2019-2023, Rs 17.18 lakhs
8. Comparison of Video laryngoscope with direct laryngoscope for intubation by Cardiology residents: A randomized mannequin study, Satyavir Yadav, AIIMS, 2 years, 2020-2021, Rs 1.50 lakhs
9. Developing and testing a Collaborative Quality Improvement initiative for prevention of cardiovascular disease in India (C-QIP study), Ambuj Roy, NIH, USA, 5 years, 2019-2024, Rs 10.05 lakhs
10. DHR funded study of prognostic role of proteomics and other biomarkers in heart failure, Sandeep Seth, DHR, 4 years, 2017-2021, Rs 79.48 lakhs
11. Effect of Yoga- based intervention on VPC burden, quality of life and LV functions in patients with Ventricular premature complexes (VPC): A Randomized Controlled Trial. Dr. Gautam Sharma, DST-SATYAM, 3 years, 2021-2024, Rs 31.10 lakhs
12. Efficacy of YOGA in Indian Patient with Coronary Artery Disease (YOGICAD), Dr. Gautam Sharma, Ministry of AYUSH, Govt. of India, 5 years, 2017-2022, Rs 1.55 crore
13. Funded study of Yoga life style changes in heart failure, Sandeep Seth, DST, 4 years, 2017-2021, Rs 46.47 lakhs
14. I8F-MC-GPGN (b): The Effect of Tirzepatide versus Dulaglutide on Major Adverse Cardiovascular Events in Patients with Type 2 Diabetes (SURPASS-CVOT), Dr. Ambuj Roy, Eily Lilly, 5 years, 2020-2024, Rs 24 lakhs

15. Multicenter, open-label, study to evaluate safety, tolerability, pharmacokinetics and, pharmacodynamics of LCZ696 followed by a 52-week randomized, double-blind, parallel group, active-controlled study to evaluate the efficacy and safety of LCZ696 compared with enalapril in pediatric patients from 1 month to < 18 years of age with heart failure due to systemic left ventricle systolic dysfunction, Dr S Ramakrishnan, Novartis Healthcare Pvt. Ltd, 3 years, 2019-2022, Rs 11.38 lakhs
16. National Heart Failure Registry (NHF), Ambuj Roy, Indian Council of Medical Research, 3 years, 2018-2021, Rs 24.00 lakhs
17. Neurodevelopmental outcomes in infants undergoing surgery for congenital heart defects – a prospective multicentre cohort study, Saurabh K Gupta, ICMR, 4 years, 2020-2024, Rs 22.85 lakhs
18. Pre-clinical Development of penicillin Drug Delivery System for Prophylaxis of Rheumatic Heart Disease, Dr. S. Ramakrishnan, ICMR, 3 years, 2017-2020 Rs 64.49 lakhs
19. Prediction of Heart Failure adverse events using Machine learning, Sandeep Seth, DBT, 2 years, 2020-2022, Rs 55.00 lakhs
20. Role of virtual dissection in clarifying morphology of double outlet right ventricle (DORV), Saurabh K Gupta, AIIMS, Delhi, 2 years, 2020-2022, Rs 5 lakhs
21. Semaglutide effects on cardiovascular outcomes in people with overweight or obesity. (SELECT), Ambuj Roy, Novo Nordisk, 5 years, 2019-2024, Rs 2.00 lakhs

### **Completed**

1. Effect of Yoga on Clinical Outcomes and Quality of Life in patients with Vasovagal Syncope. A randomized controlled trial, Dr Gautam Sharma, Ministry of AYUSH, Govt. of India, 3 years, 2018-2021, Rs 30.94 lakhs
2. Endothelial function and markers of valve damage in acute rheumatic heart fever, Dr. S. Ramakrishnan, DHR, 3 years + 1 year Extension, 2014-2019, Rs 43.10 lakhs
3. Population Prevalence of Vitamin D deficiency in Urban and Rural Delhi and its Association with Cardiovascular Disease risk factors, Ambuj Roy, Department of Health and Research, 3 years, 2016-2019, Rs 28.00 lakhs

### **Departmental projects**

#### **Ongoing**

1. A PROBE trial to evaluate the efficacy of yoga-based cardiac rehabilitation in Post-Percutaneous Coronary Intervention patients
2. Cardiac MRI in acute rheumatic fever
3. Correlation of Imaging and other characteristics with clinical features in Ebstein's anomaly
4. Echocardiographic features of rheumatic mitral valve disease
5. Imaging characteristic of CCTGA
6. Influence of diabetes and outcome in heart failure
7. Prevalence of HFpEF IN Out patients
8. Retrospective study of in-hospital outcome in children admitted with CHD & infection
9. Utility of CT in assessing PHVT
10. Yoga in coronary artery disease and quality of sleep. YOGA-CADETS

#### **Completed**

1. Effect of Yoga- based intervention on VPC burden, quality of life and LV functions in patients with Ventricular premature complexes (VPC): A Randomized Controlled Trial.
2. Effect of yogic exercises on Clinical Outcomes and Quality of Life in patients with Vasovagal Syncope. A randomized Controlled Trial

### **Collaborative projects**

#### **Ongoing**

1. Evaluation of a liposome-based cholesterol efflux assay against a macrophage-based efflux assay for measurement of reverse cholesterol transport capacity of HDL, Dept. of Biochemistry, AIIMS, New Delhi
2. Identification of delays and barriers to acute cardiac care in NCR, Dept. of Community Medicine, AIIMS, New Delhi
3. Mission Delhi, Department of Emergency medicine & ICMR, STEMI ACT, Department of Emergency medicine & ICMR
4. Pre-clinical Development of penicillin Drug Delivery System for Prophylaxis of Rheumatic Heart Disease, NIPER, Punjab



5. The Integrated Tracking, Referral, and Electronic Decision Support, and Care Coordination (I-TREC) Platform, Dept. of Endocrinology, AIIMS, New Delhi, Emory University, Atlanta, USA
6. To Investigate the role of J receptors as primary causative factor leading to dyspnoea on exertion in patients with pulmonary hypertension 1 (i) with and (ii) without atrial septal defect and 2 with connective tissue disease, Exertional Breathlessness Studies Laboratory (DST)/Vallabhbhai Patel Chest Institute

## **Cardiac Thoracic Vascular Surgery**

### **Funded projects**

#### ***Ongoing***

1. Dafodil-1: A prospective, multicenter, single arm clinical study to evaluate safety and performance of the Dafodil pericardial bio prosthesis in patients requiring replacement of their natural or prosthetic aortic or mitral valve, S K Choudhary, Meril Life Sciences Pvt Ltd Survey No 135/139, Bilakhia House, Muktanand Marg, Chala, Vapi-396191, 5 years, 2019-2024, Rs 20.00 lakhs
2. KAP Study on the Scientific Awareness and Health Practices regarding Ergonomics in School Children and its effect on Musculoskeletal & Respiratory system as a part of research project “Musculoskeletal & Respiratory system”, Dr Vishva Gupta, Department of Science and Technology, Ministry of Science & Technology, Govt. of India, 3 years, 2019-2022, Rs 49.50 lakhs
3. Randomized control study to evaluate the efficacy of Ayush Card tea Raj Yoga meditation versus conventional treatment on clinical recovery & post-operative outcomes following mitral valve open heart surgery, Dr S K Choudhary, Ministry of AYUSH, AYUSH Bhawan, INA Delhi-23, 2 years, 2019-2022, Rs 45.00 lakhs

#### ***Completed***

1. Evaluation of safety and efficacy of BACE (Basal Annuloplasty of Cardia Externally) Device in the treatment of functional Mitral Valve Regurgitation (FMR), Dr S K Choudhary, Phoenix Cardiac Devices Pvt Ltd, 8-2-546, Sheesh Mahal, Road No. 7, Banjara Hills, Hyderabad-500 034, 2 years, 2019-2021, Rs 30.00 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A Study of Presentation Surgical Management and Outcomes of Paediatric Mitral Valve Diseases
2. An Assessment of Neurodevelopmental Outcomes in Children with Transposition of Great Arteries with Intact Ventricular Septum Who Underwent Primary Arterial Switch Operation in Infancy Integrated ECMO Support Compared to Children Who Underwent Surgery Without Integrated ECMO Support.
3. Analysis of Immediate and Short-Term Outcomes of Pulmonary Root Transfer Surgery- A retrospective
4. Assessment of Myocardial mechanics in patients undergoing pericardiectomy for chronic constrictive pericarditis by 2-D Speckled tracking echocardiography
5. Bidirectional Superior Cavo pulmonary Anastomosis: A of Outcomes of Patients Up to 6 Months Versus More Than 6 One Year Age
6. BNP as a predictor of Atrial Fibrillation in patients undergoing Off-Pump CABG patients- A prospective observational stud.
7. Cerebral changes after use of common carotid artery for arterial inflow
8. Clinic pathological Study and Long-Term Surgical Results of Right Atrial Masses – 20 Year Institutional Experience
9. Comparing Biomarker levels and recovery of Ventricular function in patients undergoing operation to the heart (CABG) having unstable Angina Vs Stable Angina
10. Comparison of Recovery of Pulmonary Function in Patients with LV Dysfunction Undergoing CABG On-pump Vs Off-pump
11. Early and Late Outcomes of TAPVC Repair Done in Last 10 Years Surgical Management of Mechanical Valve Thrombosis: 10 Years’ Experience
12. Early and late results of an Indian pericardial valve
13. Early and Mid-Term Graft and Native Vessel Patency by CT Coronary Angiography in Patients of CABG After Coronary Endarterectomy
14. Early Outcomes of Isolated Aortic Valve Reconstruction Using Glutaraldehyde Fixed Autologous Pericardium – Ozaki Procedure
15. Early results of Frozen Elephant Trunk
16. Long Term Result Following Arterial Switch Operation for Transposition of Great Arteries with Intact Ventricular Septum Operated at Age More Than or Equal To 2 Months of Age

17. Outcomes of Aortic valve replacement/Bentall operation in cases of chronic severe Aortic Regurgitation with severe left ventricular dysfunction
18. Predictive Value of Metabolic Profiling in Diagnosis and Prognosis of Rheumatic Valvular Heart Disease
19. Pre-operative use of Febuxostat in cardiac surgery – A double blind prospective randomized phase II trial
20. Pulmonary root transfer: Early outcome
21. Results of Bio Prosthetic Valves - 20 Yrs. Study
22. Role of Age of the Patient, Thickness of Interventricular Septum, Direct Movement of Interventricular Septum, LV Mass Index, LV Strain Pattern On Early Recovery of Pts with TAG after ASO
23. Serum Vit D3 Level in Patients Undergoing CABG and Its Relationship with Sternal Healing

### ***Completed***

1. Acute Type A Dissection complicated by Stroke: Optimum Strategy?
2. Analysis of outcome Of Fontan procedure over Last 10 years and factors affecting them
3. Assessment of Circle of Willis in Indian population
4. Clinical and Radiological Features of Type A Dissection: A Retrospective Observational Study
5. Clinical Course and Outcomes of Heart Transplant patients with COVID infection
6. Clinicopathological study and long-term surgical results of right atrial mass
7. Histopathological study of extent of degenerative changes in ascending aorta of patients with bicuspid aortic valve
8. Long Term Fate of Neo-aorta in Post ASO Patients
9. Morphology of Sinus of Valsalva aneurysms in Indian patients
10. Mycobacterial Aortopathy: An institutional review of its presentation and management
11. Outcome of surgical management of adult patients with coarctation of aorta
12. Outcome of TAPVC repair done in last 10 years in AIIMS
13. Outcome of Ventilator-associated pneumonia in children after cardiac Surgery – A Prospective observational study
14. Prevalence of Bicuspid Aortic Valve (BAV) and Ascending Aortic Dilatation in First Degree Relatives (FDR) of Patients with BAV
15. Surgical Management Strategies of TAPVC Repair in Children Less Than 2 Years
16. The Outcomes of Tracheostomy in Pediatric Cardiac Surgical Patients
17. Tracheostomy in paediatric surgery patients
18. Trans-aortic mitral valve repair for functional MR in patients undergoing aortic root/valve procedure.

### **Collaborative projects**

#### ***Ongoing***

1. A prospective study for comparison between Time-resolved Magnetic Resonance Angiography and diagnostic digital subtraction angiography in the vascular assessment of nonspecific aorto-arteritis patients, Department of Cardiac Radiology, AIIMS
2. Comparative Proteomic analysis to discover novel plasma biomarkers for early detection, surveillance and prognostication of Atrial fibrillation in patients with Rheumatic heart disease, Deptt of Cardiology, AIIMS, National Institute of Pathology
3. Comparison between time-resolved angiography with interleaved stochastic trajectories (TWIST) magnetic resonance angiography and diagnostic digital subtraction angiography (DSA) in the vascular assessment of nonspecific aorto-arteritis patients: A prospective study”, Department of Cardiac Radiology, AIIMS
4. Early Enteral Feeding with supplemented mother’s milk in post-operative Pediatric cardiac surgical patients: A randomized controlled trial, Institute of Home Economics, Delhi University
5. Effect of Yoga based cardiac rehabilitation after coronary artery bypass surgery in patients of coronary artery disease with moderate-severe left ventricular dysfunction, CIMR, AIIMS, Delhi
6. Fabrication of biocompatible scaffolds for delivery of stem cells in myocardial infarct model – In search of an ideal cardiac patch, Deptt of Stem Cell Facility, AIIMS, Delhi
7. Identifying different stages of endothelial dysfunction in vitro and validating them in individuals exposed to cardiovascular risk factors, Deptt of Biochemistry, AIIMS
8. Morphologic changes in RBC in patients in patients undergoing cardiopulmonary bypass by electron microscopy, Electron Microscopy facility, AIIMS

9. Prevalence of depressive and anxiety symptoms, and their association with quality of life and physical activity in South Asian patients undergoing coronary artery bypass graft surgery, CIMR, AIIMS, Delhi
10. Proteomic analysis of cardiac tissue of Rheumatic heart disease patients with Atrial Fibrillation to understand the pathophysiology and to identify candidate biomarkers for diagnostic and therapeutic applications, Deptt of Cardiology, AIIMS, National Institute of Pathology, Delhi
11. Role of cardiac MRI including LGE, T1 and T2 mapping in the assessment of cardiac involvement in patients of nonspecific aorto-arteritis: A prospective study, Department of Cardiac Radiology, AIIMS
12. Stent-Graft Migration Post Endovascular Repair of Thoracic Aorta: A Retrospective Cohort Study, Department of Cardiac Radiology, AIIMS
13. Study of plaque biology in CAD patients, Cardiology and Institute of Genomics and Integrated Biology, Delhi
14. Study of proteomics in rheumatic mitral valve tissue in patients undergoing mitral valve replacement, Deptt of Cardiology, AIIMS
15. Study Title: PREDICT: Prospective Randomized Evaluation of Diabetics for graft patency and outcomes following Coronary artery bypass grafting using one versus Two or more arterial grafts, Multi Institutional study (8 hospitals/ Institutes in India)

## **Cardiac - Anesthesiology**

### **Funded projects**

#### ***Ongoing***

1. Efficacy of SUPAR in cardiovascular Disease, Poonam Malhotra Kapoor, JCCC-TSS research Grant, 2 years, 2021-2023, Rs 04.00 lakhs
2. Platelet Aggregometry in On-pump CABG, Poonam Malhotra Kapoor, JCCC-TSS Research Grant, 2 years, 2020-2022, Rs 10.00 lakhs

#### ***Completed***

1. A single blind randomized controlled study to evaluate the effect of Rajyoga Meditation on Biochemical and cognitive co-relates of cardiac rehabilitation in patients of surgical repair of congenital heart disease, Chief Investigator Professor Usha Kiran, (Funded by DST project, 2 years, 2017-2019. Rs 23.00 lakhs)
2. Bivalirudin anticoagulation in neonates and infants undergoing cardiac surgery. Suruchi Hasija, Intramural Research Grant, AIIMS, Delhi, 1 year, 2019-2020, Rs.5 lakhs
3. Platelet aggregometry in cyanotic vs acyanotic paediatric patients, Poonam Malhotra Kapoor, JCCC Research Grant, 2 years, 2019-2021, Rs 15 lakhs
4. Title - "Evaluation of efficacy of the point-of-care guided hemostatic management in cyanotic congenital cardiac surgery patients using AIIMS algorithm: a prospective randomized study ", Poonam Malhotra Kapoor, JCCC Research Grant, 2 years, 2018-2020, Rs 12 lakhs

## **Departmental projects**

#### ***Ongoing***

1. Comparison of the effects of different anaesthetic agents on cardiac electrophysiology parameters in patients undergoing radio-frequency ablation for supra ventricular tachyarrhythmias
2. Comparison of thoracic fluid content in off pump and on pump coronary artery bypass graft surgery by impedance cardiometry
3. Mediastinal mass perioperative management
4. Outcomes in Low flow ECMO
5. STR in by impedance cardiometry vs echocardiography for measurement of LV function
6. To compare the efficacy of a novel thoracic inter-fascial plane block (subpectointerfascial block) with erector spinae plane block in post-operative pain management of patients undergoing cardiac surgery through midline sternotomy'
7. To evaluate blood loss in women undergoing cardiac surgery on cardiopulmonary bypass during the menstrual phase

#### ***Completed***

1. Dexmedetomidine in prevention of atrial fibrillation in patient's undergoing valve surgery
2. Induction effect of Anesthetic agents on ventricular function of congenital heart disease children by speckle tracking echocardiography
3. Osteopenin, RV function & clinical outcome in tetralogy of Fallots

## **Cardiac – Biochemistry**

### **Funded projects**

#### ***Ongoing***

1. Deciphering the mechanism of alarmin induced necroptosis and its role in immune homeostasis and inflammation in atherosclerosis, Manoj K. Tembhre, DST-SERB (Early career research grant award-Extramural), 3 years, 2018-2021, Rs 50 lakhs
2. Elucidating the role of alarmins in triggering the Neutrophil Extracellular Trap (NETs): Implication in immune regulation and skin homeostasis in psoriasis, Manoj K. Tembhre, AIIMS Intramural grant, 2 years, 2021-2023, Rs 10.00 lakhs
3. Elucidating the role of TNIP1, IL2B and NFkBIA and their target micro RNA in regulating the inflammation and skin homeostasis in psoriasis. (ICMR-1125), Dr Manoj K Tembhre, ICMR, New Delhi (extramural grant), 3 years, 2019-2022, Rs 45 lakhs
4. Endothelial colony forming cells (ECFC) functionality in adults born small for gestational age as compared to those born appropriate for gestational age in the New Delhi Birth Cohort: A possible mechanism linking fetal growth restriction with adult chronic diseases, Dr R.Lakshmy, ICMR, 2 years, 2019-2021, Rs 40 lakhs
5. Estimating biomarkers in DBS for cardiovascular risk assessment in geriatric population, Dr R.Lakshmy, ICMR, 2 years, 2018-2020, Rs 28.00 lakhs
6. Exploring the potential of Exosomes derived from Endothelial Colony Forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) as a cell-free therapy for Cardio-Vascular Diseases (CVDs), R Lakshmy, ICMR, 3 years, 2021-2024, Rs 49 lakhs
7. Proposal for engagement of All India Institute for Medical Sciences to serve as qc lab for comprehensive national nutrition survey, R Lakshmy, ICMR, 4 years, 2016-2020, Rs 2 crore

#### ***Completed***

1. Defining the role of Neutrophil Extracellular Traps (NETs) in immune regulation and inflammation, Manoj K Tembhre, AIIMS, New Delhi (Intramural grant), 2 years, 2017-2019, Rs 10 lakhs
2. Double blind randomized control trial to study the effects of probiotic supplement, bacillus coagulans unique is2 and bacillus clausii on protein absorption, body composition, muscular strength, and immunity in resistance trained adult males. R. lakshmy, Unique Biotech, 3 years, 2016-2019, Rs 37 lakhs

### **Departmental projects**

#### ***Ongoing***

1. “Comparing biomarker levels and recovery of ventricular function in patients undergoing CABG, having unstable angina vs stable angina”
2. Elucidating the intricate network of alarmins-autophagy-necroptosis in driving inflammation, immune regulation and cardiac homeostasis in cardiomyopathy
3. Exploring the potential of exosomes derived from Endothelial Colony forming cells (ecfcs) primed with Mesenchymal Stromal Cells (mscs) as a cell free therapy for Cardiovascular Diseases

#### ***Completed***

1. Defining the role of microRNA in the pathogenesis of active generalized vitiligo and skin pigment regulation

### **Collaborative projects**

#### ***Ongoing***

1. A single blinded randomized control study to evaluate the effect of rajyoga meditation on biochemical and cognitive correlates of cardiac rehabilitation in patients of surgical repair for congenital heart disease, Cardiac Anesthesia
2. Assessment of brain volume and cognitive function in patients with NAFLD, Medicine
3. Preoperative intravascular volume status measured by inferior vena cava collapsibility index in patients with pheochromocytoma and paraganglioma undergoing surgical tumour removal – a prospective observational cohort study, Anesthesia
4. The modulation of insulin resistance and HDL quality by adipose tissue ABCA1 and metabolic status, Biochemistry

#### ***Completed***

1. Association of Common Mental Disorders with Diabetes Mellitus - A Community based Case-control Study in north India, Intramural, CCM, AIIMS

2. Cellular and molecular heterogeneity of normal superior and inferior parathyroid glands at different ages. Intramural, Pathology, AIIMS
3. Effect of Vitamin D supplementation on outcome in children undergoing open heart surgery: A randomized controlled trial, Intramural, CTVS, AIIMS
4. Intraoperative lung protective ventilation in peritonitis patients undergoing emergency laparotomy: A randomized controlled trial, Intramural, Anesthesiology, AIIMS

## **Cardiac – Nuclear Medicine**

### **Funded projects**

#### ***Ongoing***

1. International study on imaging in Cardio-Oncology Study (iCOS), Chetan D Patel, International Atomic Energy Agency (IAEA), 5 years, 2019-2024, Rs 16 lakhs
2. Establishing International Amyloidosis Centers of Excellence in India, Kuwait and South Africa, Chetan D Patel, Brigham and Women's Hospital/Harvard Medical School, USA, 2 years, 2021-2022, Rs 14 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Clinical profile and outcome of patients with suspected OR confirmed granulomatous myocarditis
2. Design and methods of the YOGICAD study- A probe trial to evaluate the efficacy of yoga based cardiac rehabilitation in Post PCI patients
3. Evaluating the spectrum of cardiac involvement in sarcoidosis
4. Non invasive tissue diagnosis – A comparison of the accuracy of parametric mapping on MRI with cardiac PET scan in determining the response to therapy in cardiac sarcoidosis
5. Role of 99mTc-Pyrophosphate Imaging in detection of transthyretin cardiac amyloidosis (ATTR-cardiac amyloidosis) in high risk population
6. Role of F-18 FDG in mapping Covid-19 functional sequelae in Covid-19 survivors
7. Role of F-18 FDG PET-CT in assessment of initial chemotherapy response in Pediatric Langerhan's cell histiocytosis
8. Role of PET-CT in assessment of treatment response to neo adjuvant chemotherapy in primary extraocular retinoblastoma
9. Role of PET-CT in initial staging of small cell lung cancer

#### ***Completed***

1. Gastric Emptying Scintigraphy using a Standard Vegan meal: Establishment of Control Values.
2. Scintigraphic Image Restoration using Constrained least square filtering
3. Scintigraphic images Restoration using Richardson Lucy Algorithm
4. To assess the feasibility of Flourine-18 Fluoro L-Dihydroxyphenylalanine (F-18 FDOPA) PET-CT for evaluation of cardiac sympathetic innervation in Heart Failure
5. To study the role of vascular function and pain sensitivity in microvascular angina

### **Collaborative projects**

#### ***Ongoing***

1. Aortic and lung inflammation following COVID: A marker of cardiac event an Indo-Australian joint project- funded by Department of Science & Technology, Cardiology
2. Efficacy of yoga based cardiac rehabilitation in Post-PCI patients: A prospective randomized, open-label, blinded end-point trial- funded by Ministry of AYUSH, CIMR, Cardiology
3. Gastric Emptying Scintigraphy using a Standard Vegetarian Meal: Establishment of Reference Values in Post-Sleeve Gastrectomy Patients on Mid-Term Follow-Up- Department Intramural project, Surgery
4. Use of PET-CT with Gallium-68 labelled PSMA in diagnosis and follow-up of patients with Prostate Cancer- funded by International Atomic Energy Agency, Urology
5. Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culprit vessels in STEMI Patients with Multivessel Disease after primary PCI- funded by International Atomic Energy Agency, Cardiology



## **Cardiac – Pathology**

### **Funded projects**

#### **Ongoing**

1. Immunohistochemical characterization of four common viruses in a clinically suspected cases of viral myocarditis, Dr Sudheer Arava, AIIMS. Research section Intramural, 2 Years, 2019-2021, Rs. 10.00 Lakhs
2. Sudden cardiac death; Histopathological and molecular study to identify the Course, Dr Sudheer Arava, ICMR, 3 Years, 2020-2022, Rs. 69.00 Lakhs

### **Departmental projects**

#### **Ongoing**

1. Clinico pathological study of post-transplant endomyocardial biopsies
2. Histopathological evaluation of surgically excises rheumatic heart valves
3. Sudden cardiac death in young: An histopathological and molecular study to identify the cause

#### **Completed:**

1. A comparative study of efficacy and composition of various cell populations of extracted hair follicle outer root sheath cell suspension prepared using a single enzyme (trypsin) and multiple enzymes (trypsin, collagenase and dispase) for transplantation in vitiligo.
2. Expression of Matrix Metalloproteinase-2, Matrix Metalloproteinase-9, Tissue Inhibitor Metalloproteinase-1, Tissue Inhibitor Metalloproteinase-2, Collagen I and IV Expression in Thoracic Aortic Aneurysms
3. Fibrillin 1 gene mutation and TGF beta in TAAA of non marfanoid individuals

### **Collaborative projects**

#### **Ongoing**

1. Autologous non cultured dermal cell suspension transplantation in treatment of facial volume loss, Dermatology
2. Comparative evaluation of MicroRNA profiling and cytokine profiling analysis in patients with Pulmonary Sarcoidosis and Mediastinal tuberculosis, Pulmonary Medicine
3. Development of a new formulation and packaging for reducing adverse effects and injection pain of Mycobacterium vaccine and its clinical trial in recalcitrant anogenital and extra-genital (common) warts, Dermatology
4. Electron microscopic and genetic study in primary ciliary dyskinesia, Pediatric pulmonology, AIIMS
5. Exploring the phenotypic and functional role of  $\gamma\delta$  T cell subsets along with Pattern recognition receptors (PRRs) in the immunopathogenesis of Pemphigus Vulgaris”, Pharmacology
6. Finding the correlation of toll like receptors (TLRs) with inflammation in patients with chronic heart failure, Cardiology. Safdarjung hospital
7. Histomorphological and clinical study in patients of ENL reactions, Dermatology
8. Histomorphological study of post-transplant endomyocardial biopsies, Pathology
9. Morphometric study of pulmonary blood vessels in cases of tetralogy of fallot, CTVS
10. Study of cardiac markers, gross findings and histopathological Changes in heart in cases of suspected cardiac death, Forensic Medicine
11. Study of histomorphological, proteomics and collagen in Rheumatic heart valve specimens, CTVS
12. Study of Sesamol in Bleomycin induced pulmonary toxicity in rat, Pharmacology
13. To the study the etiopathogenesis of Halo nevus, Dermatology

## **Cardiovascular Radiology and Endovascular Interventions**

### **Funded projects**

#### **Ongoing**

1. Evaluation of therapeutic angiogenesis induced by intramuscular autologous platelet rich plasma in non revascularisable critical limb ischemia due to peripheral artery disease, Sanjeev kumar, AIIMS, 2 years, 2019-2021, Rs 4.90 lakhs

### **Departmental projects**

#### **Ongoing**

1. A cross sectional study to determine the role of P-31 MR Spectroscopy analysis of PCr-ATP ratio in differentiating Left Ventricular Hypertrophy and Hypertrophic Cardiomyopathy

2. A single center randomized control trial to compare the efficacy of radiofrequency ablation with that of ultrasound guided foam sclerotherapy (polidocanol) for incompetent perforators in patients with varicose vein
3. Comparison of myocardial deformation pattern on CMR in patients of LVNC with DCM.
4. Comparison of the Left Ventricular strain, native T1 & T2 Mapping Parameters in patients with High normal blood pressure vs. Normotensive patients
5. Double Blinded Randomised Control Trial evaluating the feasibility, safety and efficacy of Femoral Nerve Block for analgesia in patients with varicose veins being treated by Endovenous Laser Ablation of Great Saphenous vein
6. Endovascular treatment of carbon dioxide angiography in patients with heart failure (COACH): A prospective single center registry
7. Evaluation of Right Ventricular and Left Atrial Global Mechanics by Assessment of Quantitative Strain Parameters Using Cardiac Magnetic Resonance Feature Tracking in Obstructive and Non-Obstructive Hypertrophic Cardiomyopathy
8. Improving Maturation Rates of Haemodialysis Access Arterio-venous Fistula in Chronic Kidney Disease V Patients Using Autologous Adipose Tissue Derived Mesenchymal Stem Cells: A Double Blind, Randomised Placebo-Controlled Trial
9. Peri operative Outcome with embolisation of major aortopulmonary collaterals in Tetralogy of fallot
10. Quantitative multivariate analysis of morphological features of the left atrium, left atrial appendage, pulmonary veins and epicardial fat in recurrence of atrial fibrillation after catheter ablation: a retrospective and prospective study'
11. To study the lymphatic morphology & flow pattern in patients of congenital heart disease with Fontan circulation

### **Completed**

1. 'Non-invasive tissue diagnosis''- a comparison of the accuracy of parametric mapping on MRI with cardiac PET scan in determining the response to therapy in cardiac sarcoidosis
2. Comparison of the outcomes of concomitant truncal laser ablation and tributary foam sclerotherapy versus truncal laser ablation alone in patients with lower extremity venous reflux - a single centre randomized controlled trial
3. Detection of cardiac allograft vasculopathy with dual source computed tomography and MRI in heart transplant recipients: a comparative study with conventional coronary angiography and biopsy
4. Safety and efficacy of genicular artery embolization in patients with moderate knee pain
5. Stent graft migration after thoracic endovascular repair (TEVAR) for thoracic aortic pseudoaneurysm and type B dissection

### **Collaborative projects**

#### **Ongoing**

1. Applied novel statistical learning and modeling techniques on CT imaging features for prediction of growth of Stanford Type B Aortic Dissection and real options financial assessment of such health care technology, AIIMS-IIT Project
2. DE-CMR compared with FDG-PET for assessment of viability and prediction of functional improvement in patients with CAD and LV dysfunction, Cardiology
3. Impact of bariatric surgery in reduction of cardiovascular risk in morbid obesity, Surgery

#### **Completed**

1. Role of 68 Ga-DOTANOC PET/CT in cardiac sarcoidosis; comparison with cardiac MR, Nuclear Medicine

### **Stem Cell Facility**

#### **Funded projects**

#### **Ongoing**

1. 3D Printed Tracheal Grafts For Regenerative Applications, Dr. Sujata Mohanty, AIIMS, 2 years, 2018-2021, Rs 5 lakhs
2. Bio fabrication of skin tissue substitutes using functionalized materials, Dr. Sujata Mohanty, DST, 2 years, 2018-2022, Rs 15 lakhs
3. DBT- Centre of Excellence for Stem Cell Research: Basic And Translational (Phase-II), Dr. Sujata Mohanty, DBT, 3 years, 2017-2021, Rs 298 lakhs
4. Development of a Carrier Dressing Capable of Supporting the Transfer of Melanocytes & Keratinocytes onto an in vitro Wound Bed Model, Dr Sujata Mohanty, DBT, 3 years, 2017-2021, Rs 59.37 lakhs

5. Development of Exosome Based Off the Shelf Product for Wound Healing, Dr. Sujata Mohanty, DBT, 2 years, 2021-2023, Rs 49.79 lakhs
6. Fabrication of Biocompatible Scaffolds for Delivery of Stem Cells in Myocardial
7. Generation of 3D Breast Tumor organoids as an invitro drug screening stuyy model, Dr Sujata Mohanty, AIIMS, 2 years, 2020-2022, Rs 5 lakhs
8. Immunomodulatory property of Human Mesenchymal Stem Cell: Assessment of their therapeutic potential in GvHD model, Dr. Sujata Mohanty, DST, 3 years, 2018-2021, Rs 42 lakhs
9. Indo- US joint Centre: “Cellular Reprogramming in Regenerative Medicine”, Dr Sujata Mohanty, IUSSTF, 2 years, 2019-2021, Rs 35 lakhs
10. Infarct Model: In Search of an Ideal Cardiac Patch, Dr. Sujata Mohanty, NER-DBT, 3 years, 2018-2021, Rs 28 lakhs
11. Strategies to enhance stem cell delivery to the retina using iron oxide nanoparticles, Sujata Mohanty, DBT, 3 years, 2018-2021, Rs 82 lakhs
12. Understanding the therapeutic role of adult stem cell derived exosome in combating virus induced neurodegenerative disease, Dr. Sujata Mohanty, DBT, 3 years, 2018-2021, Rs 22 lakhs

### ***Completed***

1. “3D Bioprinting for patient-specific joint tissue constructs and in vitro model system, Dr Sujata Mohanty, DST, 3 years, 2017-2020, Rs 30 lakhs
2. Comparing the vascularization potential of MSCs and MAPCs in monoculture and coculture systems with human OECs under normoxia and hypoxia, Sujata Mohanty, DBT, 3 years, 2018-2020, Rs 46.26 lakhs

### **Departmental projects**

#### ***Ongoing***

1. Application of Human Amniotic Membrane & Silk based 3D Printed Scaffolds for Stem Cells & Regenerative Medicine
2. Elucidating the regenerative capabilities of exosomes derived from tissue specific mesenchymal stem cells in skin injury model
3. Immunomodulatory Properties of Mesenchymal Stem Cells in Graft-versus-host-disease
4. Investigating the mechanism of MSG-Exosomes cargo in alleviating liver fibrosis
5. Liquid Biopsy for early prediction of Hepato-Carcinogenesis in Chronic Liver Disease Patients
6. Optical characterization of breast cancer
7. Understanding the effects of different environmental and biochemical conditions on human Mesenchymal Stem Cells and their immunosuppressive properties

### ***Completed***

1. Evaluation of Immunomodulatory Properties of Human Mesenchymal Stem Cell
2. Hepatic Regenerative Potential of Exosomes Derived from Human Mesenchymal Stem Cells in Liver Fibrosis Model
3. Study of Endothelial Progenitor Cell (EPC) Tetrahydrobiopterin (BH4) levels and its Association with EPC number and function in Coronary Artery Disease (CAD) patients

### **Collaborative projects**

#### ***Ongoing***

1. A double-blind randomized trial of transplantation of - epidermis, Dept of Dermatology
2. A Multi-center, Randomized, Double-blind, Placebo controlled Trial to Evaluate the effects of Intra Erythrocyte Dexamethasone Sodium Phosphate on Neurological Symptoms in Patients with Ataxia Telangiectasia, Dept of Pediatrics
3. Comparative Evaluation Of Efficacy Of Conjunctival Stem Cell - Surface Diseases (I.E. Stevens-Johnson Syndrome & Chemical Burns), RPC
4. Development of a high throughput genome editing pipeline based on an orthologous CRISPR/Cas9 system (FnCas9) and its application in the generation of 3D organoids for disease modeling and correction, Dept of Genetics
5. Exploring the Potential of exosomes derived from endothelial colony forming cells (ECFC's) primed with mesenchymal stromal cells (MSCs) as a cell-free therapy for cardio-vascular diseases (CVDs). Cardiac Biochemistry
6. Intra-articular Injection of autologous tissue-derived stromal vascular fraction or Hyaluronic acid for the treatment of symptomatic knee OA: a randomized control trial, Dept of Orthopaedics

7. IUSSTF Reducing cancer mortality through cancer prevention. Dept of Gastroenterology
8. To evaluate the feasibility, safety and therapeutic efficacy of angiogenesis induced by intramuscular delivery of autologous platelet rich plasma in patients with critical limb ischemia due to non revascularisable peripheral arterial disease, Dept of Cardiac Radiology

#### **Completed**

1. A randomized pilot study to evaluate the efficacy of amniotic membrane as an alternative wound dressing in patients with large post traumatic raw area at level 1 Trauma Center, Dept of Trauma
2. To evaluate the autologous bone marrow derived stem cell transplantation for pre mature ovarian ageing, Dept of Gynaecology

#### **Blood Transfusion Services**

##### **Funded Project**

#### **Completed**

1. A Randomized Control Trial for evaluation of Transfusion Related Immuno-modulation in patients with meningioma. Gopal Kumar Patidar, AIIMS (Intramural), 2 years, 2019-2020, Rs 10 lakhs

#### **Departmental projects**

##### **Ongoing**

1. Analysis of current Transfusion Practices in neonatal patients of  $\leq 28$  Days of Age.
2. Analysis of quality parameters for platelet concentrates prepared using different component preparation techniques
3. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock
4. Incidence of delayed adverse events in blood donors following whole blood donation in Indian setting
5. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion
6. Randomized controlled trial to determine the comparing effectiveness of Acute Normovolemic Haemodilution (ANH) for perioperative blood management in patients undergoing scoliosis surgery
7. Vasovagal reaction prevention strategies in whole blood donors: a quadri-armed randomized control trial

##### **Completed**

1. Analysis of ABO antibody titre in healthy blood donors
2. Assessment of ABO antibody titre and coagulation factors level after mixing and dilution with normal saline of A and B blood group donor plasma
3. Clinical and serological characterization of autoimmune haemolytic anemia
4. The outcomes of leukoreduced and non-leukoreduced blood component transfusion in patients undergoing cardiac surgery

#### **Collaborative Projects:**

##### **Ongoing**

1. A study of immune responses in the pathophysiology of human Chronic Pancreatitis, Dept of Biochemistry
2. Comparing the Vascularising potential of MSCs and MAPCs in monoculture and coculture systems with human OECs under normoxia and hypoxia, Stem cell Facility
3. Complement factor H (CFH)-related protein 1 (CFHR1) and its role in maintenance of immunological tolerance”, Regional Centre for Biotechnology
4. Development of Diagnostics and experimental therapeutics using CRISPR-based technologies, Dept of Biochemistry
5. Effect of Hyperglycaemia on Macrophage Function in Pathophysiology of Pulmonary TB, Dept of Biochemistry
6. Evaluation of Mesenchymal Stem Cell derived exosomes on neutrophil –induced tissue damage in the animal models of liver and heart disease, Stem cell Facility
7. Exploring the potential of Extracellular vesicles derived from Endothelial Colony forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) as a cell free therapy for Cardiovascular Diseases (CVDs), Dept of Cardiac-Biochemistry

8. Regulation of HIV Reservoirs through Autophagy, Dept of Biochemistry
9. Study the Potential Role of HLA-G mediated Immunomodulation by Tissue Specific Human Mesenchymal Stem Cells, Stem cell Facility
10. Targeting Telomerase Reverse Transcriptase (TERT) gene to immortalize Peripheral Blood Mononuclear Cells of patients with coronary artery disease, Stem cell Facility
11. To study the immunomodulatory effect of tumour-derived exosomes on  $\gamma\delta$  T-cells, Dept of Biochemistry

## PUBLICATIONS

### Cardiology

Journals: 149                      Abstracts: 3                      Chapters in Books:2

### Cardiothoracic and Vascular Surgery

Journals: 58

### Cardiac Anesthesiology

Journals: 42                      Chapters in Books:4

### Cardiac Biochemistry

Journals: 20

### Cardiac Nuclear Medicine

Journals: 14                      Abstracts: 3

### Cardiac Pathology

Journals: 9

### Cardiovascular Radiology and Endovascular Interventions

Journals: 49                      Chapters in Books:2

### Stem Cell Facility

Journals: 22                      Chapters in Books:1

### Blood Transfusion Services

Journals: 8

## PATIENT CARE

### Cardiology

#### *Total numbers*

<b>New OPD cases</b>	<b>5,071</b>
<b>Old Cardiology Cases</b>	<b>27,944</b>

#### *Patient Services*

- TMT    106
- Holter    940
- Echocardiography                            11,430
- ECG    3,807
- ABP    17
- TEE    32
- HUTT    20

#### *Cath Lab Services*

- CART    359
- Cath    95
- Balloon Dilatation                            11
- PTMC    20
- PDA    12
- ASD Device                                    10



• VSD Device	1
• PTCA	277
• Pacemakers	231
• ICD	21
• CRT	25
• RFA	32
• CARTO	7
• DSA	33
• Coil embolization	10
• BAS	51
• EM Biopsy	14

## Cardiac Thoracic Vascular Surgery

### Workload

At the department of CTVS, one of the largest numbers of numbers of adult, aortic and paediatric cardiac surgery for congenital heart defects were performed in the country. Despite the ongoing COVID-19 Pandemic between 1 April 2020 to March 31 2021, 1297 surgeries of all types were performed in the department. Along with Department of Cardiology (152395) and CTVS (53967), a total number of 206362 new and follow patients were seen in the OPD. The number of indoor admissions was 2949 (682 in CTVS & 2267 in Cardiology).

### The facilities and infrastructure

**Operating Rooms (OR's):** There are 8 fully functional operating rooms in the Department of CTVS. Each of one of these is equipped with all the necessary equipment required for performing the entire range of adult, aortic and paediatric cardiac surgery. These include state of the art monitoring system and anesthesia station, NIRS, BIS, EEG, 3-D echocardiography, cell saver, CPB machines, vacuum assisted venous drainage, centrifugal pump, bronchoscope, and intra-operative neuromonitoring.

**ICU Beds:** The Department has 4 ICUs (54 beds) fully equipped with all advanced facilities for postoperative cardiovascular surgical care.

**ICU-A:** 16 Beds

**ICU -B:** 18 Beds

**Neonatal ICU:** 8 Beds

**CT-5 ICU:** 12 Beds

All beds are fully equipped and all facilities for cardiac intensive care are available.

**General Beds:** The bed strength in the wards is follows:

CT-4 Ward: 42 Beds + 2 Isolation beds

CT-5 Ward: 24 Beds (In addition, 12 beds in CT5 ICU as above) + 2 Isolation beds

CT-6 Ward: 12 Beds

**CN Tower (Private Ward): Thirty-two (32) beds in private/paying ward,** shared with Department of Cardiology

**Homograft Valve Bank:** The Department runs the most successful valve bank of the country. This ensures adequate supply of homografts to manage complex paediatric cardiac surgical problems.

**Supportive services:** Five cardiac catheterization labs including, advanced CT scan, MRI, nuclear medicine, ultra-sound, and echocardiography lab, state of the art blood bank, and laboratory services.

### Cardiac – Anesthesiology

1. Advanced monitoring facilities (TEE, TTE, NIRS, NICO monitoring) for management of routine, emergency and high risk cardiac surgical patients belongs to all spectrum
2. Community Service- Charitable health camps and health education
3. Community Service- Charitable health camps and health education
4. Different community programme by the faculties.
5. Online Education on effect of Covid-19 in Cardiac Surgical Patients
6. Routine stress management programme both for pre and post operative patients

7. Special involvement with anesthesia for complex congenital heart surgery
8. Special involvement with anesthesia for complex congenital heart surgery and OPCAB
9. Specialized cognitive rehabilitation programme for heart failure, heart transplant and LVAD patients
10. Team member of heart failure treatment like heart transplant & LVAD
11. Transesophageal Echocardiography

### Cardiac – Biochemistry

The Cardiac Biochemistry laboratory offering state-of-art diagnostic test facilities in patient care services and the test facilities are catering to patients of CN Centre as well as to other departments of the Institutes and also serves as referral lab for outside patients. The Lab operates as combined centralized laboratory for CN Centre and offers blood biochemistry (Blood sugar (fasting, PP, Random), LFT, KFT), hematology (hemogram, PT/INR, ESR), lipid profile, hormone (T3, T4, TSH, Testosterone, FSH, LH, Prolactin, Renin, Aldosterone) and vitamin profile (Vitamin D, B12, folate), drug testing (Cyclosporin, Tacrolimus, anti-epileptic drug testing (valproic acid, Carbamazepine, phenytoin, Phenobarbital, digoxin)) and various other specialized tests (HbA1C, Iron profile (serum iron, UIBC, TIBC, ferritin, catecholamine)) in the centralized lab (Now operating in coordination with newly started Smart Lab).

### Cardiac – Nuclear Medicine

This year the number of elective diagnostic procedures performed were less due to lockdown during the COVID pandemic. The department was functional during the entire period and provided services to in-patients in the cardiology department and to cancer patients from IRCH awaiting chemotherapy. When the pandemic conditions eased and the OPDs reopened, services were provided to patients referred from OPDs. The department performed myocardial perfusion SPECT imaging which is an integral investigation in the diagnosis and management of patients with coronary artery disease. We also performed cardiac PET imaging with F-18 FDG for assessment of myocardial viability and Gallium-68 DOTANOC for inflammatory cardiomyopathies. The department performed radionuclide ventriculography for assessment of left ventricular function in patients referred from the center and from IRCH for cardiac evaluation in patients receiving chemotherapy.

Total Number of patients investigated in Nuclear Cardiology from 1/4/20 to 31/3/2021

Myocardial perfusion study:	377
RNV study:	215
Cardiac PET	69
Misc.(V/Q scan,1st pass):	25
<b>Total number of studies performed -</b>	<b>686</b>

### Cardiac – Pathology

#### Specimens

Routine	-	165 Nos. of cases
Research	-	196 Nos. of cases
<b>Others works-</b>		Immunohistochemistry-296 slides
H & E stain-		383 slides
Special stains-		143 slides
Manual processing of post-transplant biopsies		-34 cases
Cutting of blocks (unstained sections)-		753 slides

### Cardiovascular Radiology & Endovascular Interventions

Facility	Number of procedures
MRI	322
CT	1482
DSA /venogram/EVLA	150
Doppler and Ultrasound	1590
X Ray	2671

### Stem Cell Facility

S.No.	Service Provided	Number of samples processed
1.	Stem Cell Isolation from Bone Marrow	03
2.	Stem Cell Isolation from Adipose Tissue	05
3.	Stem Cell Isolation from Wharton's Jelly	34
4.	Stem Cell Isolation from Dental Pulp	04
5.	MNC Isolation from Bone Marrow	02
6.	MNC Isolation and Cryopreservation from Umbilical Cord Blood	09
7.	Cryopreservation of Apheresis sample	09
8.	Cultured Oral Mucosa Epithelial Transplantation	11
9.	Culture Limbal Epithelial Transplant	09
10.	Hair Follicle derived Stem Cells	20
11.	Skin Epidermis derived Stem Cells	20
12.	Viability of stem cells (pre & post transplantation/infusion)	15
13.	Amniotic Membrane preparation for grafting	19 Batches (468 Vials)
14.	Stem Cell Enumeration (CD34+ count)	06

### Blood Transfusion Services

<b>BLOOD UNITS COLLECTED</b>	<b>2020-21</b>
Replacement donors	3939
Voluntary donors in the department	175
Voluntary through blood mobile	458
Family Voluntary Donors	3598
Blood received from IRCS	139
Blood received from Hosp. Blood Bank, AIIMS	224
Blood received from JPNATC, AIIMS	74
Blood received from other hospital	188
<b>Total No. of Blood units collected</b>	<b>8795</b>
<b>BLOOD UNITS ISSUED</b>	
Blood units issued to CTVS/NS	9199
Blood issued to Hosp. Blood Bank, AIIMS	153
Blood issued to JPNATC	98
Blood issued to other hospitals	743
HIV/HBsAg/HCV reactive units discard	243
<b>Total No. of blood units issued</b>	<b>10193</b>
<b>LAB PROCEDURES</b>	
Total no. of Blood grouping(ABO)	26836
Total no. of Blood grouping(RH)	26836
Total no. of Cross matching done	51325
<b>INFECTIOUS MARKERS</b>	
HIV Testing	11233
HBV Testing	11254
HCV Testing	11319
VDRL Testing	10232
MP testing	10258
<b>Total</b>	<b>54296</b>

<b>NO. OF BLOOD COMPONENTS ISSUED</b>	
Fresh Frozen Plasma (FFP)	7513
Platelet Concentrate	5655
Cryoprecipitate	566
Packed Red Cells	10193
Single Donor Plateletpheresis	17
<b>Total</b>	<b>23944</b>

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

### **Department Of Cardiology**

**Professor Anita Saxena** is Dean, AIIMS, New Delhi; President of National Rheumatic Heart Consortium.

**Professor SS Kothari** was National Coordinator for weekly Cardiology webinars for National Board of Examination (DNB Cardiology) – 2021; Ethics Sub-Committee of Medical Council of India (MCI)- 2020-2021; Member (Expert) – Drug Controller Govt. of India (DCGI) - 2020-2021.

**Professor Balram Bhargava** was DG, ICMR; Secretary, DHR.

**Professor KC Goswami** was Past president, CSI.

**Professor S Seth** was Editor in Chief, JPCS.

**Professor S Mishra** was Member, Internal Affairs Committee, SCAI; International Editor, Sri Lanka Journal of Cardiology; Editorial Board of European Medical Journal.

**Professor Rakesh Yadav** was Editor, Indian Heart Journal; Treasurer, CSI Delhi branch.

**Professor S Singh** was Executive Director, School of International Biodesign.

**Professor G Karthikeyan** was Executive Editor, Heart.

**Professor Gautam Sharma** was Distinguished Professor (Honorary) in the division of Yoga & Life Sciences of Swami Vivekananda Yoga “AnuswadhanaSamsthana” (S-VYASA), Bengaluru, Karnataka

**Professor Ambuj Roy** received State Award of Punjab (2021) for guidance on Covid-19 management; Awarded Fellowship, Royal College of Physicians, Ediburgh (UK); Member, Institute Body, JIPMER, Puducherry; Member, Technical Expert Committee for National Program for Prevention and Control of Cancer, Diabetes, CVD and Stroke (NPCDCS); Member, Task Force Committee of ICMR for Cardiovascular Research in India; Chairperson, Project Review Committee (Cardiovascular Diseases) of ICMR, New Delhi; Member, Task Force on COVID-19, Govt. of Punjab, India; Chairman, Clinician’s/Expert sub-committee to examine the EHR Terminology for Govt. of India; Facility Coordinator In-charge, Skill, e-Learning & Telemedicine (SET) Facility, AIIMS, New Delhi; Member, Dean’s Committee, AIIMS, New Delhi, India; Member, Dean’s Research Committee, AIIMS, New Delhi; Member, Institute Ethics Committee (Post Graduates) at All India Institute of Medical Sciences; Member, AIIMS Institute Ethics Committee- Subcommittee for Serious Adverse Events in clinical trials; Member, Managing Committee, CMET, AIIMS; Collaborator, Global Burden of Disease; Member of the GBD India Cardiovascular Disease Expert Group.

**Professor S Ramakrishnan** was Chief Editor of Annals of pediatric cardiology; Treasurer of national rheumatic heart consortium; Associate editor of JPCS; Co-PI and task force member, India Hypertension management initiative (IHMI); National coordinator, STEMI-ACT, an ICMR initiative; Member, International travel grant award committee, ICMR.

**Dr Saurabh K Gupta** was Expert member of writing committee for ethical guidelines for AI for healthcare; Expert member for DBT technical expert review for maternal and child health related proposals; Treasurer Pediatric Cardiac Society of India since 2015 onwards.

**Dr Arvind B** received Sujoy B Roy award for best original research in the field of Cardiology; DP Basu memorial award; Indian Heart journal thesis award.

### **Cardiac Thoracic Vascular Surgery**

**Professor SK Choudhary** was Section Editor : Aorta for Indian Journal of Cardiothoracic and Vascular Surgery; National Coordinator for Database project of Indian Association of Cardiothoracic & Vascular Surgeons; Chairperson of Experts groups for development of Standard Treatment Workflows (STWs) in CTVS, Government of India, Ministry of Health & Family Welfare (Department of Health Research), Delhi; Member Specialists Board in speciality of Cardiothoracic Surgery,

National Board of Examinations; Reviewer for the American Association of Thoracic Surgeons 101st Annual Meeting and Aortic Symposium, 1-4 May 2021;

Conducted “Workshop (Webinar/Online) on “Proximal Aorta: Evaluation & Decision making” on 31 October 2020, All India Institute of Medical Sciences, Delhi; Conducted “Workshop (Webinar/Online) on “Proximal Aorta: Bentall’s Procedure” on 7 November 2020, All India Institute of Medical Sciences, Delhi; He was Nominated as a member of clinical specialist committee to National Health Authority; Nominated in Specialists Board in specialty of Cardiothoracic Surgery, National Board of Examinations; Nominated as subject expert for the selection of Professor at Super specialty Children Hospital & PG Teaching Institute, Noida 4 June 2020; Nominated as external examiner for the practical examination/viva voce of M.Ch. (CTVS) on 14th August 2020 at PGIMER, Dr. Ram Manohar Lohia Hospital, Delhi; Nominated as subject expert for the selection of Assistant Professor at IGIMS, Patna on 22 September 2020; Nominated as subject expert for the faculty selection at AIIMS, Jodhpur on 7th November 2020; Nominated as subject expert for the faculty selection at Janakpuri Super-specialty Hospital, Delhi on 19-20 October 2020; Nominated as reviewer for the AATS 101st Annual Meeting and Aortic Symposium, 1-4 May 2021; Nominated as subject expert for the faculty selection at AIIMS, Bhopal on 5 December 2020; Nominated as subject expert for the selection of Perfusionist at IGIMS, Patna on 23 December 2020; Nominated as subject expert for the selection of Professor at Super specialty Children Hospital & PG Teaching Institute, Noida 25 January 2021; Nominated as examiner by Pt. BD Sharma, University of Health Sciences, Rohtak for MCh (Final) year examination in the subject of Cardiac Thoracic Surgery, held in August, 2020; Nominated as external examiner for the practical examination/viva voce of M.Ch. (CTVS) on 8-9th August 2020 at GB Pant Institute of Medical Education and Research, Delhi; Nominated as collaborating partner for effective establishment of virtual Resource Centre for Tobacco Control (RCTC) PGIMER, Chandigarh; Nominated as subject expert for the faculty selection at Rajendra Institute of Medical Sciences, Ranchi, Jharkhand on 21 December 2020; Nominated as Member of Scientific Research Committee of Rajiv Gandhi Super-specialty Hospital, Delhi

**Professor Milind P Hote** MCh thesis evaluation – Gujarat University; Expert for interview selection Lecturer CTVS– J & K health and medical education department Nominated as Executive committee member of Society of Cardiac Surgeons (Society aimed at promoting database application in Indian setup); Nominated as Executive Committee member of Indian Society of Heart & Lung Transplantation ( NOTTO Coordination ); Member of the Specialist panel of Transplant cell at National Health Authority ( to decide packages for heart and lung transplant under PMJAY scheme); Member of Apex Technical Committee at NOTTO for heart and lung transplant.

**Professor Sachin Talwar** was External Examiner Sree Citra Tirunal Institute for Medical Sciences and technology, December 4-5, 2020; Theory Examiner Sree Citra Tirunal Institute for Medical Sciences and technology October 2020; Practical Examiner for DNB exam for National Board of Examinations. Sri Sathya Sai Institute of Higher Medical Sciences, Whitefield, Bangalore-560066, Karnataka on 4th & 5th March 2021; E-evaluation of Answer Sheets of DNB Final Theory Examination, June-2020 Session; OSCE Question Bank in the specialty of Cardiothoracic Surgery, 11 August 2020; Setting Theory Question Papers in the specialty of Cardio Thoracic Surgery. National Board of Examinations. 27th August to 05th September 2020; Expect for selection of Assistant Professor and Promotion to Professor at Post Graduate Institute of Medical and Research, Chandigarh, 20 December 2020; Expect for selection of Assistant Professor King George Medical University, Lucknow, 25 December 2020; Expert for sssessment of Facilities for DNB Course at Fortis Hospital Sector-62, Phase-VIII, MohaliPunjab, 18 December 2020; Nominated as International expert for selecting oral submissions to Annual Society of Thoracic Surgeons meeting, 2021; Nominated as International expert for selecting oral submissions to Annual American Association of Thoracic Surgeons meeting, 2021.

**Dr Sarvesh Pal Singh** was General Secretary of “Indian Society of Heart and Lung Transplantation (INSHLT)””; Member of Apex committee of NOTTO for “Brainstem death declaration-Anaesthesia/Intensive Care”.

### **Cardiac - Anesthesiology**

**Professor Neeti Makhija** was a Judge in the competitive session in the Society of Transesophageal echocardiography Imaging award, held on 12 September 2020 by the Department of Anaesthesia and Intensive Care, PGIMER, Chandigarh; Chaired the session on “Perioperative Echocardiography- Ventricular Function” that included the following lectures i) Evaluation of LV function during perioperative period ii) RV function assessment in simple steps iii) Diastolic Function – Is also important? on 2 December 2020, in the 9th Comprehensive Perioperative Echo Webinar, organized by Medanta- The Medicity, Gurgaon, Haryana; was a faculty in the 15th Annual Perioperative and Critical Care Echocardiography online Workshop organized by the Department of Anaesthesia and Intensive Care, PGIMER, Chandigarh, held on 13 March 2021. In this workshop judged the competitive session as well chaired a session that included the following lectures i) TEE in Cath lab interventions, ii) 3D TEE in the OT; Chaired a session in Critical Congenital heart Disease Perioperative Management Webinar on 20 February, 2021, through online portal organized by the Department of Anaesthesia and Intensive Care, PGIMER, Chandigarh. The session included the following lectures i) Postoperative bleeding - Evaluation and Management ii) PA crises-How to avoid, detect and manage iii) Postoperative LCOS/Cardiogenic shock- Management iv) Postoperative RV dysfunction; Chaired a session that included the following lectures i) Update in Cardiac Anaesthesia ii) Fast tracking and early extubation after adult cardiac surgery- an update iii) Surprises despite sureties: M-SARC in Cardiac Anaesthesia in the 24th Annual Conference of



the Indian Association of Cardiovascular and Thoracic Anaesthesiologists held online from 27-28 February 2021; Is a member of ICCA (2020-2022); was examiner for evaluation of thesis, as well as moderation of question papers twice for NBE; was external expert for the promotion of faculty members to the post of professor and also for the recruitment of assistant professor in various Institutions.

**Professor Poonam Malhotra Kapoor** Continuing as the President of SCA-Delhi and NCR Branch ( non elected); Continuing as Founding Secretary and Chairman Academics of “The Simulation Society”; Editor-In-Chief. Journal of Cardiac Critical Care, 3 and 4 issues of JCCC 2019; Principal Editor of Book entitled “Hypertension: New Frontiers – textbook of Cardiology” Edited by Dr. H. K. Chopra published by Jaypee Publishers. Nominated as Chairman of Steering Committee of Education/ Simulation and Communication of SWACELSO; Examiner: DNB, Cardiac Anaesthesia, Medanta – The Medicity, Haryana (Physical Examiner) (i) DM Cardiac Anaesthesia, PGIMER, Kolkata (Online), (ii) DM Cardiac Anaesthesia, U. N. Mehta, Ahmedabad (Online) (iii) DM Cardiac Anaesthesia, AIIMS, Delhi (Online) (iv) DM Cardiac Anaesthesia, Sri Jayadeva Institute, Bangalore (Online), (v) DM Cardiac Anaesthesia, KEM, Mumbai (Online), (vi) FTEE Examination conducted by IACTA at Bangalore (Online), Checking of DISSERTATIONS and Thesis (i) MD, Cardiac Anaesthesia, Swami Vivekanand Subharti University, Meerut (Online), (ii) MD, Cardiac Anaesthesia, Delhi University (Online) MD, Cardiac Anaesthesia, PGIMER, Kolkata (Online), (iii) MD, Cardiac Anaesthesia, U. N Mehta, Ahmedabad (Online), (iv) ‘JUDGE’ for VA Punnoose Young Scientist Award, Online Dr. VA Punnoose Young Scientist Award organised by SCA-Delhi & NCR Branch, 19th Dec 2020, Delhi; JUDGE for award session WCC 2021 Annual Conference, 5th March 2021, Hyderabad; Content provider for online Fellowship in Cardiac critical care (FICCC), Fellowship in Advanced Echocardiography (FIAE) and Fellowship in Basic Echocardiography (FIBE) online Examination, conducted by The Simulation Society (TSS) and Journal of Cardiac Critical Care (JCCC).

**Professor Vishwas Malik** was Invited as examiner for DM Cardiac Anaesthesia Exam at Amrita Institute of Medical Sciences Kochi in August 2020; Invited as Thesis Examiner for DM Cardiac Anaesthesia at PGIMER Chandigarh in fall of 2020; Invited as Paper setter for DM Cardiac Anaesthesia at West Bengal University of Medical Sciences in 2020; Invited as answer Paper examiner at UN Mehta institute of Cardiac Sciences under aegis of Gujarat University in Autumn of 2020.

**Dr Suruchi Hasija** was Reviewer for the journal ‘Journal of Cardiothoracic and Vascular Anaesthesia’ since November 2020.

#### **Cardiac – Biochemistry**

**Professor R Lakshmy** was Member of CNNS NCD policy group constituted by WHO; Expert member of project review committee of Indian Council of Medical Research in the area of Endocrinology; Member of expert group for ICMR in the area of Non Communicable Diseases; Expert member for the Task Force Project on “ICMR-India Diabetes [INDIAB] study for estimating prevalence of Diabetes and Pre- Diabetes in different states of India; Member of CKD project monitoring technical advisory committee constituted by Health and Family welfare ministry, Government of AP; Member of research area panel on diabetes at NCDIR, Bangalore; Examiner for PhD thesis from CFTRI, Mysore; Member of research group committee for DBS study in NFHS 4 and 5; National editor, J of Practice of Cardiovascular Sciences; Reviewed articles for Therapeutic advances in Endocrinology and metabolism, International J of diabetes in developing countries, IJMR, NMJI, Science Progress, Pediatric Investigation, Maternal and Child Nutrition.

**Manoj Kumar Tembhre** was Nominated as member of Review Board of Indian Journal of Dermatology, Venereology and Leprology (IJDVL); Reviewer of National (IJDVL, Impact Factor = 3) and International Journal (British Journal of Dermatology, Impact Factor = 7); Member of: Indian; Immunology Society (IIS); Indian Association of Dermatologists, Venereologists and Leprologists (IADVL); American Society of Nephrology (ASN).

#### **Cardiac – Nuclear Medicine**

**Professor Chetan D Patel** was Editor, Indian Journal of Nuclear Medicine (Official Journal of Society of Nuclear Medicine, India); Reviewer for national and international academic journals Vice President, Nuclear Cardiological Society of India; External examiner for MD Nuclear Medicine, Sri Venkateswara Institute of Medical Sciences, Tirupati on 26 June 2020; Subject expert for faculty interview at AIIMS, Jodhpur on 31 October 2020; External examiner for MD Nuclear Medicine, Jawaharlal Institute of Post Graduate Medical Education & Research (JIPMER), Puducherry on 24 March 2021; Reviewed thesis of MD Nuclear Medicine students, Sri Venkateswara Institute of Medical Sciences, Tirupati; Expert for evaluation/assessment of Department of Nuclear Medicine, AIIMS, Bhubaneswar for starting of MD Course; Member Store Purchase Committee of Center for Integrative Medicine & Research (CIMR); Chairman, Selection Committee for recruitments in research projects at CIMR; Chairman, Selection Committee for recruitment of core staff at CIMR under COE Scheme, AYUSH; Training: DM Cardiology students: Shakeel Ahmad Khan & Utpal Kumar, NEIGRIHMS, Shillong- One month experience in Nuclear cardiology, AIIMS; Delivered the Homi Bhabha Oration at the 52nd Annual Conference of the Society of Nuclear Medicine – India (SNMICON-2020) held at AIIMS, Raipur (11-13 December 2020).

### Cardiovascular Radiology and Endovascular Interventions

**Professor Sanjiv Sharma** was Reviewer for many national and international radiology and cardiology journals; President of society of emergency radiology.

**Professor Priya Jagia** was National lead for Adult Cardiovascular Imaging subspecialty for ICRI, IRIA; Editor for Adult CV imaging volume of the upcoming 7-volume IRIA textbook of radiology; Hon'ble National Editor for "Hypertension: New Frontiers" Textbook of Cardiology; Secretary, Society of image guided therapy; Executive member, Indian association of Cardiac imaging Secretary; Reviewer for many national and international radiology and cardiology journals.

**Dr Sanjeev Kumar** was Reviewer for many national and international radiology and cardiology journals; Secretary of Delhi ISVIR, Joint Secretary SER; Judge for CSI thesis award.

### Residents

**Dr Sreenivasa Raju** received 2nd prize in oral paper presentation in ISVIR CME Conference, 2020.

### Blood Transfusion Services

**Dr Anjali Hazarika: CMO (SAG) I/c BTS CNC:** Interview on Covid Pandemic and Public awareness telecast on Doordarshan channel on 12 September 2020; Interview regarding Covid Pandemic and other health issues published in the Magazine First Word, Bridging the Gap, (2020) September - 7(3), Edn-75, 20-25; Nodal officer for Donor Haemovigilance –“Strength of Adverse Donor Reaction validation Survey” conducted under National Institute of Biologicals, NOIDA- February 2021; External Technical expert for equipment specification approval committee of ILBS, Delhi- February 2021; Observer during inspection of Blood Bank for NABH accreditation - 25 March 2021.

**Ms Veena Belani: Chief MSSO** was Nominated as co-member secretary of Sexual Harassment Committee, AIIMS (ICCSHHW) September 2019 onwards.

### VISITING SCIENTIST

#### Cardiac Thoracic Vascular Surgery

S. No.	Name	Institute	City	Country
1.	Dr K Balakrishnan	MGM Healthcare	Chennai	India
2.	Dr Sai Satish	Apollo group of Hospitals	Chennai	India
3.	Dr Kunal Sarkar	Medanta Superspeciality	Kolkata	India

## 10.2. Centre for Dental Education and Research

### Chief

Ritu Duggal  
(Orthodontics and Dentofacial Deformities)

### Professor and Head

Ajay Logani  
(Conservative Dentistry and Endodontics)

Vijay Prakash Mathur  
(Pedodontics)

Veena Jain  
(Prosthodontics)

Ajoy Roychoudhury  
(Oral and Maxillofacial Surgery)

Veena Jain  
(Prosthodontics)

### Professor

Ongkila Bhutia

### Additional Professors

Dalim Kumar Baidya  
(Anesthesia)

Devlina Goswami  
(Anesthesia)

### Associate Professors

Shalini Gupta  
(Oral Medicine)

Dheeraj Kumar Koli  
(Prosthodontics)

Vijay Kumar  
(Conservative Dentistry and Endodontics)

Rahul Yadav  
(Oral and Maxillofacial Surgery)

Amrita Chawla  
(Conservative Dentistry and Endodontics)

Prabhat Kumar Chaudhari  
(Orthodontics and Dentofacial Deformities)

Vilas Samrit  
(Orthodontics and Dentofacial Deformities)

Kunaal Dhingra

Deepika Mishra  
(Oral Pathology and Microbiology)

Harsh Priya  
(Public Health Dentistry)

Kalpana Bansal  
(Paediatric and Preventive Dentistry)

Nitesh Tewari

### Assistant Professors

Krushna Bhatt  
(Oral and Maxillofacial Surgery)

Sidhartha Sharma  
(Conservative Dentistry and Endodontics)

Vikender Singh  
(Pediatric and Preventive Dentistry)

Aditi Nanda  
(Prosthodontics)

Anika Dawar  
(Periodontics)

Rahul Morankar G  
(Periodontics)

Bharathi M Purohit  
(Anesthesia)

## HIGHLIGHTS

### Oral and Maxillofacial Surgery

The division of Oral and Maxillofacial Surgery is involved in providing high quality surgical care in Trauma, Facial esthetics, temporomandibular joint, craniocervical orthographic surgery, complicated exodontia and oral surgery. Department has the distinction of being at the forefront of maxillofacial trauma treatment. This is the only department in the whole country which has a total temporomandibular joint replacement protocol in place.

### **Conservative Dentistry and Endodontics**

The division of Conservative Dentistry and Endodontics entails management of endodontic emergencies, traumatic dental injury, restorative and advanced nonsurgical/surgical endodontic manoeuvres. Apart from the patient care provided during the regular times, the division continued to provide dental care tactfully, efficiently, and safely during the COVID-19 lockdown. It designed and presented educational videos on six clinically relevant topics.

### **Orthodontics**

Division of Orthodontics has provided quality orthodontic care to patients with malocclusion, dentofacial deformities and cleft lip and palate. Department has provided leadership in the field at national and international level. In addition, the professional and academic expertise was also extended to various government/research organizations such as ICMR and Ministry of Health and Family Welfare and other institutions.

### **Periodontics**

Division of Periodontics, deals with prevention, diagnosis and treatment of periodontal diseases. This department provides optimum care to huge number of patients visiting daily for seek periodontal treatment as well as those referred from other departments. Various types of treatment procedures such as conventional non-surgical and surgical periodontal therapy, periodontal plastic surgery, soft and hard tissue regenerative procedures, diode laser assisted soft tissue excision and adjunctive pocket debridement procedures are being carried out in the department.

### **Oral Pathology and Microbiology**

The Oral Histopathology laboratory is well-equipped to process and provide Histopathology and Cytopathology reporting on various hard and soft tissue pathologies of oral and maxillofacial region.

### **Pedodontics and Preventive Dentistry**

This year the division has been active professionally serving as experts to various National Research and regulatory bodies. The Department was the host for Symposia on 'How to handle Dental Trauma during the Pandemic', the Virtual Dental Traumatology National Conference in October 2020, Peer Reviewer's Training for Indian Society of Pedodontics and Preventive Dentistry in November 2021 and also organized a virtual Hands-on Course in Risk of Bias in Finite Element Analysis studies in Dentistry and Medicine in January 2021. The department showed leadership in organising several virtual programmes for different professional associations and continued patient care as per guidelines during the pandemic.

### **Public Health Dentistry**

Ministry of Health and Family Welfare has designated Centre for Dental Education and Research as the National Centre of Excellence for the Implementation of National Oral Health Programme (NOHP) and the WHO Collaborating Centre for Oral Health Promotion. The division under the guidance of Chief and Director of the programme works for the execution of NOHP. The division runs Tobacco Cessation and Preventive Clinics and Outreach services at Ballabgarh.

## **EDUCATION**

At present CDER is conducting following courses:

#### **1. Undergraduate**

B.Sc. Courses in Dental Hygiene and Dental Operating Room Assistance  
Dental curriculum for MBBS and Nursing students

#### **2. Postgraduate**

MDS full time Postgraduate programs in Oral and Maxillofacial Surgery, Prosthodontics, Conservative dentistry and Endodontics, Orthodontics, and Pedodontics and Preventive Dentistry.

#### **3. Fellowship**

Cleft lip and palate

### **CMEs/Workshops/Symposia/National and International Conferences conducted by Faculty Members of CDER**

1. Minamata Convention on 18 March 2021 at Dr. Ramalingaswami Board Room, AIIMS
2. Management of traumatic dental injuries during COVID-19 Pandemic on 14 April 2020 at Dental Traumatology
3. Webinar on Basic Research Methodology in Orthodontics on 20-24 April 2020 at CDER, AIIMS
4. Virtual Dental Trauma National Con 2020 - Virtual conference of Indian Society of Dental Traumatology on 16-17 October 2020 at Dental Traumatology

5. Reviewers Training Workshop “Effective Peer Review” on 23-25 November 2020 at Peer Review in professional journals
6. Preconference Course: “Prosthodontic Rehabilitation of Maxillary Defects- Different methods and techniques” on 2 December, 2020 at 48th Indian Prosthodontic society (IPS) National Virtual conference 2020, Nagpur
7. Virtual Hands-on workshop on Risk of Bias in Finite element analysis in Medicine and Dentistry on 5 January 2021 at Risk of Bias in Finite Element Analysis
8. Preconference course in International Conference: “Recapitulating Bioform Learning lessons for auricular prosthesis fabrication!” at 13th Biennial conference of international society for maxillofacial rehabilitation hosted by the Indian Prosthodontic Society, Pune India from 5-6 & 12-14 February 2021

#### **Lectures delivered:**

**Ritu Duggal: 7**

**Ajay Logani: 14**

**Dalim Kumar Baidya: 9**

**Nitish Tewari: 17**

**Shalini Gupta: 3**

**Prabhat Kumar Chaudhari: 3**

**Krushna Bhatt: 2**

**Ajoy Roy Choudhury: 3**

**Vijay Prakash Mathur: 9**

**Deepika Mishra: 6**

**Vijay Kumar: 2**

**Harsh Priya: 10**

**Sidhartha Sharma: 2**

**Bharathi M Purohit: 1**

**Veena Jain: 5**

**Devalina Goswami: 2**

**Kalpna Bansal : 2**

**Dheeraj Kumar Koli: 4**

**Kunaal Dhingra: 2**

**Rahul Morankar: 2**

**Aditi Nanda: 3**

#### **Ritu Duggal**

1. Introduction to Basic Research course, Webinar on Basic Research Methodology in Orthodontics, 20-24 April 2020, CDER, AIIMS, New Delhi
2. Functional Jaw orthopedics, Orthodontic first line revised-webinar series, 25 April 2020, CDER, AIIMS, New Delhi
3. Functional appliances myths vs. reality, CME organized by Chandigarh Orthodontics Study Group, 18 June 2020, Dr Harvansh Singh Institute of Dental Sciences & Hosp, Chandigarh
4. GURU Speaks, Orientation and Induction programme of MRDC, 17 July 2020, CDER (online), Faridabad (NCR)
5. Adolescent class II Management – Current Trends, Orthobyte 2020, 3-6 December 2020, Virtual conference, Pune
6. Role of FEA in Evidence General in Dentistry, How evident is FEA in era of evidence based dentistry – Hands on the risk of bias, 5 January 2021, CDER, CDER
7. Importance of early detection of malocclusion, World and Health Day, 17 March 2021, MOHFW, New Delhi

#### **Ajoy Roy Choudhury**

1. Management of TMJ Ankylosis with autologous tissues (Invited talk), AOCMF Study group Latin America, 8 August 2020, Brazil, virtual
2. Complex TMJ Reconstruction Pearls and pitfalls (invited talk), 102 American Association of Oral & Maxillofacial Surgeon Annual meeting, 1-10 October 2020, virtual, San Antonio
3. Comprehensive management of TMJ Ankylosis. (Invited talk), Study Club Latin America, 4 March 2021, virtual, Columbia

#### **Veena Jain**

1. Management of impression materials, impressions & models in Covid-19 era, Dental Council of India, 9 August 2020, Online (Hosted by Dental Council of India)
2. Altering Vertical Dimension in worn dentition: A Prosthodontic-Physiological Perspective, International College of Prosthodontics, 19 November 2020, Online
3. Geriatric oro-dental health status in India, Release of LASI wave-1 report & first exploratory workshop to address comprehensive geriatric care assessment, government of India, 6 January 2021, Online only
4. Justice with clinical and advanced Prosthodontics, Kids Orient 2020 organized by Kalinga Institute of dental Sciences, 4 September 2020, Online only
5. Implants in rehabilitation of facial defects, Georgian Alufest organized by Georgian alumni (King George’s Medical College, Lucknow), 22 January 2021, Online only

#### **Ajay Logani**

1. Trauma induced root resorption, CDE program webinar, 20 April 2020, ITS Dental college, Greater Noida, Greater Noida



2. Management of endodontic emergencies, IDA Kerala state branch CDE program webinar, 3 May 2020, IDA Kerala state branch, Kannur
3. Management of Endodontic emergencies tactfully, efficiently and safely during COVID-19: The AIIMS Experience, IDA – ICD webinar, 31 May 2020, Chandigarh
4. Accurate diagnosis and appropriate management of luxation injuries, Dasnesh Academy of continuing Dental education and Indian Endodontic Society webinar, 13 June 2020, Faridkot, Punjab
5. Practice management during COVID-19 times – Now and Beyond, AB Shetty memorial Institute of Dental Sciences, 6 July 2020, Mangalore, Online
6. Endodontic Dilemmas and their solution, Dr R Ahmed centenary celebration dental education web series, 30 August 2020, IDA, Kolkata
7. Electronic working length determination and trouble shootings with apex locators”, South Asian Association of Pediatric Dentistry, 1 May 2020, New Delhi
8. Diagnosis of traumatic dental injury, Virtual dental trauma conference 2020 Indian Association of Dental Traumatology, 18 October 2020, New Delhi
9. Apex locators: a must have gadget in endodontic practice, Dental Council of India, 31 January 2021, New Delhi, New Delhi
10. Alternatives to root canal therapy for management of teeth with irreversible pulpitis, Nepalese association of Endodontics, 13 March 2021, Kathmandu, Nepal
11. Mercury Use Reduction in Clinical Dentistry, Brain storming meeting for Implementation of Minamata convention, 18 March 2021, New Delhi
12. Apex locator – the endodontic navigator helping you reach your destination safely, accurately and predictably, E link fest 2020, 13 July 2020, Nagpur
13. Revascularization of non - vital immature permanent teeth: A review of treatment protocol and outcome, Rise of the phoenix – regen endo symposium, 27 November 2020, Bhimavaram, Andhra Pradesh
14. Surgical management of crown root fractures, CDE on intentional reimplantation – the road less travelled, 19 March 2021, ITS Dental College, Greater Noida, UP

#### **Vijay Prakash Mathur**

1. Basic Guidelines on Trauma Handling During Covid Times, Indian Society of Dental Traumatology Webinar, 14 April 2020, Online, New Delhi
2. Risk of bias in research, Basic Research Methodology Course in Orthodontics, 23 April 2020, Online, New Delhi
3. Lasers update in Clinical Pediatric Dentistry, Pedo RaRe rapid revision program of Indian Society of Pedodontics and Preventive Dentistry, 25 May 2020, Online, New Delhi
4. Promoting Innovation in Asia Pacific among Dental Students, International Association of Dental Research Asia Pacific Regional Meeting, 31 July 2020, New Delhi
5. Moderator for Panel Discussion on – IADT Dental Trauma Guidelines and Covid Pandemic, ISDT Virtual Dental Trauma Con 2020, 16-17 October 2020, Online, New Delhi
6. Ethics of teaching, Teachers Training Programme for ISPPD, 28-30 October 2020, Online, New Delhi
7. Critical Reading, Reviewers Training Workshop “Effective Peer Review”, 23-25 November 2020, Online, New Delhi
8. Authors, contributors and ethical aspects in publication, Reviewers Training Workshop “Effective Peer Review”, 23-25 November 2020, Online, New Delhi
9. Risk of Bias in Finite Element Analysis studies in Medicine and Dentistry, Virtual Hands-on workshop on Risk of Bias in Finite element analysis in Medicine and Dentistry, 5 January 2021, Online, New Delhi

#### **Devalina Goswami**

1. Guidelines of anesthesia during COVID 19, NCGR, 23 September 2020, AIIMS, New Delhi
2. Complications of Regional Anesthesia, post Graduate Pre-Examination Course 2021 (APPEC-21), 12 February 2021, AVBIMS, Dr. RML Hospital, New Delhi

#### **Dalim Kumar Baidya**

1. Management of critically ill COVID-19 patients, ICU care and ventilation strategy in COVID-19-Webinar, 1 April, 2020, SET facility, AIIMS New Delhi
2. Ventilator graphics, Mechanical ventilation in COVID-19 - Webinar, 17 April, 2020, SET facility, AIIMS New Delhi, Delhi

3. ICU management of severe COVID patients, Center of Excellence Program for COVID management by Ministry of Health and Family Welfare, GOI, 10 July, 2020, AIIMS, New Delhi
4. Current role of stress ulcer prophylaxis in ICU, 1st Annual Conference of Neuro Critical Care Society of India (NCSI), 4 October, 2020, Online platform, Delhi
5. Perioperative Glycemic control, Guest Lecture in Santosh Medical College, 21 January, 2021, Online platform, Uttar Pradesh
6. COVID Preparedness of hospital, Guest lecture, 29 January 2021, NDDTC, Ghaziabad, Uttar Pradesh
7. Resuscitation, Guest lecture, 29 January, 2021, NDDTC, Ghaziabad, Uttar Pradesh
8. COVID-19: Landmark Trials, Annual Critical Care Refresher Course, 11-14 March, 2021, Online platform, Delhi
9. Role of POCUS in Transplant Intensivist's armamentarium, Advanced Institute of Liver and Biliary Sciences Annual Conference, 20 March 2021, Online platform, Delhi

#### **Deepika Mishra**

1. Introduction of Oral Health Care, Virtual Oral Care sessions for National TOT for Community Health Officers and Staff Nurses, 15 March 2021, NHSRC, Delhi
2. Introduction of Oral Health and oral health promotion, Virtual Oral Health Care Service Packages Sessions and Oral Health Care Session for state TOT of CHO and SN trainers, 20 March 2021, NHSRC, Delhi
3. The perplexities of fibro-osseous lesions - A clinicopathologic deliberation, Online webinar, 19 December 2020, Dental Institute, Rajendra Institute of Medical Sciences, Ranchi
4. Conquering challenges through Innovations in Early detection of oral cancer, World Dental Conference 2020, 8 October 2020, Virtual
5. Advanced diagnostic techniques for oral potentially malignant disorders and oral cancer, Online webinar, 5 October 2020, Faculty of Dental Sciences, Ramaiah University of Applied Sciences, Bangalore
6. Innovations in diagnostic aids for oral cancer, Forum for Interdisciplinary Research in Medical Science and technology, 4 August 2020, Virtual, New Delhi

#### **Kalpna Bansal**

1. New Paradigms in Caries Management Strategies in Primary Dentition, Second Congress of South Asian Association of Pediatric Dentistry and Third Annual Conference of Nepalese Association of Pediatric Dentistry, 4-6 April 2019, Kathmandu, Nepal
2. Evolving Paradigms in Caries Etiology", Pedovibes – 41st ISPPD National Confere, 7-9 November 2019, Greater Noida, U.P.

#### **Nitesh Tewari**

1. Human periodontal ligament stem cells and their applications for delayed replantation cases, International Association of Dental Research Virtual Conference, 11 April 2020, Online, New Delhi
2. Management of Traumatic Dental Injuries during COVID-19, Indian Society of Dental Traumatology Webinar, 14 April 2020, Online, New Delhi
3. Dental Trauma Guidelines, Webinar for ADE and IDA Tamil Nadu, 14 May 2020, Online, New Delhi
4. Management of Tooth Avulsion: clinician's perspectives, IDA Kerala state, 17 May 2020, Online, New Delhi
5. How to manage the trauma of pediatric dental trauma questions in MDS examinations, Pedo RaRe rapid revision program of Indian Society of Pedodontics and Preventive Dentistry, 26 May 2020, Online, New Delhi
6. Trauma induced root resorptions: the regenerative approach, Webinar for International Association of Pediatric Dentistry, 14 June 2020, Online, New Delhi
7. Management of Tooth Avulsion: clinical insights, Webinar for Kenya Association of Pediatric Dentistry, 6 August 2020, Online, New Delhi
8. IADT primary tooth injury 2020 guidelines, Webinar for Indian Dental Association Coimbatore, 9 August 2020, Online, New Delhi
9. Traumatic Dental Injuries: 2020 guidelines and beyond, Indian Society of Pedodontics and Preventive Dentistry web series with SOA Odisha, 25 August 2020, Online, New Delhi
10. Management of traumatized non vital immature permanent tooth with a video demonstration, Indian Dental Association, Tripunithura, Kerala Online workshop, 27 August 2020, Online, New Delhi
11. IADT 2020 Guidelines: critical highlights for clinical applications, Jordanian Society for Pediatric Dentistry Webinar, 7 October 2020, Online, New Delhi

12. Decoronation: essentials of the ridge preservation in traumatized teeth, ISDT Virtual Dental Trauma Con 2020, 17 October 2020, Online, New Delhi
13. Evaluation of humidification as a method for rehydration of fractured fragments prior to their re-attachments in crown fractures, International Association of Dental Research APR young researcher's online conclave, 25 October 2020, Online, New Delhi
14. Lecture and video demonstration of use of similarity check software, Peer review workshop of Indian Society of Pedodontics and Preventive Dentistry, 25 November 2020, Online, New Delhi
15. Lecture and video demonstration on intentional replantation, ISPPD Pedo Vircon 2021, 23 January 2021, Online, New Delhi
16. Vital pulp management protocols in Traumatized Teeth; Pediatric Endodontics- The inner scoop webinar organized by the Nepalese Association of Pediatric Dentistry, 24 January 2021, Online, New Delhi
17. Non-surgical regenerative management of non-vital traumatized permanent teeth, Webinar of Saudi Society of Pediatric Dentistry, 23 February 2021, Online, New Delhi

### **Vijay Kumar**

1. Insights into pulpotomy in traumatized permanent teeth, Indian Society of Dental Traumatology Virtual Dental Trauma Con 2020, 16 October 2020, Online, New Delhi
2. Protocol for Mercury spill management in dental operatory, Brain storming meeting for Implementation of Minamata convention, 18 March, 2021, AIIMS, New Delhi

### **Dheeraj Kumar Koli**

1. Prosthodontics rehabilitation in cases with orbital defects, DOS 2020 International Hybrid Conference, 19 December 2020, Online, Delhi
2. Dental health, Jagannath International Management School (JIMS) Vasant Kunj, 12 September 2020, Online
3. Management of Dental Trauma In Anterior Jaws With Dental Implants, 48th Indian Prosthodontic society (IPS) National Virtual conference 2020, Nagpur, 3-6 December, 2020, Online only
4. Fibular Neomandible Prosthetic Rehabilitation via Fixed or Removable Implant Supported Prosthesis, 13th Biennial conference of international society for maxillofacial rehabilitation (ISMR) hosted by the Indian Prosthodontic Society, Pune India, 5-7 & 12-14 February, 2021, Online only

### **Shalini Gupta**

1. Advanced diagnostic adjuncts for OPMDs & oral cancer, NICPR – ECHO Advanced Cancer Screening Training program in Oral cancer (ACSTP-O) for dentists and oral surgeons, 29 October 2020 to 17 February 2021, NICPR ICMR, Noida
2. Risk factors for oral cancer: HPV in oral lesions (focus on its carcinogenic potential) Oral, NICPR - ECHO Advanced Cancer Screening Training program in Oral cancer (ACSTP-O) for dentists and oral surgeons, 13 January 2021, NICPR ICMR, Noida
3. Common abnormalities of the oral cavity, NICPR- ECHO Cancer Screening Training Program for Medical Officers (CSTP-MO), 11 March 2020, 21 July 2020, 5 August 2020, 18 November 2020, NICPR ICMR, Noida

### **Harsh Priya**

1. "Oral Health Promotion" among Medical Officers in National Level Trainings of Master Trainers, National Level Trainings of Master Trainers by National Health Systems Resource Centre, MoHFW, 31 March 2021, Online, New Delhi
2. "Oral Health Care" in Online State TOTs of Community Health Officers and State Nurses, Online State TOTs of Community Health Officers and State Nurses by National Health Systems Resource Centre, MoHFW, 22 March 2021, Online, New Delhi
3. "Oral Health Care" in National and State TOTs of Field Level Workers (ASHA and MPW), National and State TOTs of Field Level Workers (ASHA and MPW) by National Health Systems Resource Centre, MoHFW, 5, 13 March 2021, Online, New Delhi
4. "Oral Hygiene during Paediatric Cancer Treatment" for Parent Support Group and Treatment Support Program of on, Cankids Kidscan NGO, 26 February 2021, Online, New Delhi
5. "Online Training of CHO - AIIMS CHO Haryana ECHO" on "Oral Health and Cancer Screening- Session 1 & 2" and "Moderator for the Case Presentation Sessions", Centre for Community Medicine, AIIMS, New Delhi, 15 September, 29 September 2020, Online, New Delhi

6. “Research Study Designs”, “Edifice 2020”, Public Health Dentistry 101, Online Learning Initiative, National Level Online Workshop on Research Methodology and Bio-Statistics, 13 September 2020, Online, New Delhi
7. Oral Health and Health Hygiene, In- Service Primary Course for Primary Teachers of Kendriya Vidyalaya of Delhi Region, 3 September 2020, Online, New Delhi
8. “Tobacco Cessation – Clinical Insights”, Webinar for undergraduate dental students at Manipal College of Dental Sciences, Mangalore, 31 August 2020, Online, New Delhi
9. “Massive Open Online Experience – A First Hand Experience”, Webinar Workshop on Virtual Approaches to Training and Capacity Building of Health Workforce for NCD service delivery organized by Centre for Community Medicine in Collaboration, 19 June 2019, Online, New Delhi
10. “Role of health professionals including primary healthcare workers in tobacco cessation, avenues for training and reorientation”, Advanced Cancer Screening Training Program for Dentists (ACSTP-O2) organized by NICPR ICMR ECHO, 14 April 2020, Online, New Delhi

#### **Kunaal Dhingra**

1. 3D Printing application in Periodontal regeneration, Short Term Course (STC) on “Recent advances of 3D printing and its Bio-medical Engineering Applications by North Eastern Hill University, Shillong, 12-16, October, 2020, Online, Online
2. Applications of Nanomaterials for oral and maxillofacial tissue regeneration and disease treatment, “National Virtual Conference on Recent Breakthroughs in Biotechnology” by Department of Human Genetics and Molecular Biology, Bharathiar University, Tamil Nadu, 22 -23 January 2021, Online

#### **Prabhat Kumar Chaudhari**

1. Anaerobes in Dental Infections, Anaerobic Forum India 2021, 5-6 March 2021, AIIMS, New Delhi
2. Digital Orthodontics: Unravelling the Conventional Path of Orthodontics, 2nd International Conference on Digital Solutions for Education and Clinical Dentistry (ICDSECD), 15-16 January 2021, School of Dentistry, College of Medicine, National Cheng Kung University Hospital, Tainan, Taiwan
3. 3D Printing technology in Oral Health Science and its clinical applications, Short Term Course (STC) on “Recent advances of 3D printing and its Bio-medical Engineering Applications, 12-16 October, 2020, North Eastern Hill University, Shillong

#### **Sidhartha Sharma**

1. Managing tooth avulsions: Re-implantation and splinting techniques, Indian Society of Dental Traumatology Virtual Dental Trauma Con 2020, 16 October 2020, Online, New Delhi
2. Protocol for safe removal of amalgam restoration, Brain storming meeting for Implementation of Minamata convention, 18 March, 2021, AIIMS, New Delhi

#### **Rahul Morankar**

1. Management of traumatized non-vital immature permanent tooth (video demonstration), Indian Dental Association, Tripunithura, Kerala, 27 August 2020, Online, New Delhi
2. Managing the crown fractures-Fragment reattachment and putty index technique in ISDT Virtual Dental Trauma Conference 2020, Indian society of Dental Traumatology, 16 October 2020, Online, New Delhi

#### **Krushna Bhatt**

1. Transparency in peer review, Reviewers’ workshop- Craniofacial Research Academy, 5 June 2020, online
2. Study design in research, Basic research methodology course in Orthodontics, CDER, 20 April 2020, online, Delhi

#### **Bharathi M Purohit**

1. “Oral Health Care Delivery Systems with particular reference to the Indian Scenario”, Webinar for undergraduate dental students at Manipal College of Dental Sciences, Manipal, 10 September 2020, Online, New Delhi

#### **Aditi Nanda**

1. Plagiarism and Ethics in Publication, International Master Class organized co-jointly by Indian Prosthodontic society and The Journal of Prosthetic Dentistry, 7 March, 2021, Online only, Online only
2. Palliative Prosthesis: Bridging the Chasm between oral health and quality of life, 48th Indian Prosthodontic society (IPS) National Virtual conference 2020, Nagpur, 3-6 December, 2020, Online only

3. Reclaiming lost speech from speech: Prosthodontic percepts in developing cognitive linguistics in defects of soft palate, 13<sup>th</sup> Biennial conference of international society for maxillofacial rehabilitation (ISMR) hosted by the Indian Prosthodontic Society, Pune India, 5-7, 12-14 February 2021, Online only

#### **List of Oral Papers/ Posters presented: 15**

1. Bhadauria U, Priya H, Purohit BM, Anti-spitting laws in India: The road less travelled, Colloquium of Indian Association of Public Health Dentistry, 10 January 2021, Online
2. Falk S, Sascha G, Akhilanand C, Chaudhri PK, Kunaal D, Shailendra R, Joachim K, Cross-center Generalizability of Deep Neural Networks for Tooth Classification, 98th IADR General Session, 18-21 March, 2020, Online mode
3. Gothankar G, Duggal R, Sternocleidomastoid and trapezius muscle activity before and after Twin block therapy in skeletal class II growing patients, 9<sup>th</sup> International Orthodontic Congress (WFO), 4-7 October 2020, Pacific Hall, Yokhama, Japan
4. Gupta S, Association of Candida and fluconazole therapy with proinflammatory cytokines in oral leukoplakia: a pilot study, American Academy of Oral Medicine, 6-8 April 2020, Online mode
5. Jha K, Duggal R, To evaluate the EMG activity of neck muscles before and after Twin Block Therapy in growing Class II high angle patients, 9<sup>th</sup> International Orthodontic Congress (WFO), 4-7 October 2020, Pacific Hall, Yokhama, Japan
6. Kaur A, Tewari N, Sardana D, Deepak BS, Sharma S, Logani A, Evidence analysis of materials used for apexification of non-vital immature permanent teeth- as systematic review and meta-analysis, Indian Society of Dental Traumatology Virtual Dental Trauma Con 2020, 16 October 2020, Online
7. Kaur H, Mishra D, Roychoudhury A, Prashant P.S. Ramteke, Plasma cells in a lesion- A clue to diagnosis or diagnostic dilemma, 18th National Triple O symposium and 4th International Oral Precancer and cancer congress, 2020, 6 March 2020, (Co-author), Maulana Azad Institute of Dental Sciences, New Delhi
8. Madhubala A, Bansal K, Mathur V, Tewari N, Diode Laser Versus Simvastatin Gel as Pulpotomy Agents in Primary Molars- A Single Blind Randomized Controlled Trial, International Association of Dental Research Conference, 11 April 2020, Online mode
9. Mishra D, Kaur H, Roychoudhury A, Prashant P, Ramteke S, B cell lymphomas of oral and maxillofacial region - Case series with review of literature, 18th National Triple O symposium and 4th International Oral Precancer and cancer congress, 2020, 6 March 2020, Maulana Azad Institute of Dental Sciences
10. Priya H, Purohit BM, Ravi P, Agarwal D, Perception Pertaining to Oral and Systemic Health: A Mixed Method Model, Colloquium of Indian Association of Public Health Dentistry, 9 January 2021, Online
11. Qureshi T, Duggal R, Skeletal maturation in cleft lip and palate children differ from non-cleft children?, 9th International Orthodontic Congress (WFO), 4-7 October 2020, Pacific Hall, Yokhama, Japan
12. Siddiqui H, Duggal R, The effect of single versus subsequent micro-osteoperforation during maxillary canine retraction: are randomized control clinical trials, 9th International Orthodontic Congress (WFO), 4-7 October 2020, Pacific Hall, Yokhama, Japan
13. Srivastav S, Duggal R, Parental response to the feeding behavior problems in children with cleft lip and palate: a systematic review, 9th International Orthodontic Congress (WFO), 4-7 October 2020, Pacific Hall, Yokohama, Japan
14. Srivastava S, Duggal R, \*Trauma induced multiple impacted teeth and their interdisciplinary management -Students case report Indian Society of Dental Traumatology, 16-17 October 2020, CDER AIIMS
15. Verma S, Duggal R, Role of PNAM in Cleft Lip and/or Palate Care Current Evidence, 9th International Orthodontic Congress (WFO), 4-7 October 2020, Pacific Hall, Yokohama, Japan

#### **Research**

##### **Funded projects**

##### **Ongoing**

1. "Clinical, histomorphometric and 3-dimensional cone beam computed tomographic analysis of autogenous tooth bone graft mixed with injectable platelet rich fibrin for ridge preservation", Dr Vikender Singh, Intramural project, 2 years, 2019- 2021, Rs 8.89 lakhs
2. A Prospective Pilot study to evaluate the clinical success of a Tooth Colored metal free Self-Curing Resin-based material as an alternate to silver amalgam for Class-II Posterior Restoration, Dr Amrita Chawla, AIIMS Early Career Intramural Research, 2 years, 2019-2021, Rs 3.71 lakhs
3. A randomized controlled trial evaluating subepithelial connective tissue graft and injectable platelet-rich fibrin with or without enamel matrix derivative for treating multiple gingival recessions in smokers, Dr. Kunaal Dhingra, AIIMS, New Delhi, 2 years, 2020-22, Rs 10 lakhs



4. A study validating the efficacy of a herbal mouthwash in reduction of plaque and gingivitis: an *in vitro* evaluation and a randomized controlled clinical trial, Dr. Vikender Singh, National Innovation Foundation, Govt. of India, 2 years, 2019-2021, Rs 30.47 lakhs
5. Automatic diagnosis and monitoring for orthodontic invisible appliance cases using artificial neural network, Dr Prabhat Kumar Chaudhari, India-Taiwan programme of co-operation [Department of Science And Technology (DST), Govt. of India], 3 years, 2020-2023, Rs 19.87 lakhs
6. Comparative evaluation of module for sports dental injury prevention (msip) and combination of msip with custom-fabricated mouth-guard for prevention of traumatic dental injuries in 10-18 years old kabaddi players of Delhi-NCR region in a sports season: a cluster randomized controlled trial, Dr Nitesh Tewari, ICMR, 3 years, 2020-2023, Rs 42 lakhs
7. Development and Laboratory Testing of a Self-adhesive Stainless-steel Dental Splint Prototype, Dr. Ajay Logani, AIIMS – IIT Delhi Collaborative Research Project, 2 years, 2019-2021, Rs 10 lakhs
8. Development and testing of 3D printed tooth prototype with anatomic complexity for pre-clinical endodontic training, Dr. Sidhartha Sharma, AIIMS Early Career Intramural Research, 1 year, 2020-2021, Rs 4.48 lakhs
9. Development and validation of dental trauma awareness tool for school teachers, Dr Nitesh Tewari, ICMR, 3 years, 2019-2022, Rs 15 lakhs
10. Development of the mobile app for prevention of dental diseases in children as a co-investigator (intramural project aiims), Dr. Kalpana Bansal, AIIMS intramural grant, 1 year, 2020-2021, Rs 5 lakhs
11. Effect of scanning techniques and print layer heights on the accuracy of 3-dimensional printed orthodontic models, Dr Prabhat Kumar Chaudhari, Indian Council of Medical Research (ICMR), 2 years, 2019-2021, Rs 14.90 lakhs
12. Effectiveness of a cranberry extract mouth- rinse vs a sodium fluoride mouth rinse on microbial counts in caries active children- a double blind randomized controlled trial, Dr Kalpana Bansal, ICMR, 2 years, 2019-2021, Rs 16.99 lakhs
13. Evaluation of inflammatory markers metalloproteinase-8 (mmp-8) and cathepsin - k (ctsk) levels in immediate loaded and delayed loaded dental implants: a randomized controlled trial and pilot study, Dr Dheeraj Kumar Koli, Intra mural project AIIMS, New Delhi, 2 years, 2017-2020, Rs 7.50 lakhs
14. Evaluation of the effect of newer simplified protocols for fabrication of complete denture on denture quality, patient satisfaction, and nutritional status, Dr Aditi Nanda, Intra mural project, AIIMS, New Delhi, 02, 2019-2021, Rs. 4.89 lakhs
15. Evaluation of the efficacy of tooth movement with alignwise clear aligner system, Vilas Samrit, Alignwise smile technologies, 2 years, 2019-2021, Material and logistic support
16. Explore the novel use of florescence based microendoscopy and raman spectroscopy for detection of oral cancer and dysplasia Deepika Mishra, AIIMS – IIT Delhi collaborative research project, 1 year, 2019 - ongoing, Rs 5 lakhs
17. Fabrication and in-vivo (rat model) evaluation of novel local drug delivery system based on polymer nanocomposite for treatment of periodontitis, Dr Kunaal Dhingra, ICMR, New Delhi, 3 years, 2019-2022, Rs 42 lakhs
18. Finite element analysis and development of miniscrew implant supported bi-helix appliance (misba) for true asymmetric maxillary expansion, Dr. Prabhat Kumar Chaudhari, AIIMS, New Delhi & IIT-Delhi, 2 years, 2019-2021, Rs 20 lakhs
19. Fluoride and Sugar levels for the commercially available Baby food supplements are appropriate, Harsh Priya, AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs
20. HLA related genetic propensity for manifestation of Oral Submucous Fibrosis among North Indians, Bharathi M Purohit, AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs
21. Intramural project titled “cytotoxicity of intracanal medicaments used for root canal disinfection and their effect on proliferation and differentiation potentials of stem cells from apical papilla-an in-vitro study”, Rahul Morankar, AIIMS intramural grant, 2 years, 2020-2022, Rs 10 lakhs
22. Low intensity pulsed ultrasound (LIPUS) as an therapeutic adjunct to enhance periodontal healing subsequent to luxation dental injuries, Vijay Kumar, AIIMS Early Career Intramural Research, 2 years, 2019-2021, Rs 3.86 lakhs
23. Molecular and immunological characterization of fibro-osseous lesions affecting oral and maxillofacial region, Dr Deepika Mishra, Intramural project, 1 year, 2018-ongoing, Rs 5 lakhs
24. Treatment of temporomandibular joint disorders based on Vienna concept of functional occlusion, Ritu Duggal, Austria-scientific & technological cooperation, Department of Science and Technology, Government of India, 2 years, 2020-2022, Eur 15,000 (Austria)

### **Completed**

1. “CBCT evaluation of two novel techniques as adjuncts for non-surgical management of periapical lesions of endodontic origin-Prospective randomized double-blind controlled trial”, Ajay Logani, ICMR, 3 years, 2017-2020, Rs 30 lakhs

2. Building research capacity in India: identifying barriers and enablers to oral health research from, Dr Kunaal Dhingra, International association for dental research (IADR), U.S.A, 3 years, 2017-2020, Rs. 26 lakhs
3. Cleft lip and palate anomaly in India : clinical current status of treatment : a hospital based study, Dr Vilas Samrit, Indian Council of Medical Research, 3.5 years, June 2017- November 2020, Rs 316 lakhs
4. Effectiveness of an Oral Health Toolkit for Pediatric Oncology Patient against standard of care in the improvement of oral health status in 2-14 year old pediatric cancer patients, Harsh Priya, Intramural AIIMS, 2 years, 2018-2020, Rs 5 lakhs

## **Departmental projects**

### ***Ongoing***

1. A comparative computerized occlusal analysis of conventional complete denture and implant supported overdentures
2. A comparative study to evaluate the crestal bone level around immediate implant placed using socket shield technique and conventional technique – a pilot study
3. A randomised controlled non- inferiority trial to evaluate postoperative pain and trismus at post operative day one and seven following impacted mandibular third molar surgery using lingual split (chisel mallet) technique and bur technique
4. A randomised controlled trial to compare chisel and mallet with piezotome in terms of intra operative and post operative parameters
5. A randomized control trial to evaluate the outcomes of subcondylar fracture of mandible treated using operative and non operative method
6. A study to assess the outcome of combination of nonsurgical endodontic therapy and vital pulp therapy in comparison to full pulpotomy performed in mature permanent teeth with symptomatic irreversible pulpitis and periapical rarefaction-a randomized controlled trial
7. An in-vitro evaluation of fracture resistance and failure-modes of two designs of pmma-endocrown in primary molars
8. Application of rox index and rox-hr index as predictors of response to high flow nasal oxygenation in post extubation respiratory failure – a prospective observational study
9. Assessment of attentional bias to cariogenic versus non cariogenic food presentations in children: a visual tracking study
10. Assessment of fluoride and silver ion concentrations in saliva and urine following silver diamine fluoride application on carious teeth in the children-an exploratory study
11. Assessment of inferior vena cava collapsibility index (ivcci) and variation of carotid artery peak velocity (capv) as predictor of post-spinal hypotension
12. Assessment of prevalence and pattern of traumatic dental injuries in kabaddi players of Delhi-NCR region
13. Association between pre-operative frailty and post-operative delirium and cognitive dysfunction in elderly patients undergoing spinal surgery under general anaesthesia: a prospective observational study
14. Association of intraoperative blood glucose variability with postoperative outcomes in emergency laparotomy
15. Cephalometric characteristics of north Indian population-a cross-sectional study
16. Characteristics of respiratory mechanics in mechanically ventilated COVID-19 patients in India
17. Comparative evaluation of the accuracy and cost effectiveness of rapid-prototyped orthodontic models 3d printed in vertical and horizontal orientations
18. Comparative evaluation of wear of polished monolithic zirconia and opaque monolithic zirconia opposing natural teeth- an in vivo study
19. Comparison of articular disc position following non surgical treatment and ORIF in condylar fracture of mandible -MRI study
20. Comparison of articular disc position following non-surgical treatment and open reduction and internal fixation in mandibular condylar fractures- MRI study
21. Comparison of awake nasotracheal intubation using flexible fibre- optic bronchoscope versus d blade cmac videolaryngoscope in patients having anticipated difficult airway under topical local anaesthesia and dexmedetomidine infusion
31. Evaluation of effect of ketofol and ketodex on duration of seizure activity, hemodynamic profile, recovery times and cortical activity (using fnirs) in patients undergoing electroconvulsive therapy for depression
22. Comparison of blind intubation success rates through airq and lma blockbuster in adult patients
23. Comparison of diaphragmatic activity between propofol and dexmedetomidine sedation in spontaneously breathing patients under regional anaesthesia: prospective, randomized, comparative study
24. Comparison of effectiveness of osteosynthesis using 2mm reconstruction plate in anterior mandibular fractures associated with angle fracture

25. Comparison of fob guided vs cmac d blade guided awake nasotracheal intubation in patients with difficult airway under topical anesthesia and dexmedetomidine sedation
26. Comparison of post extubation lung aeration in patients undergoing traditional extubation with those undergoing positive pressure extubation: a randomized trial
27. Comparison of translucency and roughness of lithium disilicate glass ceramic and two types of zirconia ceramic after finishing, polishing and glazing- an in vitro study
28. Comparison of urinary and salivary metal levels in long term fixed appliance therapy: a prospective study
29. Computational fluid dynamics analysis of upper airway in orthognathic surgical treatment in skeletal class iii subjects
30. Correlation between doppler derived carotid artery corrected flow time, pressure transducer derived radial artery flow time and pulse pressure variation: a prospective observational study
31. Correlation of periodontal characteristics with cephalometric and cbct parameters in anterior dentition of individuals with different growth patterns
32. Correlation of the depth of occurrence of second mesiobuccal canal with its position and root canal configuration in maxillary first molar teeth- a retrospective cone beam computed tomography study
33. Designing, Development and in-vitro/ex-vivo testing of a Prototype Flexible Pre-loaded Self-adhesive Stainless-steel Splint for Stabilization of Traumatized Anterior Teeth: A Pilot Interventional Study
34. Development and validation of an assessment tool for traumatic maxillofacial and dental re- injury associated fear and anxiety in 10 - 16 years old boxers in Delhi NCR region
35. Effect of application of sdf and potassium iodide on the microtensile bond strength of composite resin to carious dentin – an experimental in-vitro study
36. Effect of cryotherapy on the treatment outcome of full pulpotomy performed on mature permanent mandibular molar teeth with symptomatic irreversible pulpitis- A randomized clinical trial
37. Effect of incremental peep titration on postoperative lung atelectasis in adult patients undergoing elective major abdominal surgery: a randomized controlled trial
38. Effect of systemic and local antibiotics therapies on clinical and patient reported outcomes in healthy, partially dentate patients undergoing dental implant placement – a preliminary study
39. Effectiveness of topical fluorides in prevention of radiation caries in adult patients of head and neck cancer- A Systematic Review (PROSPERO ID: CRD42021237778)
40. Effects of parenteral omega-3 fatty acid supplementation on clinical outcomes and organ failure in acute pancreatitis - a randomised controlled trial
41. Efficacy of a novel bundle of care to reduce complication following percutaneous dilatational tracheostomy in critically ill patients
42. Efficacy of occlusal pit and fissure sealant in moderate and high caries risk adult patients: a single blind randomized controlled trial
43. Efficacy of thoracic fluid content by cardiometry in predicting weaning failure in icu: a prospective observational study
44. Epidemiology, clinical characteristics and outcome of patients with COVID-19 and non-Covid severe acute respiratory illness (sari): prospective observational study
45. Evaluation and comparison of marginal adaptation of cad cam monolithic peek and zirconia crown- an in vitro pilot study
46. Evaluation of accuracy of patient specific prosthesis for total joint replacement of TMJ- A prospective study
47. Evaluation of fracture strength of cad cam fabricated monolithic zirconia and peek crowns an in vitro comparative study
48. Evaluation of immediate skeletal and occlusal pattern changes and their influence on electromyographic activity of jaw muscles in growing patients treated with rapid maxillary expansion for posterior crossbite – a prospective clinical study
49. Evaluation of one versus two step technique on the outcome of mineral trioxide aggregate pulpotomy in mature permanent teeth with symptomatic irreversible pulpitis – A prospective clinical study
50. Evaluation of photo biomodulation (pbm) for periodontal healing and preservation of tooth vitality in luxation injuries of immature permanent incisors: a preliminary study
51. Exploring the usage of ultrasonography in assessing mid palatal suture opening with hyrax appliance :appliance: a pilot study
52. Impact of COVID-19 Pandemic on Tobacco use and cessation among patients – A telephonic survey
53. Incidence, risk factors and outcome of acute kidney injury in adult patients undergoing emergency laparotomy: a prospective observational study

54. Influence of the stage of root development and method of irrigant delivery on endodontic irrigation dynamics-a computational fluid dynamics study
55. Performance of different severity indexes and laboratory parameters, for prediction of mortality in Covid-19 pneumonia: a retrospective study
56. Prevalence of dental abnormalities of primary dentition in nicu graduates from 6months to 5 years of age: a cross-sectional study
57. Prevalence of developmental defects of enamel in children with celiac disease. A-hospital based observational study
58. Prevalence of teething problems in infants: a pilot exploratory study
59. Recovery characteristics of patients following two different anesthesia techniques in major maxillofacial Surgery: a randomized controlled trial
60. Renal doppler ultrasound to predict acute kidney injury in patients with acute circulatory failure in icu: a prospective observational study
61. Smokeless Tobacco cessation using behavior intervention, mCessation and Telephone counselling – A Randomized Control Trial
62. Soft tissue norms for north Indian adults – a cephalometric study
63. The Doppler renal resistive index and semiquantitative power doppler ultrasound for early detection of acute kidney injury after perforation peritonitis surgery
64. The effect of sodium fluoride mouth rinse on surface morphology and elemental composition of orthodontic brackets in three different pHh. conditions- an in vitro study
65. To determine the incidence of occurrence of black triangles in orthodontic patients
66. Trauma induced stress distribution in primary anterior teeth restored with aesthetic crowns: a finite element analysis

### ***Completed***

1. A comparative study to evaluate the soft tissue and volumetric changes around immediate implants placed using socket shield technique and conventional technique – a pilot study
2. A preliminary study to evaluate the outcome of combination of non-surgical endodontic and vital pulp therapy for management of mature permanent molar teeth with symptomatic irreversible pulpitis and periapical rarefaction
3. A prospective study to evaluate improvement in pharyngeal airway volume and lengthening of mandible in simultaneous release of ankylosis and mandibular distraction
4. A prospective study to evaluate the improvement in pharyngeal airway and lengthening of mandible in simultaneous ankylosis release and mandibular distraction
5. A study to identify the risk factors and prevalence of oral cancer through screening among security personnel working at AIIMS, New Delhi
6. A survey of self-perceived physical discomforts and health behaviours related to personal protective equipment of Indian dental professionals during Covid 19 pandemic
7. An observational cross-sectional analytical study to evaluate the effects of anti-cancer therapy on developing dentition in long term survivors of childhood cancers
8. Analgesic efficacy of ultrasound guided erector spinae block versus intrathecal morphine in patients undergoing percutaneous nephrolithotomy surgery: a prospective randomised comparative pilot study
9. Association between perioperative acid-base abnormalities and kidney dysfunction in patients with peritonitis: a prospective cohort study
10. Awareness, Perceptions and Dental Services Utilization by patients visiting a tertiary care centre during COVID-19 pandemic
11. Change in food consumption pattern with calorie, sugar and fat labels: A Systematic Review
12. Comparative evaluation of color change in restorative material due to common eatables consumed by Indian children
13. Comparative evaluation of different root surface biomodification methods in teeth with extraoral dry times more than 60 minutes
14. Comparative evaluation of putty index and custom template for direct composite restoration of uncomplicated crown fractures in permanent anterior teeth
15. Comparative evaluation of simvastatin gel and diode laser in pulpotomy of primary molars
16. Comparative evaluation of two rehydration protocols in fragment reattachment
17. Comparison of clinical efficacy of intrahecal 0.75% isobaric ropivacaine with fentanyl versus clonidine as adjuvant in caesarean section: a prospective randomised controlled trial

18. Comparison of awake prone versus awake repositioning in acute hypoxemic respiratory failure due to Covid-19
19. Comparison of hfno versus niv in acute hypoxemic respiratory failure due to COVID-19: randomized controlled trial
20. Comparison of lactate clearance and neutrophil lymphocyte ratio as predictor of mortality in patients with sepsis
21. Effect of 940nm diode laser irradiation and dentin bonding agent on permeability of furcation area in primary molars
22. Effectiveness of a Training Package in assessing oral health knowledge, attitude, approach and actions change among School Teachers in India: an interventional study
23. Effectiveness of an oral health training program for nursing professionals in India: An interventional study
24. Efficacy of decremental peep trial on postoperative oxygenation status in adult patients undergoing emergency laparotomy: a pilot randomized controlled trial
25. Evaluation of Perceptions of Tobacco Cessation – among the Individuals Attending a Tertiary Care Dental Hospital – A Mixed Methods Design
26. Evaluation of success rate of one piece Yttrium stabilized Zirconia root analogue dental implant – A pilot study
27. Feasibility of anterior temporalis muscle ultrasound as a method to assess muscle wasting in ICU
28. Feasibility of the international caries classification and management system (iccms) protocol in a hospital-based setting
29. Interleukin 1b levels around orthodontic mini-implants during direct loading - a single-centre, split paralled group, prospective randomized controlled trial
30. Orthodontic white spot lesion index: a novel tool for assessment of white spot lesion induced in orthodontic patients
31. Outcome of full pulpotomy performed with or without calcium silicate based cement in mature permanent teeth with mechanical pulp exposure- A split mouth study
32. Prediction of difficult laryngoscopy and orotracheal intubation using lateral neck x-ray: a prospective observational double-blind study
33. Predictors of intensive care unit admission and mortality in acute febrile illness: a prospective observational study
34. Prevalence of early childhood caries in pre-school children of leh district -Ladakh
35. Prognostic significance of red blood cell transfusion trigger in critically ill patients with sepsis and septic shock: prospective observational study
36. Qualitative Analysis of opinions and beliefs associated with the use of tobacco dentifrice use among Individuals attending a tobacco counseling session'
37. Risk of sars-cov2 infection among health care providers involved in cardiopulmonary resuscitation in Covid-19 patients
38. Severity and pattern of ecc among pre-school children and its association with various behavioral factors- a hospital based study
39. Sternocleidomastoid and trapezius muscle activity before and after twin block therapy in skeletal class ii growing patients
40. The effect of inciso-cervical position of wire-composite splint on the mobility of the avulsed permanent tooth: a cadaveric model study
41. The effect of rapid maxillary expansion on hearing in patients having cleft palate with conductive hearing loss – a pilot study
42. The effect of sequentially locally injected platelet rich plasma on the rate of tooth movement during maxillary canine retraction
43. The level of matrix metalloproteinase – 9 (MMP-9) as a prognostic biomarker for the outcome of pulpotomy in mature permanent teeth with symptomatic irreversible pulpitis – A clinical prospective study
44. Thoracic radiological characteristics in COVID-19 patients at the time of presentation – prospective observational study
45. To correlate the level of osteocalcin in peri-implant crevicular fluid with crestal bone loss at different time intervals in immediate and delayed loaded dental implants. A randomized control pilot study
46. To evaluate and compare bite force and chewing efficiency in patients of TMJ ankylosis treated by alloplastic total joint replacement, gap arthroplasty with normal individuals
47. To evaluate neck muscle activity after mandibular postural changes in growing class ii high angle patients with twin block therapy - an EMG study
48. To Evaluate the Applicability of Artificial Intelligence (AI) for Categorizing the Radiographic Periapical Lesions based on Periapical Index (PAI) scoring system - A Method Comparison Study
49. Treatment outcome of composite restoration performed with either indirect pulp therapy or full pulpotomy in deep proximal carious lesion – A clinical study



50. Ultrasonographic assessment of brachial artery reactivity as predictor of adverse outcome in patients undergoing Emergency laparotomy for perforation peritonitis: prospective observational study
51. Velocity- time integral and stroke volume measured in the ascending aorta for prediction of volume responsiveness in spontaneously breathing patients

## **Collaborative projects**

### ***Ongoing***

1. A phase III randomised controlled study comparing xerostomia after tubarial salivary gland sparing IMRT versus standard IMRT in patients with locally advanced oropharyngeal squamous cell carcinoma. In collaboration with Radiation Oncology, AIIMS, Radiation Oncology, AIIMS
2. A Population based prospective cohort study to unravel the causes of stroke and cognitive decline: A cross cultural perspective, Neurology – Clinical Epidemiology, AIIMS, New Delhi
3. A prospective, active controlled, randomised, double blind, multicentre, phase III study to compare the safety and efficacy of biosimilar denosumab of Enzine Biosciences Limited Versus innovator denosumab in the treatment of postmenopausal osteoporosis, as Co-PI, Orthopedics, Endocrinology, Radiology, AIIMS, New Delhi
4. A study to examine dependence, harm perception and motivation to quit amongst Indian areca nut users and pilot test an intervention module, Psychiatry Dept. & NDDTC AIIMS
5. Childhood Cancer Survivorship Program (CCSP) Program comprised effects of cancer related chemotherapy, radiotherapy and bone marrow transplantation of dentofacial and oral structures as Co-Investigator (Interdisciplinary collaborative project with IRCH department), IRCH AIIMS New Delhi
6. Development of Engineered Non-woven Textured Surfaces for Gum Pad Cleaning of Infants, Department of Biotechnology and Indian Institute of Technology (IIT), New Delhi
7. E Dant Seva, A Digital Platform for Oral Health, National Informatics Centre, Ministry of Health and Family Welfare, GoI
8. Effectiveness of a Cranberry Extract Mouth- Rinse Vs a Sodium Fluoride Mouth Rinse on Microbial Counts in Caries Active Children- A Double Blind Randomized Controlled Trial, Dept of Microbiology, AIIMS, New Delhi
9. FTIR based ULTRA fast & quantitative assessment of COVID 19 viral load, School of Medical Science and Technology, IIT Kharagpur. Electronics & Electrical Communication Engineering, IIT Kharagpur. Dept. of Medicine, AIIMS, New Delhi
10. Immunoexpression of HLA class II antigen system in Oral Submucous Fibrosis- study of genetic propensity among North Indians, Biochemistry, AIIMS
11. National Level Oral and Dental Disease Burden Survey in India- Concept and Methodology, Ministry of Health and Family Welfare, GoI
12. National Oral Health Programme, Ministry of Health and Family Welfare, GoI
13. Perioperative Music Therapy in Addition to standard treatment for the Improvement of Quality of Recovery after Anaesthesia Following Maxillofacial Surgeries: A Randomized Controlled Study, Department of Anesthesia, AIIMS
14. Role of human Heterogeneous Nuclear Ribonucleoprotein D (hnRNPD) in oral cancer, Biochemistry, AIIMS
15. Role of Negative Regulators of EGFR in Malignant Transformations of Oral Dysplasia, Biochemistry, AIIMS
16. Treatment of temporomandibular joint disorders based on Vienna Concept of Functional Occlusion, Austrian Federal Ministry of Education, Science and Research (BMBWF), Department of Science & Technology (DST), India and All India Institute of Medical Sciences, New Delhi

### ***Completed***

1. A morphological study of the human Temporomandibular joint, Anatomy, AIIMS
2. A study of offset analgesia in Trigeminal Neuralgia, Physiology AIIMS
3. An exploratory study to assess the association between Nicotine Metabolite Ratio (NMR) and Smokeless Tobacco Use parameters, Psychiatry & NDDTC AIIMS
4. Association between serological levels and genetic polymorphisms of VEGF A and C with clinicopathological characteristics in oral squamous cell carcinoma and oral submucous fibrosis - A pilot study, Biochemistry, AIIMS
5. Cleft Lip and Palate anomaly in India: Clinical profile Risk factors and current status of treatment: A hospital based study”-Main Phase, Genetics and CSIR-IGIB
6. Development of Flip Chart on Oral Health among other NCDs in SEARO, Centre for Community Medicine, AIIMS, New Delhi
7. Development of MOOCs on Oral Health and Oral Cancer, World Health Organisation

8. Development of Training Modules for MPWs, CHOs and ASHAs on Primary Oral Health Ca, National Health Systems Resource Centre, Govt. of India
9. Effect of repetitive Transcranial Magnetic Stimulation on pain status, thermal sensitivity and motor activity in Myofacial Pain Dysfunction Syndrome, Physiology AIIMS
10. Effect of various tooth storage media on viability, proliferative ability and differentiation of human periodontal ligament stem cells- an in-vitro preliminary study, Stem cell facility, AIIMS, New Delhi
11. Estimate the oral cancer conversion risk with long term follow up (10-15 years) of patients with precancerous lesions- leukoplakia, submucous fibrosis, lichen planus among patients included in a ICMR tobacco task force project, NICPR, Noida
12. Interdisciplinary variations in spectrum of oral mucosal lesions, Dermatology
13. To assess the potential ability of Cathepsin L and Cathepsin B as universal biomarkers of cancer, Biochemistry, AIIMS

## **PUBLICATIONS**

**Journals: 148**

**Abstracts: 9**

**Chapters in books: 10**

**Books and Monographs: 1**

## **PATIENT CARE**

In patient care/supportive activities include information regarding:

### **Division of Oral Medicine & Radiology**

Out-patient care: 10628

Specialty Clinic: Oral Ulcers Clinic

Cone Beam Computed Tomography facility in Oral Medicine & Radiology CDER

Development of registry for Oral Potentially Premalignant lesions in CDER

### **Division of Oral and Maxillofacial Surgery**

Out-patient care: 12422

In-patient: >1500 major cases operated in department.

(a) Facilities available in the department (including special clinics and/or special laboratory facilities

Oral & Maxillofacial Surgery OPD and Inpatient services include:

1. Exodontia, simple & complicated
2. Temporomandibular Joint Surgery
3. Cranio-facial trauma
4. Orthognathic and Aesthetic Surgery of face
5. Oral & Maxillofacial Pathology
6. Maxillofacial Infections
7. Surgery for Obstructive sleep apnea
8. Trigeminal neuralgia Clinic
9. Oste-odontokeratoplasty

### **Division of Prosthodontics**

Out-patient care: 5500

We have been managing outpatient duties for dental rehabilitation of complete and partially edentulous patients, sleep disorders and patients having intraoral or facial defects secondary to surgical excision, trauma or congenital defects. We are running specialty clinic on Oral & Maxillofacial Prosthodontics and implant dentistry. Different types of prosthesis which we are fabricating for the patients are: Complete denture, Removable Partial Denture, Crown and Bridge work, Laminates, Occlusal splints, Implant supported Prosthesis (Removable & Fixed), mandibular advancement devices and Maxillofacial Prosthesis i.e. Facial (eye, ear, nose etc.) & Intra oral (Obturator, brachytherapy appliance etc).

At the department we are running two labs to fabricate different type of removable and fixed Prosthodontics appliances.

### **Division of Orthodontics and Dentofacial Deformities**

Out-patient care: 9099

During the year under review, we have provided greater emphasis on Interdisciplinary treatment of patients with Cleft Lip & Palate and combined orthognathic surgery patients suffering from facial deformities.

## **Division of Periodontics**

Out-patient care: 4706

Various treatment procedures carried out in Periodontics Division are:

- Conventional non-surgical and surgical periodontal therapy
- Periodontal plastic surgery
- Soft and hard tissue regenerative procedures
- Diode laser assisted soft tissue excision and adjunctive pocket debridement procedures

## **Division of Pedodontics and Preventive Dentistry**

Out-patient care: 8622

Division of Pedodontics and Preventive Dentistry deals with diagnosis and treatment of oral and dental diseases in children up to 14 years of age and those with special health care needs. The post graduate programme in the specialty was started in year 2017. During COVID pandemic, the department continued to provide emergency and urgent care for all children requiring treatment. After unlock, the number of children reporting increased and accordingly the clinical care hours were increased.

## **COMMUNITY ACTIVITIES**

**Under National Oral Health Programme, the following activities have been undertaken:**

### **Meetings**

- Exploratory Meetings for content development of modules for School Teachers on Role of Sugars and Oral Health
- Sugar Hub: Series of brain storming meetings held with faculty CDER for work plan and timelines; Multiple groups are working on research and IEC development under various titles; Registration of three 3 Systemic reviews under PROSPERO

### **Development of IECs, Tools**

- Development of three modules on sugars and oral health for empowering school teachers on oral health promotion
- Vetting of the developed modules from experts of different domains (NIHFW)
- Permissions obtained from KVS for training of school teachers on 'role of sugars on oral health'
- Assessment of Training Need of Trauma Prevention among school teachers and sports personnel.
- Development, validation and pre-testing of 'e-traumatic dental injury assessment questionnaire- among school teachers'
- IEC materials on COVID and oral and general health
- Tobacco Cessation IEC developed
- Development of Pit & Fissure sealant IEC
- IEC videos on Mercury Harm Reduction in Dentistry, released on 18th March 2021 as a part of world oral health day
- Development & Vetting of the modules on sugars and oral health for empowering school teachers on oral health promotion
- Development of IEC videos for phasing down the amalgam use
- 'Brainstorming meeting for implementation of Minamata Convention' was conducted as a part of Oral Health week celebration
- Contribution in the manual developed by the Ministry
- Training modules for nursing professionals
  - Content preparation and development of advanced modules for BSc nursing professionals
  - Infection control Procedures
  - Role of Nursing professionals in cancer therapy patients
  - Role of Nursing professionals in ICU

### **Collaborations**

- National Blindness Control Program  
Preliminary meetings for inclusion of oral health in Blindness Program in collaboration with Community Ophthalmology.
- NCD collaboration:  
Preliminary meetings for inclusion of oral health in outreach centre (Ballabgarh-Haryana) in collaboration with Centre of Community Medicine.
- Collaborations for Need assessment and fluorosis control
- Collaborations with National Kabbaddi and Boxing Federations for awareness on sports injury to dentofacial region
- Radio & TV talks on oral health awareness on DD & AIR.

- Technical Support for
  - National Oral Health Policy draft
  - National Dental Commission Bill
  - Operational guidelines for NOHP for 2021-25
  - National Registry of Oral and associated diseases
  - Operational Guidelines for establishment of dental labs at district hospitals under NOHP

#### **eDant Seva**

- Thirteen Virtual Meetings with State Nodal Officers for updating eDant Seva facilities
- Creation of a distinct forum back end for the state nodal officers to update the state level IEC and other activities on the website and mobile application.
- Total number of facilities increased from 1698 to 4661 since SNO meetings
- Incorporation of SNO graph section for evaluation and analysis of state nodal facilities, infrastructure and manpower in different states
- User Training in Content Management System completed
- Creation of COVID page & IEC materials with background information and preventive measures on oral and general health during the pandemic on both website and mobile application.
- Creation of the Visitor's details forum for identifying the target audience and purpose of visiting e-Dantseva website and mobile application  
Total Number of Visitors since September 2020 is 890
- Refining the feedback form and updates column
- Combining dental colleges and facilities section into one as "Dental Facilities of state" based upon feedback received
- Incorporation of links of MyGov oral health promotional events on edantseva to enhance visibility of the website and application
- Incorporation of sugar knowledge hub tab on the website
- Upgrading past events on eDantSeva and additional tab for updating events carried out by different states of the country
- Concept note of Sugar Knowledge Hub
- Expression of interest among CDER faculty for working on Sugar Knowledge Hub

#### **Activities under WHO CC**

- Training program for Dentists, Medical Officers, ASHA & MPWs on oral cancer prevention and screening in collaboration with National Institute of Cancer Prevention & Research, NOIDA; CCM AIIMS, New Delhi and NHSRC, New Delhi  
(Dr Shalini Gupta, Dr Harsh Priya & Dr Deepika Mishra)
- Hepatitis infection among dentists-awareness & control in collaboration with Institute of Liver & Biliary Science  
(Dr Ajay Logani & Dr Shalini Gupta)
- Training of Parent Support group & treatment support group of CANKIDS on oral health
- Training of ASHA workers & Community mobilisers in aspirational District of Nuh, Mewat, Haryana
- Collaborations with Centre for Community Medicine  
WHO-SEARO PEN online course on NCDs  
Workshop on Virtual Approaches to Training and Capacity Building of Health Workforce for NCD service delivery- 19 June 2019
- Collaborations with WHO for Minamata Convention
- Capacity building of primary healthcare workers using MOOC modules.

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Ritu Duggal** had been appointed Chief Guest for Convocation Ceremony at ITS Dental College, Hospital & Research Centre, Noida. She had been appointed as an expert member of the Selection Committee meeting for the faculty position at Banaras Hindu University and also appointed as an External Examiner at SGT University, Gurgaon, MAIDS, Govt. College of Dentistry, Indore, FDST 2020 at MAIDS and also appointed to conduct interviews for Senior Dental Surgeon at Haryana Public Service Commission. Dr Duggal has also been appointed as Subject Expert for inspection at Indraprastha Dental College and Hospital, subject expert for selection of Senior Resident at AIIMS Bhubaneswar (th Online mode) and Expert Member for selection of faculty post at UCMS & GTB Hospital. Dr Duggal has also been nominated member of the Board of Studies at Aligarh Muslim University. Dr Duggal has been appointed as Subject Expert by Ch. Charan Singh University, Meerut for the initiation of MDS course. She served as Expert to ICMR to review the research projects in the field of Oral Health and postgraduate research grants. Dr Duggal made significant contribution to WHO, National Oral Health Program and as advisor to government of India on National Oral Health Policy.

**Professor Ajoy Roychoudhury** was an invited faculty for Break Out session on TMJ at the 102nd AAOMS annual meeting 2020, at San Antonio. He is an Associate Editor Trauma section: Journal of Oral Biology and Craniofacial Research Reviewer for indexed journal. British Journal of Oral and Maxillofacial Surgery, National Medical Journal of India, National Journal of Oral and Maxillofacial Surgery, National Medical Journal of India. He has been Dental Council Inspector to verify the teaching, infrastructure facility of various dental college in India providing Post graduate education. He has been in the committee of MOH&FW to review the decisions of Dental Council of India pertaining to recognition to various Dental Colleges in India. He served as an expert at selection committee at PGI MER Chandigarh, AIIMS Bhatinda, AIIMS, Bilaspur.

**Professor Veena Jain** was appointed Chairperson for keynote lecture at the 48th IPS virtual national conference 2020, at Nagpur, Dr. Veena Jain Conduct the clinical/practical & oral examination of MDS Prosthodontics on 10th to 11th September 2020 at Subharti Dental College & Hospital Meerut, Dr. Veena Jain Conduct the clinical/practical & oral examination of MDS Prosthodontics on 23rd-24th July 2020 at Maulana Azad Institute of Dental Sciences Delhi, Dr. Veena Jain conducted the clinical/practical & oral examination of MDS Prosthodontics on 24 -25 September 2020 at ITS institute of dental sciences, Ghaziabad.

**Professor Ongkila Bhutia** has been chairperson HICC (Hospital infection control committee) CDER. She was also nominated as Nodal Officer, Covid 19, CDER, AIIMS. March 2020. She was the Chairperson and course faculty for the 2nd AIIMS total TMJ replacement live surgical workshop on 16-18th Feb.2020. Conducted examination as an External examiner MDS PGI Chandigarh May 2020 as a Nodal Officer COVID-19 from CDER, actively participated in various events pertaining to COVID-19 organized by the institute. As a Chairperson HICC, CDER organized various workshops and trained HCW on infection control and prevention.

**Professor Vijay Prakash Mathur** was nominated to Council on Continuing Education of the American Academy of Pediatric Dentistry (for 2021-23). He was elected as Councillor for Global Oral Health Inequalities Research Network (GOHIRN) for 3 years (2021-24). He was also nominated to IADR/AADR Publications Committee as the IADR Representative for the Journal of Dental Research (for 2021-22) and the IADR Awards Review Committee (for 2021-22). He was re-elected as Vice President- Indian Society for Dental Research (IADR- India Division) (2020-2022). He was also allowed to continue for one more year as Vice President Indian Society of Dental Traumatology. He will also serve as of Editor in Chief - Journal of South Asian Association of Pediatric Dentistry for one more term.

**Professor Ajay Logani** obtained first position in All India Inter Dental College Quiz Competition at KGMU, Lucknow 2021.

**Dr Dalim Kumar Baidya** has been the External Examiner of PDCC Critical Care at ILBS, New Delhi in August 2020. External Examiner of PDCC Critical Care at Era University Lucknow on 13th November, 2020, External Examiner of MD Anaesthesiology at AIIMS Raipur in January, 2021 at Raipur. Editor of Washington Manual of Critical Care Medicine – South Asian Edition 2021. Contributor to Barash's textbook of Anesthesiology: South Asian Edition. Reviewed and edited three chapters – Research Methodology and statistics, Critical Care, Post anesthesia care.

**Dr Deepika Mishra** received Best poster award in XXVIII Conference of Indian Association of Oral and Maxillofacial Pathologists, Kerala, 2020; **Best paper award** at 18th National Triple O symposium and 4th International Oral Precancer and cancer congress, Delhi Mar 2020; **Second best paper award** at 18th National Triple O symposium and 4th International Oral Precancer and cancer congress, Delhi Mar 2020.

**Dr Amrita Chawla** was elected member of National Academy of Medical Sciences, Executive member of Indian Endodontic Society, Section editor of Journal of Conservative Dentistry and Endodontics.

**Dr Vijay Kumar** was elected member of National Academy of Medical Sciences.

**Dr Prabhat Kumar Chaudhari** was admitted as member of Royal College of Surgeons of England and as member of National Academy of Sciences of India (NASI). Associate editor of BMC Oral Health.

**Dr Nitesh Tewari** was selected for Fellowship of the Faculty of Dental Surgery Royal College of Physicians and Surgeons of Glasgow UK in March 2021; nominated for Unilever Hatton Award of International Association of Dental Research 2020. The paper in LASER THERAPY online/printed was selected for the Ming-Chien Kao Award 2019 by the Editorial Board Members; elected as a Director of IADT, USA in December 2020; Appointed as the Chair of membership and recruitment committee of IADT, USA in January 2021; appointed as Assistant Editor of Journal of Oral Biology and Craniofacial Research in March 2021.

**Dr Kalpana Bansal** was awarded the ISPPD Fellow award during the National ISPPD Conference, awarded the Membership to the Royal College of Physicians and Surgeons- Faculty of Dental Sciences, Glasgow, Chaired Scientific sessions at ISDT Virtual Dental Trauma Con, 2020; Podo-Vircon, 2021.



**Dr Dheeraj Koli** was appointed as Chairperson for scientific session lecture at the 48th IPS National Virtual conference 2020, Nagpur. He was also examiner for 2nd year B.D.S Pre Clinical Prosthodontics Annual Examination at Maulana Azad Institute of Dental Sciences, in October, 2020.

**Dr Shalini Gupta** is Expert for NICPR ECHO session on Oral Cancer Screening. Conducted nine didactic online sessions for training on Oral Cancer Screening for Medical Officers and Dentists 2019-2020, National expert for WHO SEARO PEN Oral health module for South East Asian countries, Master trainer for Training of Trainers for Frontline workers in Oral health care and emergencies in Oral cancer screening organized by NHSRC, Master trainer for Training of trainers for Oral Health module for Medical Officers organized by NHSRC, Appointed Reviewer for Indian Journal of Rheumatology, Journal of Oral Biology and Craniofacial Research, BMC Oral Health, Appointed member of the Selection Committee for Research Associate in WHO SEARO project, Appointed MCQs Paper setter in Oral Medicine & Radiology for Senior Residents at Maulana Azad Institute of Dental Sciences New Delhi University 2021, National Board of Examinations- MCQ paper setter in Oral Medicine & Radiology 2020, Received certificate for contribution as Reviewer from Journal of Indian Society of Periodontology 2021, Nominated for Best Research Award by International Research Award on New Science Inventions 2020.

**Dr Kunaal Dhingra** was appointed as Member of AIIMS COVID-19 Cochrane Review Committee, Invited as Member of Cochrane Affiliate Centre at AIIMS, New Delhi, Duly admitted as member (MFDS RCS) of Royal College of Surgeons of England, UK, Appointed Member of Expert Advisory Network of the Royal College of Surgeons of England, UK, Appointed Member of Policy Network of the Royal College of Physicians and Surgeons of Glasgow, UK, Appointed as Associate editor of BMC Oral Health.

**Dr Vikender Singh** was included in the panel of consultants to extend Medical care advice to the Hon'ble Vice-President of India, Reviewer for the Journal of Indian Society of Periodontology, Frontiers in Dentistry, External examiner at Maulana Azad Institute of Dental Studies, University of Delhi.

**Dr Aditi Nanda** was appointed as Chairperson for scientific session lecture at the 48th IPS Virtual National Conference at Nagpur 2020.

**Dr Harsh Priya** was an external expert for development of training modules for MPWs, CHOs and ASHAs on Primary Oral Health Care at the National Health Systems Resource Centre, Govt. of India. She was also selected as councilor for the IADR e-Oral Health Network group for the year 2020-2022. She contributed to the development of Operational Guidelines for Oral Health Care at Health and Wellness Centres in collaboration with the Public Health Administration Division of National Health Systems and Resource Centre, MoHFW and a Technical Contributor of Oral Health Website and Mobile Application eDant Seva. She organised Brainstorming Meeting on Minamata Convention in collaboration with MoHFW and WHO in March 2021. She also helped develop Operational Guidelines for establishment of dental labs at district hospitals under NOHP.

**Dr Bharathi M Purohit** contributed in developing the Operational Guidelines for Oral Health Care at Health and Wellness Centres in collaboration with the Public Health Administration Division of National Health Systems and Resource Centre, MoHFW and she was a Technical Contributor to Oral Health Website and Mobile Application eDant Seva; organised Brainstorming Meeting on Minamata Convention in collaboration with MoHFW and WHO in March 2021; contributor to the Preliminary work for creation of Sugar Knowledge hub under edantseva website, an official website for promotion of oral health in the country in collaboration with MoHFW. She helped in the development of Operational Guidelines for establishment of dental labs at district hospitals under NOHP.

### **Junior/Senior residents**

Dr M Immaculate Jonna secured 1st position in systematic review on Topic "Global status of knowledge for the prevention and emergency management of traumatic dental injuries among non-dental healthcare professionals: a systematic review and meta-analysis" at Indian society of Dental traumatology, Virtual Conference, October 2020. Dr Mohammed Atif secured 2nd position (faculty category) in systematic review on Topic "Various use of finite elemental analysis in TDIs-A systematic review" at Indian society of Dental traumatology, Virtual Conference, October 2020. Dr Riya Marie Johnson secured 2nd position in systematic review on Topic "Global status of knowledge for the prevention and emergency management of traumatic dental injuries in sport persons and coaches-A systematic review" at Indian society of Dental traumatology, Virtual Conference, October 2020. Dr Rigzen Tamchos secured 1st position in original research category on Topic "Comparative evaluation of fracture resistance using three protocol for management of teeth with failed fragment reattachment" at Indian society of Pedodontics and Preventive Dentistry Virtual conference (Pedovircon), January 2021.

## 10.3. Dr B.R. Ambedkar Institute Rotary Cancer Hospital

### Chief of IRCH and Head NCI.

GK Rath  
(Radiation Oncology)

### Hospital Administration

#### Professor and Medical Superintendent

Sidhartha Satpathy

#### Associate Professor and PO (NCI)

Angel Rajan Singh

#### Assistant Professors

Abdul Hakim Choudhary

Laxmi Tej Wundavalli

Sheetal Singh

### Medical Oncology

#### Professor and Head

Lalit Kumar

#### Professors

Atul Sharma

Sameer Bakshi

#### Associate Professors

Ajay Gogia

Ranjeet Kumar Sahoo

Prabhat Singh Malik

Sameer Rastogi

#### Assistant Professors

Raja Pramanik  
Chandra Prakash

Atul Batra  
Thoudam Debraj Singh

Sachin Khurana  
Mayank Singh

Deepam Pushpam  
Akash Jha

#### Assistant Professors (Contractual)

Chetan

Vinod Sharma

Babita Kataria

### Radiation Oncology

#### Professor and Head

DN Sharma

#### Professors

Suman Bhasker

Sushmita Pathy

#### Additional Professors

Subhash Gupta

Haresh KP

#### Associate Professors

Rambha Pandey

Ahitagni Biswas

#### Assistant Professors

Surendra Kumar Saini

Aman Sharma

Supriya Mallick

Preeti Chaudhari

### Surgical Oncology

#### Professor and Head

SVS Deo

#### Additional Professors

Sunil Kumar

MD Ray

#### Assistant Professors

Ashutosh Mishra

Sandeep Kumar Bhorawal

Jyoti Sharma

**Assistant Professors (Contractual)**

Naveen Kumar

Jyotishman Sakia

Babul Bansal

Raghuram R

**Onco - Anesthesia and Palliative Medicine**

**Professor and Head**

Sushma Bhatnagar

**Professor**

Seema Mishra

**Additional Professors**

Rakesh Garg

Nishkarsh Gupta

Vinod Kumar

Sachidanand Jee Bharati

**Assistant Professors**

Brajesh kumar Ratre

Anuja Pandit

Saurabh Vig

Shweta Bhopale

Balbir Kumar

**Assistant Professors (Contractual)**

Ram Kumar

Swati Bhan

Prashant Sirohiya

**Radiodiagnosis**

**Professor**

Sanjay Thulkar

**Additional Professor**

Chandrashekhara SH

**Associate Professors**

Mukesh Kumar Yadav

Ekta Dhamija

**Assistant Professor**

Krithika Rangarajan

**Assistant Professors (Contractual)**

Sanchita Saha

Abanti Das

Chandan kumar Pal

Sanjay kumar Meena

**Laboratory Oncology**

**Professor**

Ritu Gupta

**Additional Professors**

Sanjeev Kumar Gupta

Anita Chopra

Pranay Tanwar

Amar Ranjan Singh

**Assistant Professor**

Smeeta G

**Assistant Professors (Contractual)**

Tanima Diwedi

Nupur Das

**Medical Physics**

**Professor and Head**

Pratik Kumar

**Preventive Oncology**

**Assistant Professors**

Pallavi Shukla

Hari Krishna Raju Sagiraju

Jitendra kumar Meena

**Administrative Officer**

Vipin Prakash

**F and CAO**

Padam Singh

**Assistant Store Officer**

Hemant Kumar

**Total No. of Faculty & Officials at Dr BRAIRCH**

Faculty Member	55
Resident Doctor	101
Group 'A' Official	36
Group 'B' Official	396
Group 'C' Official	111
Part Time Social Guide	06
Outsourced House Keeping Staff	174
Outsourced Security Staff	84
Outsourced Data Entry Operators	36
Outsourced Sanitation Staff	81
Outsourced Fire Staff	09

**HIGHLIGHTS****Onco-Anaesthesia and Palliative Medicine**

The department of Onco-Anaesthesia and Palliative Medicine has seven well-trained faculties at Dr BRAIRCH (Dr Sushma Bhatnagar, Dr Seema Mishra, Dr Rakesh Garg, Dr Nishkarsh Gupta, Dr Vinod Kumar, Dr Sachidanand Jee Bharati, Dr. Brajesh Kumar Ratre) and seven faculties at NCI (Dr Anuja Pandit, Dr Saurabh Vig, Dr Balbir Kumar, Dr Shweta Bhopale, Dr. Swati Bhan, Dr. Ram Kumar, and Dr. Prashant Sirohiya). They provide services to onco-anesthesiology, intensive care, pain and palliative care. All of them are professionally qualified anesthesiologists and critical care physicians and have gained experience as palliative care personnel in the advanced cancer patients referred for pain and other symptom management.

The mission of our department is to provide state-of-the-art and comprehensive care for patients with cancer with both curative and palliative intent. It includes services for various diagnostic interventions, surgical procedures, pain and palliative procedures. The department provides round-the-clock services for acute and chronic pain management. The department has six-bedded intensive care unit which provides care for critically ill patients and six-bedded palliative care ward for palliative care of oncology patients. The department has its regular academic activities and also pursuing various research activities in the fields of Cancer Pain, Palliative Care and Perioperative Medicine for proposed benefits for the patient. The department has developed protocol and has structured SOPs for better patient management. The department organizes CMEs, conferences and workshops on regular basis.

**Delhi Cancer Registry (DCR)**

The Delhi Cancer Registry is a Population Based Cancer Registry which collects cancer patient's data from more than 172 government or private hospitals/centers and 250 nursing homes and vital statistics division of MCD and NDMC and reports the incidence of various cancers among Delhi Urban residents and covers 97.5% of Delhi population according to 2011 census. When the registry was established in 1988 it has registered 5,854 new cancer cases and over the years the new cancer incidence has been increasing and in 2014 the registered incidence was 20,446 cases (10,589 males and 9,857 females). The common sites of cancer among Delhi males are lung, mouth, prostate, tongue and larynx and in females the common sites of cancer are breast, cervix, ovary, gallbladder and corpus uteri. The median age of diagnose of cancer for both sexes is nearly 55 years. The top 10 cancer leading sites cover 55.7% and 69.5% of total cancer cases in males and females, respectively. The reports prepared by registry are being widely used by medical students, researchers, government organization etc.

## Laboratory Oncology

Laboratory Oncology Unit is an advanced cancer laboratory for leukemia diagnosis using blood and bone marrow morphology and flow cytometric immunophenotyping. Apart from routine clinical applications, specialized services like minimal residual disease (MRD) detection, therapeutic monitoring for monoclonal antibodies, CSF, body fluid and fine needle aspirate immunophenotyping are being provided. In addition, the laboratory also took lead in establishing and maintaining the round-the-clock services at the robotic core lab at NCI, Jhajjar. During the COVID-19 pandemic, our laboratory also arranged and offered voluntary testing for COVID-19 antibodies for all the healthcare workers working at AIIMS, New Delhi. The Laboratory Oncology Unit has been actively involved in many intramural, extramural, inter-institutional and intra-institutional research projects and research collaborations, and has published more than 250 papers in national and international journals in the last 5 years. The various Inter-institutional collaborations include those with Indian Institute of Technology (IIT, Delhi), Indian Institute of Information Technology (IIIT, Delhi), National Institute of Immunology (NII), Jamia Hamdard University, Delhi, Institute of Genomics & Integrative Biology (IGIB), New Delhi, NIPCR-Noida, and NIOP- Safdarjung.

## Medical Oncology

Department of Medical Oncology is known for its high-level academic program, busy clinical service (in both inpatients and out patients) and research activity. Its academic program PhD, DM and BMT Fellowship are very competitive and sought after. Department also attracts students from national science academies and universities for summer training. In the past one year, there is a significant development of infrastructure in medical oncology laboratory, establishment of new laboratory services directly related to patients' care as well as research. Publications in high impact journals, research grants and recognition of faculty members and scientists and by various agencies are witness to their quality contribution. In spite of COVID pandemic, our department has successfully organized some National and International conferences. All this was possible with hard work and sincere efforts put up by all the members of the department. Space crunch continues to be a limitation for clinical research staff and for the laboratory.

During this COVID-19 pandemic, our Medical Oncology Department has been constantly providing all the necessary cancer patient care services and OPD throughout the year. Our faculty members are also providing their services and mentorship to newly established National Cancer Institute at Jhajjar.

### The number of patients treated in Medical Oncology department during 2020-2021

Sl. No.		2020-21
1.	Patients treated as in-patient	6002
2.	Patients treated in day care facility	22223
3.	Medical Procedures	4265
4.	Outpatient chemotherapy	7477
5.	Outpatient IV antibiotics	14302
6.	Hematopoietic Stem Cell Transplantation	92

### Patient care services in Medical Oncology (Lab)

Sl. No.		2020-21
1.	Cytogenetics for Detection of Phildelphia Chromosome	237
2.	Cytogenetics for chimerism	02
3.	RT-PCR for detection of p210 and p190 Translocation in CML (qualitative)	100
4.	RQ-PCR for detection of p210 and p190 Translocation in CML (quantitative)	428
5.	CD 34 counts by Flow Cytometry	243
6.	CD 3 counts by Flow Cytometry	26
7.	MNC counts	13
8.	Cryopreservation of stem cells -80°C	91
9.	Storage of stem cells at 4°C	56
10.	Infusion of stem cells	135
11.	Viability of stem cell	136



12.	ELISA for aspergillosis detection	952
13.	Magnesium	49
14.	LDH	461
15.	EBV DNA detection for EBV detection	10

### **Aphaeresis Lab (2020-21)**

Sl. No.		2020-21
1.	PBSC harvests	134
2.	SDP apheresis	1609
3.	Granulocyte apheresis	82
4.	Hemogram	12958

### **Medical Physics**

Medical Physics Unit (MPU) serves about 15 departments of AIIMS and NCI, Jhajjar which use x-ray based medical imaging for diagnosis and treatment of various ailments. Some of these departments use radioactivity for carrying out various laboratory tests. MPU has been instrumental in getting all x-ray emitting medical imaging equipment properly licensed by Atomic Energy Regulatory Board, Mumbai which includes the requirement of a proper layout of x-ray installations with sufficient shielding, their initial acceptance tests and subsequent periodic Quality Assurance tests, radiation safety surveys during their life cycles and finally de-commissioning. We give consultations to these departments on account of radiation safety, testing of radiation safety gadgets like lead apron and thyroid collars which are used in these departments and in case of inadvertent radiation exposure to occupational personnel, patients and pregnancies. During 2020-2021 we carried out 3083 measurements, tests, experiments and radiation sterilization of blood bags for blood transfusion.

### **Preventive Oncology**

Preventive Oncology initiated cancer awareness programmes for patients and attendants visiting IRCH. We also started cancer awareness programmes for college students as a part of health promotion drive. Cancer awareness for women police personnel. Through interdepartmental and multicentric collaborations various research projects were started for understanding the epidemiology and genetics of cancers like gall bladder, cervical, breast, prostate and ovarian. Apart from that the department initiated research into SARS CoV-2.

### **Radio Diagnosis**

In the challenging time of COVID-19 pandemic, our department took interest in clinical work as well as research in COVID-19 care, and also provided uninterrupted routine patient care services to cancer patient. Departmental faculty also participated on rotation to provide radiology services, x-ray, ultrasound and CT scan to COVID-19 patients cared at NCI-AIIMS, Jhajjar, in addition to the work at BRAIRCH. They also significantly contributed to the research in COVID-19 care in analysis of radiographs, and development of AI for radiographs and development of tele-robotic ultrasound scanning device in collaboration with IIT-Delhi. Our cancer care services also continued unabated with near-normal levels of clinical workload even during COVID-19 times.

Department took keen interest and provided mentorship in installation and functioning of new radiology equipment and formulating the protocols at NCI-AIIMS, Jhajjar. The department held weekly multidisciplinary discussions/tumor boards specifically addressing gastrointestinal malignancies, lung cancer and sarcoma. In addition, there was active participation in organizing workshops with other departments of national and international conference during this year.

### **Radiation Oncology**

Year 2020-21 remained disturbed by notorious COVID-19 infection and its impact on physical as well as psychosocial human life around the world. India due to its vast geography and large population was affected to a great extent. Population's expectations from an apex institution are imminent in such type crisis. Department proactively contributed its manpower in COVID-19 care in timely manner as well as exploring role of radiation in moderate-to-severe Covid-19 patients. Simultaneously it also kept radiation treatment continued to cancer patients with COVID-19 appropriate protocol. Department is also actively contributing in educational activities related with COVID-19 management.

### **Surgical Oncology**

The year 2020 -21 was extremely challenging due to COVID-19 pandemic that has affected patient care services, academic and training programs of the department. The Department of Surgical Oncology contributed significantly for management of COVID-19 patients at AIIMS and NCI by contributing for infrastructure, machinery and equipment and human resources. The Department has developed guidelines for cancer care during covid pandemic and introduced revised infection control protocols

and training programs for staff members. Department continued to deliver cancer care during pandemic and offered emergency and elective cancer surgeries and successfully performed more than 1000 major cancer surgeries. We also initiated innovative teaching methods on virtual platform to continue the academic program for postgraduate students. The Department has initiated a number of collaborative research projects, organized virtual international and national scientific events. The department was involved in 12 funded research projects, 17 departmental projects and 19 collaborative research projects. A total of 53 original articles were published by the faculty and residents in scientific journals. A total of 977 complex major cancer surgeries were performed during COVID-19 affected year along with 3344 diagnostic and therapeutic endoscopy procedures and minor cancer surgeries.

## **EDUCATION**

### **Onco-Anaesthesia and Palliative Medicine**

The department is successfully running two academic courses: DM and MD. First batch was admitted in January 2016. The department also organizes certificate course in Palliative Care twice a year in the months of June and November and Foundation course on Palliative care once in a year in the month of March.

Departmental Seminar	Every Monday and Friday at 8-9 AM (Virtually)
IRCH Seminar	Every Thursday at 8.30-9.30 AM (Virtually)
Tutorials:	Every Tuesday 3-5 PM (Virtually)
Radio Conference	Every Saturday at 9-10 AM (Virtually)
Journal Club/Audit/Case discussion	Every Saturday at 10-12 Noon. (Virtually)

### **Laboratory Oncology**

Laboratory Oncology Unit is actively involved in the academic program of the institute and currently supports the degree programs of other departments and imparts training to the resident doctors and students of various courses at AIIMS like MD in Pathology, Laboratory Medicine, and Pediatrics; DM in Medical Oncology and Hemato-pathology; PhD students in Laboratory Oncology and Medical Oncology; Short-term trainees and summer training fellows.

### **Medical Oncology**

2 PhD students (Shivali J. and Minakshi M) have been awarded doctoral degree.

The Department of Medical Oncology is running the following programs successfully:

1. DM Program
2. PhD in Medical Oncology
3. BMT Fellowship
4. Summer internship/training

### **Regular classes and seminars**

Departmental Faculty Seminar	Every Monday at 8.30-9.30 AM
Journal Club/Case discussion	Every Wednesday at 8.30-9.30 AM
IRCH Seminar	Every Thursday at 8.30-9.30 AM
Molecular Oncology Class	Every Tuesday at 2.00-3.00 PM

### **Medical Physics**

Medical Physics Unit carried out teaching assignments regarding radiation physics of medical imaging, radiation protection during their operation, radiation dose measurement and quality assurance in medical imaging to the students of MD Radiology, MBBS, and B.Sc. (Hons.) in Radiography and Nursing. At present 3 PhD students are carrying out their research work in the Department.

### **Preventive Oncology**

#### **Teaching**

1. Intra-departmental seminars: 19
2. Lecture for DM students of IRCH: Tobacco cessation in Oncology
3. Development of IEC (Information, Education and Communication) material on common cancers
4. Literature review of Covid related studies published on AIIMS website
5. Lecture series on "Epidemiology and Statistics" for Research staff of Community Ophthalmology

## Radio Diagnosis

Faculty participated in undergraduate, postgraduate and superspecialty teaching, radio-conferences, tumor board meeting, Clinical Combined Rounds, Clinical Grand Round. Faculty had also participated in the various symposiums and CMEs held in IRCH and institute. A significant part of these activities were done in online mode as per the prevalent scenario of Covid pandemic.

## Surgical Oncology

The department has conducted the following educational sessions:

- Undergraduate teaching: The faculty was involved in undergraduate teaching by giving didactic lectures and by participating/moderating seminars on oncological topics.
- Postgraduate teaching: The faculty was involved in teaching and training of 16 MCh surgical oncology students and 11 surgical oncology senior residents, DM medical oncology residents and MD radiotherapy junior residents by giving didactic lectures, moderating seminars, journal clubs etc. and clinical teaching during ward rounds and in special cancer clinics of IRCH. The faculty acted as guide and co-guide for MCh Surgical oncology, DM medical oncology, MD radio diagnosis, MD radiation oncology thesis projects and PhD projects from various department of Dr. BRA IRCH & AIIMS. The faculty was also involved in teaching and training of dental surgery residents and MCh Gynecology Oncology trainees on rotation.
- Paraclinical teaching/training: The faculty was involved in the teaching of MSc nursing oncology students.

## CME /Workshop/Symposia/National and International Conference

### Onco-Anaesthesia and Palliative Medicine

- IAPC certificate course in Palliative Care, July and Dec 2020, Dr. BRA IRCH, AIIMS, Virtually
- IAPC Counsellor, Physiotherapist Course, October 2020, Dr. BRA IRCH, AIIMS, Virtually
- World Hospice Day, 8 October, 2020, Dr BRA IRCH, AIIMS, Virtually
- World Cancer Day 2021, 1 February 2021, Virtually

## Surgical Oncology

- Robotic Surgery Training Workshop for young Surgeons “ROPE” Virtual program organized by the department in collaboration “IntuitiveSurgicals – Davinci Robotic system” 29 and 30 September and 17-19 November 2020. A total of 100 delegates registered from all over the country and 5 national and international faculty participated as teaching faculty.
- Breast Expert Panel Webinar on Role of ICG in Breast Cancer Surgery organized on 20 March 2021, by the Department in collaboration with Stryker International. More than 150 national delegates and 10 reputed national and international faculty joined the event.

## Preventive Oncology

### Workshop/Events organized:

- Celebrated International Women’s Day by holding a session on breast cancer awareness for women police personnel at Police Station, Dwarka on 8 March 2021.

### Lectures delivered:

#### Onco-Anaesthesia and Palliative Medicine

Sushma Bhatnagar: 16

Seema Mishra: 5

Rakesh Garg: 16

Nishkarsh Gupta: 12

Vinod Kumar: 3

Sachidanand Jee Bharati: 3

Anuja Pandit: 1

Brajesh Kumar Ratre: 2

Saurabh Vig: 2

Balbir Kumar: 1

Ram Kumar: 1

Prashant Sirohiya: 1

#### Laboratory Oncology

Ritu Gupta: 2

Sanjeev Kumar Gupta: 2

Anita Chopra: 1

Pranay Tanwar: 2

Amar Ranjan Singh: 4

Deepshi Thakral: 1

#### Medical Oncology

Lalit Kumar: 7

Atul Sharma: 10

Sameer Bakhshi: 16

Ranjit Kumar Sahoo: 8

Sameer Rastogi: 4

Prabhat Singh Malik: 2

Raja Pramanik: 10

## Medical Physics: 1

### Preventive Oncology

Pallavi Shukla: 2

Asrar Alam: 2

Kumar Sandeep: 2

### Radio Diagnosis

Chandrashekhara SH: 3

Mukesh Kumar: 1

Ekta Dhamija:4

Krithika Rangarajan: 1

### Radiation Oncology

GK Rath, Chief, Dr BRA IRCH: 6

DN Sharma: 15

Subhash Gupta: 5

Haresh KP: 5

Rambha Pandey: 6

Ahitagni Biswas: 4

Supriya Mallick: 1

Subramani V: 3

Gopishankar N: 2

### Surgical Oncology

SVS Deo: 18

Sunil Kumar: 1

MD Ray: 2

Ashutosh Mishra: 3

JyoutishmanSakia: 1

## Onco-Anaesthesia and Palliative Medicine

### Sushma Bhatnagar

1. Workshop to improve palliative care in the context of COVID-19 Pandemic in the South-East Asia Region , 8-9 April 2021, Delhi, Virtual
2. National Training of Trainers on Elderly and Palliative Care scheduled., 30 March 2021 to 3 April 2021, Virtual.
3. Need of Palliative Care. 1st International conference and 30th National Conference RSACPCON 2021, 6-7 March 2021, Virtual
4. 2nd Edition of Cancer Summit, 4 February 2021, Delhi, Virtual
5. Panel, World Cancer Day 2021 launched the #Asha Hamesha Campaign, 1 February 2021, Virtual
6. IAHPC Statement on Agenda item 14.1 of the 138th Meeting of the World Health Assembly as the Advocacy Focal Point for India, 18 January 2021, Virtual
7. World Academy of Pain Medicine United/North African Chapter about: - Cancer Pain: Interventional Procedures, 29 November 2020, Virtual
8. Palliative Care” for the Association of Medical Students of Bulgaria, 28 November 2020, Bulgaria, Virtual
9. Palliative care and support model for cervical cancer survivors” for the national workshop marking the launch of Global Strategy to Accelerate Cervical Cancer Elimination, 17 November 2020, AIIMS, Delhi
10. End of Life Care – Issues and Consideration, 31 October 2020, Virtual
11. Advanced Interventional Management of Pain- “Innovations in Pain and Spine Practice”, 2-4 October 2020, Virtual
12. 12. NALCCON 2020, 26-27 September and 3-4 October 2020, Virtual
13. Promoting Healthy Ageing in the COVID-19 era, 30 September 2020, Delhi, Virtual
14. Palliative Care, ICA 2 September 2020, Delhi, Virtual
15. Webinar in Palliative Care, 5 August 2020 at 5 pm, Chennai, Virtual
16. International Webinar on Palliative Care and Community Participation, 22 July 2020 Hyderabad, Virtual

### Seema Mishra

1. Neuropathic pain, Difficult pain, IAPC Certificate Course In Essentials Of Palliative Care, 24-26 July 2020, Online
2. Approach to an adult patient presenting with opioid toxicities, IAPC Online Palliative Care Training Program - 2020, 13 July 2020, Online
3. Neuropathic pain, IAPC CERTIFICATE COURSE IN ESSENTIALS OF PALLIATIVE CARE, 5, 6, 12 and 13 December 2020, Online
4. Role of supportive care in oncological emergencies , IAPCON 2021 Patna, 19th – 21ST MARCH 2021, Online
5. Neuropathic pain, Bone pain, Palliative care training for Nodal Officers of Madhya Pradesh by Indian Association of Palliative Care, 22-23 March 2021, Online

### **Rakesh Garg**

1. (a) Assessment of Pain; (b) Non-Opioid And Adjuvant Analgesics, Palliative care training for Nodal Officers of Madhya Pradesh by Indian Association of Palliative Care, 22-23 March 2021, Online
2. High Flow Nasal Oxygen in COVID—a global review, KAAMCON 2021- Kochi Advanced Airway Management Conference, 17 January 2021, Online
3. (a) Lecture: POCUS for airway management; (b) Lecture: AIDAA guidelines session - **Guidelines** presentation - Extubation; (c) Chairperson: Thoracic session; (d) Chairperson: Airway crisis session; (e) Panellists: Thoracic case discussion, Airway Quiz - Kaun banega airway champ, TMC National Conference-The Difficulty Airway - TMC-DAC 2020, 9-10 January 2021, Online
4. Ultrasound and supraglottic devices, Update in Airway Management 2020 – Ultrasound Applications by EAMS– European Airway Management Society, 10 November 2020, Online
5. Periprocedural considerations for Anesthesiologists for Radiotherapy and Oncological Interventions, RSACP Academic Webinar Series– Non-Operating Room Anaesthesia and Sedation, 3rd November 2020, Online
6. Concepts and Controversies in CPR, ISAWEBCON KERALA 2020, 1st November 2020, Online
7. Post COVID Anesthetist Dilemma, ISA Gujarat Webinar, 22nd October 2020,, Online
8. Extubation Guidelines Pro – SADs for anesthesia during COVID-19 pandemic, XI National Airway Conference (NAC) of the All Indian Difficult Airway Association (AIDAA), 10-11 October 2020, Online
9. COVID-19 RELATED CARE, RSACP Academic Webinar Series, 7 October 2020, Online
10. Postoperative Cognitive Dysfunction, 59th Annual Virtual Conference of the Indian Society of Anaesthesiologists, Delhi Branch (ISACON 2020), 2-4 October 2020, Online
11. Unanticipated difficult airway Management, Airway Management in COVID -19 Patients, 12 September 2020, Online
12. Role of Hygiene in Fighting COVID-19 Epidemic, Skill India ecosystem in association with Department of Drinking Water and Sanitation is celebrating Swachhta Pakhwada 2020, 31 July 2020, Online
13. COVID-19 – Newer concepts and Controversies, CME-Newer concepts and controversies in COVID-19 Management, 25 July 2020, Online
14. Tele-health team training and palliative care, GLOBAL COALITION WEBINAR SERIES on COVID 19 - The Pandemic; COVID-19 & Cancer Patients, 27 June 2020, Saturday, Online
15. Oxygen Delivery – Basics and Beyond, Mumbai Anaesthesia PG series (MAPS), 20 June 2020, Online
16. CPR in COVID-19 Patient, ISA Kerala Webinar, 27 May 2020, Online

### **Nishkarsh Gupta**

1. Intubation in a COVID setting, ISA Delhi webinar, August 2020, Online
2. Comparison of Mc Grath-MAC and C-MAC video laryngoscopes for intubation in patients with normal airway by donned anesthesiologists using an intubation box during COVID-19 pandemic: a prospective randomized study, DAS annual meeting, October 2020, Online
3. CICO scenario, Game symposium, February 2021, Online
4. Chaired a session on Symposium on Critical Care, AIIMS Pulmocrit, 19-21 March 2021, Online
5. Palliative care for GI symptoms, IAPC Course, 5-6 December, Online
6. Dynamic assessment of Airway: role of point of care USG, Society of anesthesia Nepal webinar, 12.09.2021, Online
7. Cancer pain management, APPEC 21, RML PG assembly, 6 -14 February 2021, Online
8. Faculty for USG guided regional workshop, IAPCON 2021, 19-21 March 2021, AIIMS, Patna
9. Research methodology workshop, RSACPCON 2021 online, 7 March 2021, Online
10. Management of GI symptoms I: nausea and vomiting, Training of medical officers from Madhya Pradesh, 22-23 March 2021, Online
11. Sampling methods, writing introduction, basic statistics, ICMR protocol writing workshop for postgraduates, 1-2 October 2020, Online
12. Approach to an adult patient with breathlessness, IAPC training in palliative care for postgraduates, 7 September 2020, Online

### **Vinod Kumar**

1. Approach to an adult patient with constipation, IAPC course, 5-6 December, Online
2. Management of Constipation in palliative care, Training of medical officers from Madhya Pradesh, 22-23 March 2021, Online



3. Cancer pain management (WHO analgesic ladder), Foundation course of palliative care for postgraduates, 7 September 2021, Online

#### **Sachidanand Jee Bharati**

1. Malignant Bowel Obstruction, IAPC Course, 5-6 December 2020, IRCH, AIIMS, New Delhi, Online
2. Approach to a Breathlessness in Palliative Care, 28th IAPCON, 19-21 March 2021, AIIMS Patna, Patna, Online
3. Management of Malignant Bowel Obstruction in palliative Care, Training of medical officers from Madhya Pradesh, 22-23 March 2021, IRCH, AIIMS, New Delhi, Online

#### **Anuja Pandit**

1. Precautions and Safety measures for restarting clinical practice after COVID. CME “How to restart your clinical practice safely”, 4 June 2020. Online

#### **Brajesh Kumar Ratre**

1. Workshop on Peri-operative management of CRS and HIPEC surgery, 19 February 2021, Online
2. Intra operative Temperature regulation during HIPEC surgery, 19 February 2021, Online

#### **Saurabh Vig**

1. Workshop on Anaesthetic and perioperative concerns in HIPEC surgeries, 19 February 2021, Online
2. GUY'S Airway Management Conference, July, 2020, Online

#### **Balbir Kumar**

1. Perioperative monitoring during HIPEC surgery, Workshop on Peri-operative management of CRS and HIPEC surgery, 19 February 2021, Online

#### **Ram Kumar**

1. Perioperative pain management in Hyperthermic intraperitoneal chemotherapy (HIPEC) Surgery. Workshop on Peri-operative management of CRS and HIPEC surgery; 19 February 2021, Online

#### **Prashant Sirohiya**

1. Post-operative care after Hyperthermic intraperitoneal chemotherapy (HIPEC) Surgery. Workshop on Peri-operative management of CRS and HIPEC surgery; 19 February 2021, Online

#### **Laboratory Oncology**

##### **Ritu Gupta**

1. How I define high- risk CLL, Webinar on Chronic Lymphocytic Leukemia, 19 December 2020, Virtual
2. Risk stratification in MM: Established and novel biomarkers, Molecular Profiling Shaping The Treatment Paradigm in Hematologic Malignancies, 19-20 February 2021, Virtual

##### **Sanjeev Kumar Gupta**

1. Molecular Genetics of Acute leukemia, NBE Pathology Webinar Series, 24 November 2020, Delhi
2. Role of Molecular Genetics in acute leukemia, Invited lecture at Army (R&R) Hospital, 26 November 2020, Delhi

##### **Anita Chopra**

1. Molecular Haem-Oncology: The end of a beginning, Developing Indian Physician Scientist (DIPS) workshop, 6 March 2021, New Delhi

##### **Pranay Tanwar**

1. A case based approach to diagnose acute leukemia, CHTHPATHCON e Lecture Series, 13 August 2020, Virtual
2. HPV Testing Principles and Methods, Self test HPV, 41st Annual Conference of AOGD, Safadarjung Hospital, 21 April 2020, Virtual

##### **Amar Ranjan Singh**

1. Flowcytometry: Principle, Interpretation of result and its role in solid tumors, Virtual Conference on Cancer Research [www.meetingsint.com](http://www.meetingsint.com), 20 August 2020, Online (Singapore)

2. Cardiac biomarker in postmortem cases and its correlation with histopathological findings, Cardiac biomarkers and rising impact of lab medicine, 8 December 2020
3. Thrombocytosis as a Prognostic Marker in Ovarian Cancer, Master Session, CLIRNet Services Pvt. Ltd, Mumbai, 12 March 2021,
4. Basic Principles of Flow Cytometry, Master Session, CLIRNet Services Pvt. Ltd, Mumbai, 24 January 2021,

#### **Deepshi Thakral**

1. SARS-CoV-2 Research using Next Generation Sequencing, Webinar series-1 titled COVID-19: Updates for Medical Laboratory Professionals, Organized by Indian Confederation of Medical Laboratory Sciences, 22 May 2020, Virtual

#### **Medical Oncology**

##### **Lalit Kumar**

1. Chair Person: 'Webinar on Lymphoma', Mumbai Hematology Group, 04.10.2020, Mumbai, Maharashtra
2. Is auto transplant is required in myeloma in 2020? (Speaker), 25th Annual Congress of Asia Pacific Bone Marrow Transplantation Group (APBMT), 10 October 2020, Organized by CMC, Vellore
3. Cancer in time of COVID-19, COVID CGR, 14 October 2020, Director, AIIMS, New Delhi.
4. Cancer a Global Challenge (Speaker), Webinar on World Cancer Day, 4 February 2021, Central University, Bathinda, Punjab
5. Chair, Virtual meeting session, Molecular Oncology Society Conference 2021, 6 March 2021, Udaipur, Rajasthan
6. Chair, session on "Indian Scenarios and debates", Evidence based Medicine', 7 March 2021, TMH, Mumbai, Maharashtra.
7. Career Navigation for Medical Oncologist (Virtual), Paras Cancer Conclave-2021, 21 March 2021, Delhi

##### **Atul Sharma**

1. Panelist: Lynch Syndrome, Paras Cancer Conclave 2021, 19 March 2021, Virtual.
2. Therapeutic Importance of BRCA in non HBOC cancers, XIX Annual Conference on Evidence Based Management of Cancers in India Technology and Cancer Care- Promise and reality of the Brave New World 2021, 27 February 2021 Virtual.
3. Panelist: prevention of head and neck cancers, Jodhpur School of Public Health JSPH (World Cancer Health Day), 13 February 2021, Virtual.
4. Panelist: Recurrent Oral Cancer, American Head & Neck Society, Foundation for Head and Neck Oncology & Tata Memorial Centre, 5 February 2021, Virtual.
5. Clinical trial design & methodology, Nurture the Future-Oncology Masterclass, 6 January 2021, Virtual.
6. Moderator: Issues related to cancers with specific to awareness and access, Annual Conference of the India Sweden Healthcare Innovation Center, 11 December 2020, Virtual
7. Chairperson: Mitigating checkpoint inhibitors toxicities, Annual Meeting Immuno-Oncology Society of India, 30 October to 1 November 2020, Virtual.
8. Chairperson, 25th Annual Congress of the Asia-Pacific Blood and Marrow Transplantation (APBMT), 9-11 October 2020, Virtual.
9. Panelist: Hormone therapy in Breast & Prostate Ca – cardiovascular issues, Asian cardio-oncology Society Inaugural Conference Series" 15 October 2020, 15 October 2020, Virtual.
10. Chairperson: Immunotherapy in Triple Negative Breast Cancer, Masterclass series "Nurture the Future, 23 September 2020, Virtual

##### **Sameer Bakhshi**

1. Managing cancers during COVID-19, National Grand Rounds on COVID-19, 14 October 2020, Online
2. Methods of recruitment and Strategies for retention in hospital & community-based trials, "Strengthening Clinical Trial Research Capacity in Neighboring Countries" online program for the session "Good Clinical Practice", 16 October 2020, Online
3. Panel discussion: Immunotherapy in haemato-lymphoid, Annual Meeting Immuno-Oncology Society of India, 1 November 2020, Online
4. Moderator for the session "Soft Tissue & Bone Sarcoma", Annual Conference of Indian Society of Medical and Pediatric Oncology-ISMPOCON 2020, 6 November 2020, Online

5. Panelist for COVID pandemic response across the world, WHO-GICC India responds 2020 & Moving forward, 8 November 2020, Online
6. Clinical research during COVID time, Critical Dilemmas in Clinical Trials, 2 December 2020, Online
7. Methods of recruitment and Strategies for retention in hospital & community-based trials, Strengthening Clinical Trial Research Capacity In India's Friendly Countries Program On Good Clinical Practice, 12 February 2021, Online
8. Preoperative chemotherapy in STS - Does it help?, 7th Annual Meeting of the Indian Musculoskeletal Oncology Society (IMSOS 2021), 6 March 2021, Online
9. Immunotherapy in soft tissue sarcoma. 7th Annual Meeting of the Indian Musculoskeletal Oncology Society (IMSOS 2021), 6 March 2021, Online
10. Case based panel discussion-STs. 7th Annual Meeting of the Indian Musculoskeletal Oncology Society (IMSOS 2021), 6 March 2021, Online
11. Case based panel discussion-Bone Tumor. 7th Annual Meeting of the Indian Musculoskeletal Oncology Society (IMSOS 2021), 6 March 2021, Online
12. Ease of doing business from clinical trial development perspective, 14th Annual conference and pre-conference workshop, 12 March 2021, Online
13. Role of stem cell therapy and immunotherapy in Pediatric Surgery, 13th Pediatric Surgery Update 2021, 14 March 2021, Online
14. Role of chemotherapy in Non-Rhabdo Soft Tissue Sarcomas, XIIIth Congress of SIOP-Asia, 19 March 2021, Online
15. Systemic therapy for advanced soft tissue sarcoma, Oncology Forum on topic Management of advanced soft tissue sarcoma, 26 March 2021, Online
16. Case Based Discussion on sarcomas. Oncology Forum on topic Management of advanced soft tissue sarcoma, 26 March 2021, Online

#### **Ranjit Kumar Sahoo**

1. Mini-Allo HSCT in Myeloma, Indian Myeloma Congress, April 2021, Online
2. Azacitidine-venetoclax is NOT a standard in Transplant-ineligible AML, Mumbai Hematology Group Debate, December 2020, Online.
3. Conditioning Regimen in Lymphoma, ISBMT, 2021, March 2021, Online.
4. Recent Advances in MPN @ASH-2020, HCC Webinar on ASH 2020, December 2020, Online.
5. Heredity in Hematological Malignancies, ICGGC 2020, November 2020, AIIMS, New Delhi
6. R-CHOP: Not for everyone, SGRH Annual review, November 2020, Online.
7. Oncology as a speciality, Webinar with MAMC students, August 2020, Online.
8. Total Androgen Blockade in New Decade, Paras Cancer Conclave, March 2021, Online.

#### **Sameer Rastogi**

1. Desmoid fibromatosis management in tertiary care centre in India, Desmoid tumor research Foundation, Annual meet, 25 September 2020, USA, Online.
2. Breakthrough in soft tissue and bone sarcomas, Indian Society of Medical and Pediatric Oncology, Annual Conference. 2020, 6 November 2020, Online.
3. Tyrosine kinase/ D842V in gastrointestinal stromal tumor (GIST), XIX Annual conference of evidence based management in India by Tata Memorial Centre, Mumbai, 6 March 2021, Online.
4. Systemic therapy in relapsed Soft tissue sarcoma, Indian musculoskeletal oncology society, 6 March 2021, Online

#### **Prabhat Singh Malik**

1. How do we approach metastatic NSCLC in 2020, 4th Multidisciplinary Lung Cancer Management Course (Jointly organised by TMC-PGIMER-ISSLC-ASCO), 22 March 2020, Online
2. Clinical approach for optimum outcomes in EGFRpositiveNSCLC, AIIMS- PULMOCRIT 2021, 21 March 2021, Online

#### **Raja Pramanik**

1. 2nd Annual Meeting on Indian Association of Supportive Care in Cancer, Assessment of geriatric cancer patient: Panel discussion, IASCC (Indian Association of Supportive Care in Cancer), 26 September 2020, Virtual

2. 3rd Advanced Cancer Screening Training Program for Dentists (ACSTP-O3), Didactic Lecture on Oral cancers, Evaluation of Case presentations and Live interaction with participating Dentists, Team NICPR-ECHO ICMR- National Institute of Cancer Prevention And Research Noida, Uttar Pradesh, 22 October 2020, Virtual
3. 4th online Advanced Cancer Screening Training Program for Dentists (ACSTP-O4), Didactic Lecture on Oral cancers, Evaluation of Case presentations and Live interaction with participating Dentists, Team NICPR-ECHO ICMR- National Institute of Cancer Prevention And Research Noida, Uttar Pradesh, 17 November 2020, Virtual
4. Indian Cancer Genetics and Genomics Conference, Organizing Secretary, Research and Education society of Medical Oncology (RESMO), Department of Medical oncology, INDO-UK Genetic Education Forum, 20-21 November 2021, New Delhi
5. Geriatric oncology Quiz, Quiz Master: Quiz for post graduates on Geriatric oncology, Delhi Oncology Forum, 6 December 2020, Virtual
6. Foundation for Head-Neck Oncology (FHNO) Annual Meeting- FHNO2020 Virtual, Head and Neck Cancer Immunotherapy: now that it works, where does it fit? Discussion, FHNO, 12 December 2020, Virtual
7. Changing Outcomes in the sphere of gastrointestinal cancers, Panelist: Gastric Cancer, Cancer Research and Statistic Foundation, Mumbai, and the Indian Society of Medical Paediatric Oncology, 28 January 21, Virtual
8. 5th online Advanced Cancer Screening Training Program for Dentists (ACSTP-O5), Didactic Lecture on Oral cancers, Evaluation of Case presentations and Live interaction with participating Dentists, Team NICPR-ECHO ICMR- National Institute of Cancer Prevention And Research Noida, Uttar Pradesh, 10 February 21, Virtual
9. XIX Annual Conference Evidence Based Management of Cancers in India Technology and Cancer Care - Promise and Reality of the Brave New World, Moderator: Level of evidence and cost-effectiveness of BRCA directed therapy, Tata Memorial Hospital, Mumbai, 27 February 21, Virtual
10. Paras Cancer Conclave: Virtual, Panelist: Hereditary Breast Ovarian Cancers, Paras Hospital, 19 March 2021, Virtual

### **Medical Physics**

1. Patient safety and quality practices in diagnostic radiology, Role of Medical Physicists and RSO in accreditation in diagnostic radiology sector, 29 October 2020, National Accreditation Board for Testing and Calibration Laboratories (NABL) & Association of Medical Physicists of India (AMPI), New Delhi

### **Preventive Oncology**

#### **Pallavi Shukla**

1. Immunology of SARS-CoV-2, Virtual International Conference” Immunity and Immunochemistry combating COVID 19 organized by I.T.College Lucknow, 30-31 May 2020, Lucknow (online)
2. Systematic Review, Epidemiology and basic statistics lecture series at Community Ophthalmology, RP Centre, AIIMS, 15 September 2020, Delhi (online)

#### **Asrar Alam**

1. Malaria and its control: Vaccine development efforts, Organized by Faculty of Biotechnology (FoBT), IBST, Shri Ram Swaroop Memorial University, Barabanki, 16 March, 2021, online mode
2. Cancer: Causes and Prevention, Organized by B.S. Abdur Rahman Crescent Institute of Science & Technology, Chennai, 31 March 2021, Online mode

#### **Kumar Sandeep**

1. Cancer Awareness Program, Organised by the School of Basic Sciences and Research division of Sharda University, Noida, on the occasion of World Cancer Day on February 4, 2021, 4 February 2021, Online mode
2. Cancer prevention, Guest speaker and expert to initiate a group discussion in the students at Jamia Hamdard Institute of Molecular Medicine, Jamia hamdard, New Delhi., 12 December 2020, Online mode

### **Radio Diagnosis**

#### **Chandrashekhara SH**

1. Panel discussion on ‘interesting cases of IR’, Society of Emergency Radiology CME, 27 June 2020, AIIMS, New Delhi
2. How to assess heart on non-gated chest CT’, Society of chest imaging and interventions annual conference 2020, 23 September 2020, Online
3. Conducted Quiz on ‘Emergency Interventions’. Society of Emergency Radiology Annual Conference 2020, 7 November 2020, Online

### **Mukesh Kumar**

1. Imaging in Oncologic emergencies, Annual Conference of Chandigarh Chapter of IRIA, 20 and 21 March 2021, PGIMER, Chandigarh

### **Ekta Dhamija**

1. Correlation of pathological complete response and radiological response with contrast- enhanced mammography in breast cancer patients after neoadjuvant chemotherapy, Best of SABCS 2021, 20-21 February 2021, Virtual
2. Panelist: Multidisciplinary case discussion in Retroperitoneal Sarcoma, Sarcoma & GIST Symposium, 30-31 July 2020, Virtual platform, Virtual
3. Clip placement: Breast and Axilla, Midterm BISICON, September 20,2020, Virtual platform, Virtual Platform, Pune
4. Panelist: HBOC Diagnosis and Management: Challenges and Opportunities in India, Indian Cancer Genetics and Genomics Conference, 20-21 November2020, Virtual

### **Krithika Rangarajan**

1. Future of Imaging Fields in the time of AI, Developing Physician Scientist Program, India Alliance, 7 March 2021, IGIB, presented online

### **Radiation Oncology**

#### **GK Rath, Chief, Dr BRA IRCH**

1. Participated in Research Area Panel (RAP) for Cancer of ICMR, ICMR-NCDIR RAP Cancer meeting, 6 October 2020, Online
2. Participated in online webinar on breast cancer, Video conference on breast cancer-Paras Hospital, 23 October 2020, Online
3. Panelist-Impact of x-ray discovery on Radiology imaging, Radiotherapy and Medical Physics, Online panel discussion at SMS Medical College, Jaipur, 7 November 2020, Online
4. Chairperson for Key note lecture ‘Predictive tools in Geriatric oncology to anticipate chemotherapy toxicity’, Annual conference of oncology forum OFCON 2020, 4-6 December 2020, Online
5. Chairperson: for the session on advances in quality of life /survivorship, Breast cancer update-Essence from SABCS, 4 February 2021, Online
6. Panelist-‘Practice session for round table 4: Global breast cancer initiative (GBCI), Hearing the call of women with breast cancer- WHO, 8 March 2021, Online

### **DN Sharma**

1. Expert opinion on the role for “brachytherapy in GI Malignancies”, American Brachytherapy Society (ABS), 25 March 2021, Online
2. Panel Discussion – High risk endometrial cancers, Paras Cancer Conclave 2021, 19-21March 2021, Virtual platform
3. Panel Discussion – Technology Worldwide: Past to future and Local to Global, XIX Annual Conference Evidence Based Management of Cancers in India, 27 February 2021, Online
4. Mucositis in Head & Neck Cancer Radiation, Virtual symposium on nutrition in cancer care & management of mucositis, 26 February 2021, Online
5. Management of Penile Cance, Oncology Class Room, 24 February 2021, Webinar
6. Best of SABCS - chairperson, Virtual Conference - Best of SABCS, 19-20 February 2021, Online
7. Management of Recurrent Gynecological Cancer, Oncology Class Room, 22 January 2021, Webinar
8. An Institutional experience – transition from intracavity to interstitial brachytherapy, International Brachytherapy Masterclass, 12 December 2020, Online
9. Brachytherapy today in Head & Neck Cancer, Foundation for Head-Neck Oncology (FHNO) Annual Meeting, 12-13 December 2020, Online
10. Recent Advances in Brachytherapy and Challenges, Monthly virtual webinars, 10 December 2020, Online
11. Academic Debate on “Brachytherapy in breast cancer will be obsolete in the era of hypofractionation and modern radiation technologies”, Oncology Class Room, 25 November 2020, Online
12. Use radiation for treatment of COVID”, International conference on radiation biology, 12 October 2020, Online
13. Brachytherapy in carcinoma breast : concepts, techniques, evidence, Oncology Class Room, 5 October 2021, Online
14. Practical tips and tricks for interstitial brachytherapy in cervical cancer, Interdisciplinary lectures, 10 October 2020, Online
15. Brachytherapy in early oral cancer, Head and Neck Oncology Masterclass 2020-21, 27 September 2020, Online



**Subhash Gupta**

1. Chairperson: Molecular Classification of Glioma: Going Beyond the 2016 WHO Classification., Neurooncology Meeting 2020, 17 July 2020, Online
2. Chairperson for the session on Panel Discussion on Non Functioning Adenomas, Pituitary Adenomas: Current concepts and controversies, 24 July 2020, Online
3. Panelist: Panel Discussion on Loco Regional Radiotherapy in breast Cancer-Exploring unique scenarios, DBOG (Delhi breast oncology group) Conference, 12 August 2020, Online
4. Talk on Experiences in Cancer management, All India Institute of Ayurveda (AIIA), 5 February 2021, Online
5. Panelist: Panel Discussion on An Interesting Neuro Oncology Case, DNACON2021, 6 February 2021, Online

**Haresh KP**

1. HDR Brachytherapy in carcinoma prostate, Oncology Classroom, 30 September 2020, Online
2. Panelist: Panel discussion on APBI, APBI Webinar, 10 October 2020, Online
3. Brachytherapy in breast cancer, ASOMACON 2020, 4 December 2020, Online
4. Hypofractionation in radical RT for Ca Prostate: Is it safe in the elderly, OFCON 2020, 6 December 2020, Online
5. Management of low risk prostate cancer, Oncology Classroom, 5 February 2021, Online

**Rambha Pandey**

1. Diagnosis of Carcinoma Prostate, 34th AROI ICRO SUN PG WEBINAR, 30-31 July 2020, Virtual
2. Panel discussion: Recent advances in the management of bone sarcomas, Sarcoma and GIST Symposium, 30- 31 July 2020, Virtual
3. Session moderator: Lung cancer Abstract, ASCO 2020 Review, 28-30 August 2020, Apollo Cancer Center Delhi, Virtual
4. Session Moderator: Choosing wisely simulation Techniques and their practical aspects, 3rd Max Contouring workshop, 30 January 2021, Virtual
5. Made for Each Other – What a surgeon should ask a radiation oncologist and vice versa when planning multimodality treatment for lung cancer, NALCCON 2020, 26 -27 September 2020, Virtual
6. Management of Ewing's sarcoma, Delhi Musculoskeletal Oncology Group Meeting, 29 October 2020, Virtual.

**Ahitagni Biswas**

1. Panel discussion on ASCO 2020 selected head & neck oncology abstracts (Panelist), OncologyClassroom- head & neck oncology- ASCO 2020, 20 June 2020, Online
2. Updates on recurrent glioblastoma- summary & future directions, Oncology Classroom webinar on updates on recurrent glioblastoma, 16 July 2020, Online
3. Management of pediatric gliomas, Oncology Classroom- pediatric oncology lecture series, 10 August 2020, Online
4. Role of radiotherapy in the management of pediatric solid tumors, 13thPaediatric Surgery update, 14 March 2021, Online

**Supriya Mallick**

1. SBRT for operable Lung Cancer, PRODVANCE, 26 June 2020, Online

**Subramani V**

1. Medical Physics Achievements, Challenges and Horizons, International Day of Medical Physics Virtual Symposia, 7-8 November 2020, Jaipur
2. Artificial Intelligence in Cancer Research and Practice, Online Guest lecture invited by Amity Institute of Information Technology, 9 January 2021, Amity University, Noida
3. Artificial Intelligence in Medical Physics Practice: Current Status and Future Directions, Online Annual conference of Northern Chapter Association of Medical Physicists of India, 12 March 2021, AIIMS, Bhopal

**Gopishankar N**

1. Gel Dosimetry in Medical Physics Practices, Online CME “Recent updates in Medical Physics Practices”, 12 March 2021, Bhopal, MP, India
2. Radiation therapy-Safety practices, One-day workshop on “Cancer and its management” organized by The Trained Nurses Association of India (TNAI), Green Park, New Delhi, India, 15 February 2021, New Delhi, India

## **Surgical Oncology**

### **SVS Deo**

1. Breast cancer genetics – What every surgeon should know?, 80th Annual Conference Of The Association Of Surgeons Of India, ASICON 2020, 18th to 21st December 2020, India
2. Neo-adjuvant treatment: When is it best for the patient? 4th Breast Cancer Virtual conference, 17-18th October 2020, Turkey (Online)
3. Genetic testing and Risk Reducing surgery in Low and Middle income countries, III EAFO Breast Cancer Forum Eurasian Federation of Oncology, 10-11 October 2020, Moscow (Online)
4. COVID-19 burden in LMIC and how it affected surgical care for cancer patients, ESSO 2020 Virtual “Reshaping Surgical Oncology after COVID-19”, 23rd and 24 October, UK (Online)
5. RRSO: the Indian experience, INDIAN CANCER GENETICS & GENOMICS CONFERENCE, 20-21 November 2020, India (Online)
6. “Future of Surgical oncology”, World Cancer Day-IGIMS, Patna, 4 February 2021, India (Online)
7. Incision Planning for Breast Surgery, CME on “Breast Carcinoma” Hosted by ASI- East Zone in Association with ABSI, 9th August 2020, India (Online)
8. Sphincter preservation in rectal cancer, MAMC Surgery Update, 02-05 February 2021, India -Physical
9. Update on Peritoneal surface malignancies, NCR Oncology forum, 16 September 2020, India (Online)
10. (I) Pressurized Intra peritoneal Aerosol Chemotherapy PIPAC Rational  
(II) Regulatory aspects  
(III) PIPAC: What is the evidence?, 1st International ISSPP PIPAC Onsite Physical Training Workshop and Course in India, 13-14 March 2021, Bengaluru-India (Physical)
11. Carcinoma Oral Cavity, Virtual PG Master Class BHU Surgery Update, 07 February 2021, India (Online)
12. The surgical Challenges of RE-DO Thyroid Surgery, Annual conference of Indian Society of Endocrine Surgery, 10 September 2020, India (Online)
13. Challenges in Management of Chest wall and Retro-peritoneal Sarcomas, IASO Webinar, 11 November 2021, India (Online)
14. Diagnosing a Breast Lump - optimal Therapy for cancer breast, 95th All India Medical Conference of Indian Medical Association IMA, 26 to 28 December 2020, India (Online)
15. Panel Discussion: HER- 2 positive breast cancers- Recent practice changing trials, INDO -UK Breast Surgery Annual Scientific Meeting, 27 March 2021, UK (Online)
16. Optimizing axillary management in breast cancer-case based scenarios, 80th Annual conference of The Association of Surgeons of India, 17-19 December 2020, India (Online)
17. Breast cancer genetics & Risk reducing surgery-Indian perspective, Annual conference of the Delhi state Chapter of Association of surgeons of India: Surgeon 2020, 7 November 2020, India (Online)
18. Genetic Testing For breast Cancer, 4th Annual conference ASOMACON 2020, 3-6 December 2020, India (Online)

### **Sunil Kumar**

1. Management of oligometastatic lung cancer, Delhi Oncology Group, 25-9-2020, Online

### **MD Ray**

1. COVID19 Awareness and probable Prevention and Status of cancer treatment in this time, Covid-19: Awareness and Probable Prevention, 4 September 2020, Online
2. Breast and Ovarian Cancer Awareness drive, Breast and Ovarian Cancer Awareness drive under DST project. AIIMS Project Code: D-598, 20 November, 2020, 30 November, 2020, 24 December, 2020, 4 February, 2021, 26 February, 2021, 28 March 2021, Kolkata, WB/Online, Najafgarh, ND/Physical, Siliguri, WB/Online, South 24 Parganas/Online, Maa Jawala Nursing College, Online.

### **Ashutosh Mishra**

1. Breast Cancer In Elderly -IRCH AIIMS, New Delhi Experience, 18th Annual conference of the Women’s Cancer Initiative - Tata Memorial Hospital, 10 October 2020, Online
2. HBOC Awareness in India- AIIMS Experience”, Indian Cancer Genetics & Genomic Conference – ICGGC AIIMS & The Genomic Medicine Foundation {UK}, 20 November 2020, Online
3. Surgery in patients of non-small cell lung cancer (NSCLC) with chest wall involvement, Lung cancer management in Indian context., December 2020, AIIMS, Online

## Jyotishman Sakia

1. Surgery in patients of non-small cell lungcancer (NSCLC) with chest wall involvement, Lung cancer management in Indian context., December 2020, AIIMS, Online

## List of oral papers/posters presented: 67

### Onco-Anaesthesia and Palliative Medicine

1. Neethu Susan Abraham, Seema Mishra, Sushma Bhatnagar, Rakesh Garg, Nishkarsh Gupta, Sachidanand Jee Bharti, Vinod Kumar. Quality of life and symptom burden in patients with Hematological malignancies receiving hematopoietic Stem cell transplantation: a prospective observational Study.”, IAPCON 2021, Patna, 19-21 March, 2021, Online, New Delhi
2. Raghav Gupta, Seema Mishra, Sushma Bhatnagar, Rakesh Garg, Nishkarsh Gupta, Sachidanand Jee Bharti, Vinod Kumar. The COVID-19 pandemic: a new epoch and fresh challenges for cancer patients and caregivers—a descriptive cross-sectional study, *IAPCON 2021*, Patna, 19-21 March 2021, Online, New Delhi

### DCR

1. Rajeev Kumar Malhotra, Nalliah Manoharan, Omana Nair, SVS Deo, Goura Kishore Rath. Pattern and time trends of childhood cancer incidence (0-14 years) in Delhi urban, India: 1990–2014, 38th Annual Conference virtual (ISMSCON2020) of the Indian Society of Medical Sciences, 10-12 December 2020, Virtual

### Laboratory Oncology

1. Ritu Gupta, Gurvinder Kaur, Lingaraja Jena, Akanksha Farswan, Anubha Gupta, Lalit Kumar, Lata Rani, Atul Sharma, Comparative Assessment of Clonal Evolution by Whole Exome Sequencing at Diagnosis and on Progression in Multiple Myeloma, The Virtual Congress on Lymphoma, Myeloma and Leukemia (VLML2021), 11-12 January 2021, Virtual
2. Ritu Gupta, Nupur Das, Meetu Dahiya, Lata Rani, Anubha Gupta, Akanksha Farswan, Omdutt Sharma, Atul Sharma, Lalit Kumar, Impact of depth of response and MRD status post-transplant on long term survival in Multiple Myeloma (Awarded 2nd best paper), 61st Annual Conference of the Indian Society of Haematology and Blood Transfusion, 20-22 November 2020, Virtual
3. Nupur Das, Ritu Gupta, Meetu Dahiya, Lata Rani, Atul Sharma, Lalit Kumar, Anubha Gupta, Omdutt Sharma, Impact of depth of response and MRD status post-transplant on long term survival in multiple myeloma, 61st Annual Conference of the Indian Society of Haematology and Blood Transfusion, 20-22 November 2020, Virtual
4. Tanima Dwivedi, Ritu Gupta, Biswajeet Sahoo, Pawan Tiwari, Anant Mohan, Saurabh Vig, Sushma Bhatnagar, Evaluation of hematological parameters in COVID-19 infected patients, 61st Annual Conference of the Indian Society of Haematology and Blood Transfusion, 20-22 November 2020, Virtual
5. Ritu Gupta, Nupur Das, Deepshi Thakral, Saroj Singh, Sandeep Rai, Vijay Kumar Prajapati, Ranjeet K Sahoo, Ajay Gogia, Sameer Bakhshi, Atul Sharma, Lalit Kumar, Leukemic Stem Cells (LSCs) reside in a compartment different from minimal residual disease (MRD) population and are predictor of remission status in Acute Myeloid Leukemia (Best paper invited for oral presentation), The Virtual Congress on Controversies in Leukemias (EUROLEUK2020), 29-30 October 2020, Virtual
6. Nupur Das, Ritu Gupta, Chandan Kumar, Sandeep Rai, Sanjeev Kumar Gupta, Saroj Singh, Vijay Kumar Prajapati, Sameer Bakhshi, Ajay Gogia, Ranjeet K Sahoo, Atul Sharma, Lalit Kumar, Critical evaluation of different approaches of MRD assessment in detecting measurable residual disease in B-ALL, The Virtual Congress on Controversies in Leukemias (EUROLEUK2020 29-30 October 2020, Virtual
7. Ritu Gupta, Nupur Das, Lalit Kumar, Lata Rani, Akanksha Farswan, Anubha Gupta, Atul Sharma, MFC-MRD and SFLCR are comparable predictors of survival in multiple myeloma post autologous stem cell transplantation, 5th Translational Research E-Conference on Multiple Myeloma, 8-11 October 2020, Virtual
8. Shiv Gehlot, Anubha Gupta, Ritu Gupta, EDNFC-Net: Convolutional Neural Network with Nested Feature Concatenation for Nuclei-Instance Segmentation, ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Barcelona, Spain, 4-8 May 2020, Virtual
9. Sanjeev Kumar Gupta, Sameer Bakhshi, Ritu Gupta, Vineet K Kamal, Ranjit K Sahoo, Majority of B-cell acute lymphoblastic leukemia cases with IKZF1 deletions have additional gene deletions and qualify for IKZF1plus category in an Indian cohort. (Poster), 2nd How to Diagnose and Treat Acute Leukaemia, 30 June 2020, Virtual, Budapest, Hungary
10. Sanjeev Kumar Gupta, Sameer Bakhshi, Ritu Gupta, Smeeta Gajendra, Preity Sharma, Deepam Pushpam, Prevalence and clinical correlation of ETS related gene (ERG) deletions in B-cell Acute Lymphoblastic Leukemia: a single centre experience. (Poster), 61st Annual Conference of Indian Society of Hematology & Blood Transfusion (ISHBT), 20-22 November 2020, Virtual

11. Pranay Tanwar, Dimpy Gupta, Amar Ranjan, Sameer Bakhshi, Prevalence of wilms tumor-1 (wt1) gene mutation in cases of acute myeloid leukemia from a tertiary referral centre in india, International Congress of BMT 2020, 10 September 2020, Virtual
12. Ranjan A, Dubey H, Tanwar P, Evaluation of Pulmonary Nodule in Mantle Cell Lymphoma, KATRDIC 2021, 11-12 November 2020, Seoul, Korea
13. Dubey H, Amar R, Infective Lesions in Lung in Mantle Cell Lymphoma, Korea Academy of Tuberculosis and Respiratory Diseases International Conference (KATRDIC 2021), 11-12 November 2020, Seoul, Korea
14. Amar Ranjan, Harshita Dubey, Mansi Modi, Mantle cell lymphoma: an approach by flowcytometry, International Congress of Blood & Marrow Transplantation (ICBMT), 10-12 September 2020, Busan, Korea
15. Amar Ranjan, Harshita Dubey, Pranay Tanwar, Plasmablastic myeloma vs plasmablastic lymphoma, a diagnostic dilemma, ICBMT 2020, 10-12 September 2020, Busan, Korea
16. Amar Ranjan, Harshita Dubey, Garima Jain, Pranay Tanwar, Chandan Kumar, Role of bone marrow aspirate in the diagnosis of testicular tumour, ICBMT 2020, 10-12 September 2020, Busan, Korea
17. Ekta Rahul, Amar Ranjan, Harshita Dubey, Mantle cell lymphoma of eyelid, ICBMT 2020, 10-12 September 2020, Busan, Korea
18. Harshita Dubey, Amar Ranjan, Primary non hodgkin lymphoma of ovary: a rare case report, ICBMT 2020, 10-12 September 2020, Busan, Korea
19. Harshita Dubey, Amar Ranjan, Myeloproliferative neoplasm: a rare case report, ICBMT 2020, 10-12 September 2020, Busan, Korea
20. Lawanya Ranjan, Rani Kumari Mahkam, Amar Ranjan, Digital fitness tracking apparatus in oncology, Blood Res Vol. 55, No. S2, Sept. 2020, P. 287 [PEW], ICBMT 2020, 10-12 September 2020, Busan, Korea
21. RK Mahkam, Lawanya Ranjan, Amar Ranjan, physical therapy in cancer, miles to go in developing countries, ICBMT 2020, 10-12 September 2020, Busan, Korea
22. Utkarsh Dubey, Amar Ranjan, Harshita Dubey, Recent advancements in digital health innovation in management of cancer, ICBMT 2020, 10-12 September 2020, Busan, Korea
23. Ranjan A, Dubey H, Tanwar P, 'MCL with renal impairment/ CD5- Mantle cell lymphoma', 17th International PhD Student Symposium "Horizons in Molecular Biology", 14-17 September 2020, Göttingen, Germany
24. Smeeta Gajendra, Ritu Gupta, Sanjeev K. Gupta, Deepshi Thakral, Ranjit K. Sahoo, Sameer Bakshi, Atul Sharma, Lalit Kumar, CD34 negative HLA-DR negative Acute Myeloid Leukemia: a higher association with *NPM1* mutation, 61st Haematocon 2020, 20-22 November 2020, Virtual
25. Ekta Rahul, Smeeta Gajendra, Ritu Gupta, Ranjit K. Sahoo, Lalit Kumar, Chronic Lymphocytic Leukaemia in a case of Chronic Myeloid Leukaemia, 61st Haematocon 2020, 20-22 November 2020, Virtual
26. Smeeta Gajendra, Ritu Gupta, Garima Jain, Nupur Das, Saumyanjan Mallick, Lalit Kumar, Plasmablastic Lymphoma Vs Plasmacytoma: A diagnostic dilemma, 22nd INDO-US Flow Cytometry Workshop, 22-28 February 2021, Virtual

### Medical Oncology

1. Chopra A, Kumar L, Gundu N, Kancharia H, Sahoo RK, Malik PS, Sharma A, Gupta R, Sharma O, Biswas A, Kumar R, Thulkar S, Mallick S, Comprehensive Analysis of Immunophenotype and Transcriptome in Indian T-Acute Lymphoblastic Leukemia - a Prospective Study, ASH, 11-14 December 2020, Atlanta, USA
2. Ajay Gogia, Sukesh Nair, Atul Sharma, Lalit Kumar, Saumyanjan Mallick, Ahitagni Biswas, and Ritu Gupta, Non-Hodgkin lymphoma: The Indian scene., ASCO, 2020, Chicago, USA
3. Kumar, Lalit, Chellapuram Santosh Kumar, Sahoo Ranjit, Gupta Ritu. VRd versus VCd as induction therapy for newly diagnosed multiple myeloma: A Phase III, randomized study, International Myeloma workshop, 12-15 September, 2020, Boston, USA
4. Gundu Naresh, Lalit Kumar, Atul Sharma, Chellapuram Santosh Kumar, Prabhat Singh Malik, Ranjeet Kumar Sahoo, Raja Pramanik, Ahitagni Biswas, An Experience of Primary Amyloidosis from an Indian Tertiary Cancer Centre: A Retrospective study, International Myeloma workshop, 12-15 September, 2020, Boston, USA
5. Kumar, Lalit, Chellapuram Santosh Kumar & Mookerjee, Anjali & Sahoo, Ranjit & Malik, Prabhat & Gupta, Ritu & Sharma, Om & Biswas, Ahitagni, Characteristics and Outcome of Relapsed Myeloma after Single Autologous Stem Cell Transplant: 20-year Experience., International Myeloma workshop, 12-15 September, 2020, Boston, USA
6. Sharma Atul, Mohanti BK, Thakar A, et al, Analysis of concurrent chemo-radiation using weekly cisplatin in locally advanced SCCHN: identification of prognostic factors, ESMO 2020, 19-21 September 2020, Switzerland (Virtual)



7. Sharma A, Kumar S, Gogia A, Gupta R, Thulkar S, Pramanik R, Sharma M, Raina V, Autologous stem cell transplant in non-hodgkin lymphoma at AIIMS: trends in tolerability and long term outcomes, EBMT 2020, 17-19 March 2020, Virtual
8. Nair SC, Gogia A, Kumar L, Sharma A, Biswas A, Mallick S, Clinicopathological features and outcome of diffuse large B-cell lymphoma patients treated in a resource-limited setting, ASCO 2020, June 2020, Virtual
9. Jain S, Lone LR, Goswami A, Mandai T, Panda AK, Ramteke P, Srivastav T, Sharma M.C, Gogia A, Sharma A, Bakhshi S, Mahapatra M, Kumar L, Mallick S, Updated Purview of Lymphomas in India: A Tertiary Care Centre Review, Society of Hematology Oncology, September 2020, Virtual
10. Raja Pramanik, Abhenil Mittal, A.Gogia, A.Batra, SVS Deo, VL Ramprasad, O.Olopade, Comparison of “Multigene hereditary panel testing” profiles in breast cancer patients qualifying and not qualifying the NCCN 2018 criteria for genetic testing: a prospective study in North Indian population, Indian Cancer Genetics and Genomics Conference, 20-21 Nov 2020, Virtual, New Delhi
11. Deepam Pushpam, Babita Kataria, Aparna Sharma, Bivas Biswas, Sameer Bakhshi, A retrospective analysis comparing oral metronomic therapy and pazopanib in metastatic soft tissue sarcoma, ISMOS 2021, 5th-7 March 2021, Delhi (Online)
12. Deepam Pushpam, Babita Kataria, Aparna Sharma, Bivas Biswas, Sameer Bakhshi, Pazopanib in rare histologies of soft tissue sarcoma, ISMOS 2021, 5-7 March 2021, Delhi (online)
13. Chandra P Prasad, COVID-19: Impairing cytokine storming with Nutraceuticals, HeriCureValyn-University conference 2020 on ‘Impact of Natural Bioactive Compounds for the Treatment of CoVid-19: Diagnostic Challenges and Futuristic Perspectives, 30 May 2020, Pune, India, Durban, South Africa
14. Pandey M, Sharawat SK, Malik PS, Mohan A, Guleria R, Kumar S., Analysis of the expression of PD-L1 and PD-L1 regulatory microRNAs in lung cancer, NALCCON 2020: 10th Annual Conference of Indian Society for Study of Lung Cancer (ISSLC), 26-27 September and 3-4 October 2020, Virtual conference
15. Sampa Ghose, A closure look at Angiogenesis and Cancer Metastasis, Talk at Webinar Series, Kolhapur Cancer Centre, 17 October 2020, Virtual conference

### Medical Physics

1. A Mittal, N Gopishankar, A Verma and Pratik Kumar, Novel radiochromic films for dosimetry in gamma knife stereotactic radiosurgery, American Association of Physicists in Medicine (AAPM) annual meeting, 12-20 July 2020, Vancouver Convention Center, Vancouver, Canada
2. Apoorva Mittal, N.Gopishankar, Shalini Verma, Akhilesh K. Verma, Pratik Kumar, Indigenous Development of Novel Radiochromic Films for Radiation Dosimetry in Medical Applications, 21st National Conference on Solid State Nuclear Track Detectors & Their Applications, 29-31 January 2021, Ramjas College, University of Delhi, New Delhi

### Radio Diagnosis

1. Deepak Raina, Suvayan Nandi, Subir Kumar Saha, Chetan Arora, Krithika Rangarajan, Chandrashekhara SH, Telerobotic Ultrasound: Towards safer, precise and remote diagnosis of COVID-19 patients, IROS 2020 Workshop Autonomous System in Medicine: Current Challenges in Design, Modeling, Perception, Control and Applications., 25 October 2020, Las Vegas (online), USA
2. Goswami S, Ambikapathi P, Chopra S, Lathi V, Krithika Rangarajan, Surabhi Vyas, Smriti Hari, Arun Gupta, Vinay Namboodiri, Subhashis Banerjee, Chetan Arora, Simulation training in Diagnostic Radiology: Effect of resident performance in mammography, 106th Scientific assembly and annual meeting program, Radiological Society of North America 2020, 29 November– 5 December 2020, Chicago (online), USA
3. P. Kumar, SH Chandrashekhara, A Singh, Acute presentations of myeloid sarcoma: A pictorial essay, 106th Scientific assembly and annual meeting program, Radiological Society of North America 2020, 29 November– 5 December 2020, Chicago (online), USA
4. SH Chandrashekhara, S Kumar., Role of Time-resolved angiography With Interleaved Stochastic Trajectories (TWIST) MR angiography for treatment planning in Nonspecific aorto-arteritis: a prospective study, Society of Interventional Radiology 2020 Annual Scientific Meeting, 2020, 28 March–2 April 2020, Seattle, Washington. (online), USA.
5. SH Chandrashekhara, S Kumar, Juxta-renal aortic angioplasty in the patients of Takayasu Arteritis presenting in emergency with uncontrolled hypertension : Experience from tertiary care centre, Society of Interventional Radiology 2020 Annual Scientific Meeting, 2020, 28 March– 2 April 2020, Seattle, Washington. (online), USA.
6. SN Raju, S Kumar, SH Chandrashekhara, AM Singh, R. Rajagopal, K.P. Ganga. Structural conformational changes in the aortic stent graft (post-deployment) and its implications in sizing for blunt thoracic acute aortic injuries, CIRSE 2020, 12-15 September 2020, Vienna (online), Austria



## Radiation Oncology

1. Anand S, Agarwala S, Jain V, Dhua A, Bakhshi S, Jana M, Kandasamy D, Biswas A, Outcomes of Children With Neuroblastoma 4s: Twenty-Five year Experience From a Tertiary Care Center, 52nd Congress of the International Society of Paediatric Oncology (SIOP), October 2020, Ottawa, Canada (online)
2. Apoorva Mittal, N. Gopishankar, Akhilesh K. Verma and Pratik Kumar, Novel Radiochromic Films for Dosimetry in Gamma Knife Stereotactic Radiosurgery – ePoster, Joint AAPM-COMP meeting (Virtual), 12-16 July 2020, Vancouver, BC, Canada
3. Biswas A, Kn Y, Adhikari N, Bakhshi S, Sen S, Kashyap S, Meel R, Mohanti B, Clinical outcome in patients with orbital rhabdomyosarcoma- updated results from a regional cancer centre in north India, 52nd Congress of the International Society of Paediatric Oncology (SIOP), October 2020, Ottawa, Canada (online)
4. Biswas A, Roy S, KN Y, Bakhshi S, Suri V, Sharma M, Julka P, Multimodality management of paediatric primary central nervous system lymphoma- updated experience from a regional cancer centre in north India, 2020 International Symposium on Pediatric Neuro-Oncology (ISPNO), December 2020, Karuizawa, Japan (hybrid)
5. Biswas A, Velu U, Kumari K, Jain D, Bakhshi S, Successful multimodality management of ATRT of the lower dorsal spine with spinal drop metastasis, 2020 International Symposium on Pediatric Neuro-Oncology (ISPNO), December 2020, Karuizawa, Japan (hybrid)
6. Devadasan H, Agarwala S, Yadav D, Jain V, Dhua A, Goel P, Bakhshi S, Jana M, Kandasamy D, Biswas A, Iyer V.K, Bajpai M, Congenital Mesoblastic Nephroma: A Single-Centre Experience, 52nd Congress of the International Society of Paediatric Oncology (SIOP), October 2020, Ottawa, Canada (online)
7. Gogia A, Nair S, Sharma A, Kumar L, Mallick S, Biswas A, Gupta R, Non-Hodgkin lymphoma: The Indian scene, American Society for Clinical Oncology (ASCO) 2020 Annual virtual Meeting, May 2020, Virtual Congress
8. Gopishankar Natanasabapathi\*, Dhanabalan Rajasekharan, Surendra Kumar Saini, Vellaiyan Subramani, Laviraj Macherla, Rajkishor Bisht, Dayanand Sharma, SubashChander, Gourakishor Rath, Modulation Complexity Score Evaluation for Multitarget Site Planning Using VMAT and IMRT Technique - ePoster, Joint AAPM-COMP meeting (Virtual), 12-16 July 2020, Vancouver, BC, Canada
9. Gopishankar Natanasabapathi\*, Rajkishor Bisht, SubashChander, SS Kale, Implementation of New QA Method for Source Sector Movement Verification in Gamma Knife Radiosurgery – ePoster, Joint AAPM-COMP meeting (Virtual), 12-16 July 2020, Vancouver, BC, Canada
10. Nair SC, Gogia A, Kumar L, Sharma A, Biswas A, Mallick S, Clinicopathological features and outcome of diffuse large B-cell lymphoma patients treated in a resource-limited setting, American Society for Clinical Oncology (ASCO) 2020 Annual virtual Meeting, May 2020, Virtual Congress
11. Nair SC, Gogia A, Kumar L, Sharma A, Biswas A, Mallick S, Clinicopathologic features and outcome of extranodal diffuse large B-cell lymphoma: An institutional experience from North India, American Society for Clinical Oncology (ASCO) 2020 Annual virtual Meeting, May 2020, Virtual Congress
12. Roy S, Biswas A, Binjola A, Tripathi M, Kumar R, Bakhshi S, Sahoo R, Gogia A, Sharma A, Bhasker S, Bal C, Chander S, Early Clinical Outcome, Acute Toxicity Profile and Health Related Quality of Life after Chemo-Immunotherapy and Involved Site Radiotherapy (ISRT) In Early Nodal DLBCL Results of a Single Arm Phase II Trial, 62nd Annual Meeting of the American Society for Radiation Oncology (ASTRO), October 2020, Miami, USA Online
13. Shalini Verma, Rambha Pandey, Radiotherapy in inoperable Adenoidcystic carcinoma of left main bronchus: Two Rare Cases, KSMO 2020, 3 September 2020, Virtual
14. Sharma A, Mohanti BK, Thakar A, Bhasker S, Sikka K, Singh AC, Pramanik R, Kumar R, Biswas A, Deo S, Thulkar S, Bahadur S, Analysis of concurrent chemo-radiation using weekly cisplatin in locally advanced SCCHN: Identification of prognostic factors, European Society for Medical Oncology (ESMO) virtual congress 2020, September 2020, Virtual Congress
15. Sumit Kumar, Rambha Pandey, Role of Radiotherapy in the management of Adenoid cystic carcinoma of Tracheobronchial tree: Single centre Experience from tertiary care centre in India, KSMO 2020, 3 September 2020, Virtual

## RESEARCH

### Onco-Anaesthesia and Palliative Medicine

#### Funded Projects

##### Ongoing

1. Clinical Validation of Iontophoretic Delivery of Lidocaine as an Alternative to EMLA Cream, Dr. Sushma Bhatnagar, AIIMS Intramural, 2 years, March 2019- March 2021; Rs 1000000.
2. Comparison of kind vision Videolaryngoscope channeled and non-channeled blades with direct Laryngoscope for intubation in mannequin by medical students: a randomized mannequin study. Funded AIIMS Undergraduate research project (ongoing) Dr. Nishkarsh Gupta, AIIMS Intramural, October 2019-October 2021, 2 lakhs

3. Development of homeopathic nosode from COVID-19, its evaluation and efficacy against Covid-19 infections in humans, Dr Sushma Bhatnagar, Central Council for Research in Homeopathy (CCRH), Ministry of AYUSH, Government of India, 4 December 2020 to 3 June 2021, Rs 3657992
4. Effect of Regional Anaesthesia on immune response, recurrence, and metastasis in breast cancer surgery: a prospective randomized control study. (approved in principle by ICMR for extramural funding but final sanction letter awaited), Dr. Nishkarsh Gupta, ICMR
5. Homoeopathy as an adjuvant to standard treatment protocol in management of corona virus infection- a randomised, placebo controlled, open label study, Dr Sushma Bhatnagar, Central Council for Research in Homeopathy (CCRH), Ministry of AYUSH, Government of India, 12 October 2020 to 11 January 2021, Rs 2997923
6. Novel Video Laryngoscope for Endotracheal Intubation in Patients with Reduced Mouth Opening approved for AIIMS-IIT project funding (ongoing), Dr. Nishkarsh Gupta, AIIMS -IIT, October 2019-October 2021, 5 lakhs/year
7. Phase 2, randomized, controlled, open label multi-center study to assess efficacy and safety of DFV890 for the treatment of SARS-CoV-2 infected patients with COVID-19 pneumonia and impaired respiratory function, Dr Sushma Bhatnagar, Novartis Pvt. Ltd, 25 August 2020 to 25 August 2022, Rs 500000
8. Spiritual problems and concerns faced by Indian Palliative care patients, Dr Sushma Bhatnagar, ICMR, 1 April 2017 to 30 September 2020, Rs 4500000
9. Study of Pain attributes to Design a Pain Measurement Device for the cancer and injured Patients, Dr. Sushma Bhatnagar, DRDO, 3 years 10 months, November 2017- October 2020; Rs 4800000

### **Completed**

1. Study of Pain attributes to Design a Pain Measurement Device for the cancer and injured Patients, Dr. Sushma Bhatnagar, DRDO, 3 years 10 months, November 2017- October 2020

### **Departmental projects**

1. A comparison of two techniques of postoperative analgesia: lignocaine-fentanyl intravenous infusion and ropivacaine-fentanyl epidural infusion in patients undergoing cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) - prospective randomized control study
2. Assessment of palliative care outcomes in patients of gastro intestinal malignancies attending the palliative care clinic of a tertiary care centre: a prospective observational study
3. Assessment of Symptom Burden and Quality of Life in Paediatric Cancer Patients in a Tertiary Care Centre in India: A prospective study
4. Assessment of Symptom Burden and Quality of Life in Patients of Advanced Breast Cancer in Indian Population: A Cross-Sectional study.”
5. Assessment of Symptom Burden And Quality of Life in Patients of Lung Cancer Attending the Palliative Care Clinic of a Tertiary Care Centre: A Prospective Observational Study
6. Assessment of Symptom Burden in Patients of Malignant Bowel Obstruction in a Tertiary Care Centre In India
7. Comparison of different video laryngoscopes for Nasotracheal intubation in manikin with difficult airway by experienced anesthesiologists: A randomized, self-controlled, crossover trial.”
8. Comparison of efficacy of ultrasound guided paravertebral block versus complete antethoracic block for postoperative analgesia in modified radical mastectomy: a randomized controlled trial
9. Comparison of intervention with analgesics versus analgesics alone in patients with upper abdominal malignancy in terms of pain relief and quality of life at 3 months follow up : A Prospective randomized study
10. Comparison of lung aeration loss in open abdominal oncologic surgeries after ventilation with Electrical Impedance Tomography guided PEEP versus conventional PEEP – a pilot randomized control trial
11. Comparison of total intravenous anaesthesia and inhalational anesthesia for development of postoperative pulmonary complications in oral cancer resection surgery with pectoralis major myocutaneous (pmmc) flap reconstruction: a prospective, randomized control trial.”
12. Correlation of oxygenation, ventilatory parameters and optic nerve sheath diameter (ONSD) to intra-operative mechanical ventilation in abdominal surgeries, comparison of recruitment maneuver with conventional ventilation. A pilot randomised controlled trial
13. Effect of anesthetic technique on anti-tumor immunity and its markers in patients undergoing surgery for Gall Bladder Cancer: A prospective randomized comparative study
14. End of Life care practice at a Tertiary Cancer Centre in India: An Observational study.”
15. Implementing Telemedicine in preanesthesia clinic at a tertiary cancer care center: A Prospective randomized comparative study

16. Outcome assessment of early integration of palliative care in management of patients of primary brain tumours - A prospective randomized controlled trial
17. Pattern of Patients Presenting with Malignant Spinal cord Compression in Palliative Care Unit at a Tertiary Care Centre of India-An Observational Study”
18. Prevalence and risk factors of acute neuropathic pain following oncological surgeries: a prospective study at a tertiary cancer center
19. Prospective Evaluation Of Social Support, Depression and Quality Of Life in Advanced Cancer Patients Attending The Palliative Care Clinic Of A Tertiary Care Centre
20. Quality of life and symptom burden in patients with hematological malignancies receiving hematopoietic stem cell transplantation- a prospective observational study
21. Role of Intravenous iron therapy on fatigue and quality of life in patients of palliative care: a prospective interventional study
22. To compare the efficacy of opioid free anaesthesia with opioid based anaesthesia on post-operative opioid consumption in patients undergoing open thoracotomy surgeries: a prospective randomized control trial.”
23. To compare the efficacy of opioid free general anesthesia with opioid based general anesthesia on post operative morphine consumption in patients undergoing breast cancer surgery: a prospective randomized control study
24. To evaluate the effect of two ventilatory strategies (conventional bag mask ventilation and manual jet ventilation) on peak inspiratory pressures and dynamic compliance using electrical impedance tomography after interventional rigid bronchoscopy for malignant central airway obstruction
25. To study the clinical correlation between chemotherapy induced peripheral neuropathy (CIPN) and deficiency of vitamin b12, vitamin d3, calcium and omega 3 fatty acids.”

### **Completed**

1. A comparison between lignocaine-fentanyl intravenous infusion and ropivacaine-fentanyl epidural infusion as perioperative analgesia technique in patients undergoing major abdominal oncosurgery
2. A comparison of effect of Desflurane vs Sevoflurane on arterial oxygenation during one lung ventilation for thoracotomies in oncosurgical patients: - a randomized control trial.
3. A comparison of two techniques of postoperative analgesia: lignocaine-fentanyl intravenous infusion and ropivacaine-fentanyl epidural infusion in patients undergoing cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) – prospective randomized control study.
4. A Pilot Randomized Clinical Trial Comparing Desflurane Anaesthesia vs Total Intravenous Anaesthesia, for changes in Hemodynamic, Inflammatory and Coagulation Parameters in patients undergoing Hyperthermic Intraperitoneal Chemotherapy.
5. A Prospective Randomized Control Trial of Goal directed Vs Standard Fluid Therapy in Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy.
6. A prospective randomized study to assess the analgesic efficacy of SAP block (SAP) for modified radical mastectomy under general anesthesia.
7. A prospective, randomized, double blinded comparison of intranasal Dexmedetomidine vs intranasal ketamine for efficacy of sedation in preschool children undergoing radiotherapy procedures
8. A questionnaire based survey on challenges faced and strategies adopted by Pain and Palliative care physicians working in oncology setup during novel COVID 19 Pandemic - A descriptive cross sectional study
9. A Randomized Control Trial to Evaluate the Efficacy of Scrambler Therapy in the Management of Pain Due To Cancers of Head, Neck and Thoracic origin.
10. An Exploratory Cross-Sectional study to identify the social contents of pain in cancer patients
11. Assessment of Palliative Care Outcome in Patients of Multiple Myeloma Attending the Palliative Care Clinic of a Tertiary Care Centre: A Prospective Observational Study
12. Assessment of palliative care outcomes in patients of gastro intestinal malignancies attending the palliative care clinic of a tertiary care centre: a prospective observational study
13. Cardiopulmonary exercise testing as a predictor of outcomes after major oncological abdominal surgeries: A prospective observational study.
14. Cardiopulmonary exercise testing as a predictor of postoperative outcome in patients undergoing esophageal cancer surgery following neoadjuvant chemotherapy - A prospective observational study.
15. Cardiopulmonary exercise testing as an early predictor of chemotherapy induced cardiac dysfunction in carcinoma breast patients receiving neo-adjuvant chemotherapy and to compare their early post-operative recovery with the carcinoma breast patients posted for upfront surgery: A Prospective Observational Study.

16. Comparative evaluation of Ultrasound guided Serratus anterior plane block versus Erector spinae plane block for postoperative analgesia in modified radical mastectomy-A randomized controlled
17. Comparison of efficacy of ultrasound guided Paravertebral block versus Erector Spinae Plane block for postoperative analgesia in modified radical mastectomy: A randomized controlled trial.
18. Comparison of intervention with analgesics versus analgesics alone in patients with upper abdominal malignancy in terms of pain relief and quality of life at 3 months follow up : A Prospective randomized study
19. Development of tool to assess total pain in cancer patients.
20. Effect of Perioperative Pregabalin on Incidence of Chronic Post Mastectomy Pain Syndrome – A Prospective Randomized Placebo Controlled Pilot Study.
21. Knowledge, attitude and perception regarding morphine use in Indian cancer patients
22. Nasotracheal intubation in patients with oropharyngeal carcinoma under general anaesthesia: A comparative evaluation between fiberoptic bronchoscope and C-MAC D blade video laryngoscope.
23. Predicting difficult laryngoscopy in oral cancer patients by clinical and radiological parameters- a prospective, observational study
24. Prevalence and Factors Affecting Dyspnea in Advanced Cancer Patients Presenting in Palliative Care Unit at a Tertiary Cancer Centre in India
25. Prevalence and predictors of insomnia in cancer patients presented to palliative care unit of a tertiary care center in India
26. Prevalence of breakthrough cancer pain and its impact on quality of life in cancer patients at regional cancer centre, India: A Cross-sectional Study
27. Smartphone based telemedicine service for symptoms assessment in patients attending palliative care unit: A cross sectional study at a tertiary care cancer hospital
28. The COVID-19 Pandemic: A new epoch and fresh challenges for cancer patients and caregivers- A descriptive cross-sectional study
29. To Compare Clinical Versus Ultrasound assessment of correct placement of proseal laryngeal mask airway: A prospective randomized study
30. To study and analyze the pattern of symptoms of patients presenting in palliative care ward at Regional cancer Center of India
31. To study the effectiveness of home based prehabilitation in Non-small cell Lung cancer(NSCLC)patients awaiting surgery during COVID-19 pandemic through telemedicine
32. Trans-cricoid block as an adjunct to General Anesthesia during cryo-Trans bronchial lung biopsy via rigid bronchoscopy: A prospective randomized controlled trial

## **DCR**

### **Funded Projects**

#### ***Ongoing***

1. Establishment of Hospital based Cancer Registries and patterns of care and survival studies on Cancer Breast, Cancer Cervix and Head & Neck Cancers, Dr. S.V.S. Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, Eight years, 2014, Rs.40,00,000/- per annum (approx.)
2. Patterns of Care and Survival Studies on childhood, lymphoid and hematopoietic malignancies, Dr. S.V.S. Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, Six years, 2017, Rs. 1,50,000/- per annum (approx)
3. Population Based Survival Studies on Cancer Breast, Cervix and Head & Neck Cancers, Dr. S.V.S. Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, Six years, 2017, Rs. 6,80,000/- per annum (approx)

## **Laboratory Oncology**

### **Funded Projects**

#### ***Ongoing***

1. A prospective study to elucidate genetics, clinical and molecular factors in gall bladder carcinoma in Indian patients, Dr Pranay Tanwar, Cancer Foundation, 4 years, 2017-2021, Rs. 40,00,000 (Forty lakhs)
2. A prospective study to evaluate WT1 gene expression as predictive molecular marker of disease progression in de novo cases of Acute myeloid Leukemia, Dr Pranay Tanwar, DST, 4 years, 2017-2021, Rs. 52,00,000 (Fifty two lakhs)



3. Analysis of expression of biomarkers in ovarian cancer, Dr Amar Ranjan, AIIMS, N. Delhi, 2 years, 2019-21, 10 Lakh
4. Cellular functions and clinical significance of NRf2 signaling T-ALL, Dr. Anita Chopra, DHR, 3, 2021-2023, Rs. 52 lakhs
5. Centre for Advanced Research & Excellence in Leukemic Stem Cells (LSC) for Prognosis and Treatment (CARE-LSCPT) in Acute Myeloid Leukemia, Dr. Ritu Gupta, ICMR, 5 years, 2019 – 2024, Rs. 5,63,97,360/-
6. Characterization of circulating cell free Nucleic acids for identification of leukemia-specific genetic alterations in early recurrence monitoring of Acute Myeloid Leukemia.” Dr Deepshi Thakral, AIIMS, Intramural Research Grant, 2, 2018-2021, Rs. 10,00,000
7. DBT-Wellcome trust intermediate career fellowship, Dr. Anita Chopra, DBT Wellcome India Alliance, 5, 2018-2023, Rs. 3.86 crore
8. Development of risk-stratification algorithm to select BCR-ABL1 negative pediatric B-ALL patients for detailed genetic analysis- a step towards optimum use of next generation sequencing platform, Sanjeev Kumar Gupta, ICMR, 3 years, 2020-2023, Rs. 49,50,000
9. Elucidation of role of TOX in T-ALL, Dr. Anita Chopra, DHR, 3, 2020-2023, 30 lakhs
10. Evaluation of HE4 level in epithelial ovarian cancer for diagnosis & monitoring of therapy, Dr Amar Ranjan, ICMR, New Delhi, 4 years, 2017 - 2021, Rs. 50 lakhs
11. Generation of 3D Breast Tumor Organoids as an in vitro Drug Screening Study Model, Dr Pranay Tanwar, AIIMS New Delhi, 2 year, 2020- 2022, Rs. 8,91,106 (Eighty lakhs ninty one thousand)
12. Human Palilloma Virus (HPV): Relevance in etiolyg of oral squamous cell carcinoma in Indian Population, Dr Pranay Tanwar, DHR, MOHFW, 3 years, 2017-2021, Rs. 45,00,000 (forty five lakhs)
13. ICMR TASK Force Comparative study of Genetic, Clinical and Epidemiological factors of Breast Cancer in Indian population” as ICMR Task Force, Dr Pranay Tanwar, ICMR, 5 years, 2017 - 2021, Rs. 1,91,00,000 (One crore ninty One lakhs)
14. ICMR TASK Force Genomics of gallbladder carcinoma in Indian Patients, Dr Pranay Tanwar, ICMR, 5 years, 2017 - 2022, Rs. 1,99,00,000 (One crore ninty nine lakhs)
15. Identification and characterisation of plasma-derived cell free nucleic acid based markers for early detection and monitoring of relapse in AML, Dr Deepshi Thakral, Department of Health Research (DHR), Govt. of India, 3, 2021-2024, Rs. 62,50,600
16. Immunoprofiling (IP) consortium for COVID-19: Integration of Extended Immune Monitoring (ExImM) and clinical parameters for early prediction of disease trajectory/ progression, treatment planning and prophylaxis to improve COVID-19 prognosis, Dr. Ritu Gupta, ICMR, 2 years, 2020 - 2022, Rs. 72,06,370/-
17. Study of prevalence and profile of predictive and prognostic molecular genetic aberrations in BCR-ABL1 negative B-cell acute lymphoblastic leukemia (B-ALL): A step towards personalized medicine, Sanjeev Kumar Gupta, DHR, 3 years, 2021-2024, Rs. 30,00,000
18. Unit of Excellence on Cancer Research on Multiple Myeloma, Dr. Ritu Gupta, DBT, 5 years, 2016-2021, Rs. 3,14,00000/-

### ***Completed***

1. Early immature T-lymphoblastic leukemia (ALL): evaluation of early thymic precursor T-ALL immunophenotype, absence of biallelic deletion of TCR  $\gamma$  chains (ABD) and expression of MEF2C as predictors of treatment response as assessed by minimal residual disease determination, Dr. Anita Chopra, DST, 3, 2015-19, Rs. 20.16 lakhs
2. IKZF1 (Ikaros) mutations in B cell acute lymphoblastic leukemia, Sanjeev Kumar Gupta, AIIMS, New Delhi, 2 years, 2013-2015, Rs. 9,00,000
3. Molecular biology of cytogenetically normal AML, Dr. Anita Chopra, DBT, 3, 2014-2018, Rs. 55 lakhs
4. Molecular determinants of prednisolone sensitivity in pediatric acute lymphoblastic leukemia, Dr. Anita Chopra, AIIMS intramural, 2, 2016-19, Rs. 8 lakhs
5. Prevalence and significance of ETS related gene deletions in Acute Lymphoblastic Leukemia, Sanjeev Kumar Gupta, AIIMS, New Delhi, 2 years, 2018-2020, Rs. 10,00,000
6. Prevalence of intrachromosomal amplification of chromosome 21 (iAMP21) in B-ALL, Sanjeev Kumar Gupta, AIIMS, New Delhi, 2 years, 2016-2018, Rs. 10,00,000



## Departmental Projects

### Ongoing

1. “Establishment of Standard and the state of the art molecular procedures for Monitoring Minimal Residual Disease (MRD) and identification of ABL kinase domain mutations in Chronic Myeloid Leukemia (CML)”
2. A pilot study to evaluate FTO gene polymorphism among breast and ovarian cancer cases of north Indian Population
3. A prospective study to evaluate the PIK3CA and AKT1 gene mutation and their correlation in Indian Breast Cancer
4. A study of plasma cell and B-cell compartment in plasma cell proliferative disorders (PCPD)
5. Bioinformatics Based Mutational Profiling and Structural Variations Analyses in Gallbladder Carcinoma
6. Evaluating autophagy – related pathways to overcome drug resistance in AML
7. Identification of differentially expressed protein-based biomarkers involved in downstream signaling pathways of Gall Bladder Carcinoma in Indian Patients
8. Identification of tyrosine kinases in Indian paediatric Ph-like Acute lymphoblastic leukemia
9. Molecular biology of immature T-ALL
10. NGS based characterization of pathways involved in the development of breast cancer among Indian women
11. Non-invasive evaluation of genomic aberrations in multiple myeloma
12. Relevance of WT gene expression in AML
13. To study the interaction of IKZF1 alterations with cell adhesion molecules in B-cell acute lymphoblastic leukemia

## Medical Oncology

### Funded Projects

#### Ongoing

1. Price regulation and value-based pricing for anticancer drugs: Implications for patients, industry, Insurers and regulators, Lalit Kumar, DHR, ICMR, 2, June 2020, June 2022, Rs. 3,67,500
2. A prospective single arm, multicentric, pragmatic phase IV trial investigating safety and effectiveness of Darzalex (Daratumumab) in Indian subjects with relapsed and refractory multiple myeloma whose prior therapy included a proteasome inhibitor and an immunomodulatory agent., Lalit Kumar, Johnson & Johnson, 3, March 2019, March 2022, Rs. 11,64,800
3. Effect of Non ionizing electromagnetic field on Human Health : Risk of Cancer in Mobile phone users : A prospective study under the ICMR task Force, Lalit Kumar, ICMR, 10, March 2012, March 2022, Rs. 1,42,19,000
4. Metformin based combination oral metronomic therapy in platinum resistant, platinum refractory and advanced ovarian cancer, A randomized phase II study. Lalit Kumar, DHR-ICMR, 3, June, 2018, 2021, Rs. 49,51,004
5. To study effect of fatty meals on nilotinib drug in blood in newly diagnosed patients of chronic myeloid leukemia chronic phase and correlate its in vivo activity with marker as BCR/ABL, STAT 1 and STAT 5 and CRKL, Lalit Kumar, ICMR, 3, March, 2021, March 2023, 1749500.00 Aspirin for Dukes C and High Risk Dukes B Colorectal Cancers - An International, Multi-centre, Double Blind, Randomised Placebo Controlled Phase III Trial”, Dr Atul Sharma, Singapore clinical Research Institute, Singapore, 10, 2013-2018, USD 500 per patient
6. An Open Label, Multicenter, Non-Comparative, Phase IV Study of Panitumumab to Characterize its Safety, Tolerability and Activity in Indian Subjects with Previously Treated Wild-Type RAS (*KRAS* and *NRAS*), Metastatic Colorectal Cancer, Dr. Atul Sharma, Dr. Reddy’s Lab and PPD, 2, 2019-2022, Rs. 4,00,000/-
7. A single arm, multicentric, open label, efficacy and safety study of Doceaqualip (Docetaxel Lipid Suspension for Injection of Intas Pharmaceuticals Limited, India) based regimens in metastatic gastric adenocarcinoma patients. Dr. Atul Sharma, Lambda Therapeutics Research Limited, 2, 2018-2020, Rs. 4.79 lakhs + Rs. 1.72 lakh per patient
8. Establishing a nutritional counseling program and developing a nutritional database in pediatric patients with cancer, Dr. Sameer Bakhshi, Cuddle Foundation, 6, 2016, 2022, Rs. 37.37 lakhs
9. Role of mitochondrial heterogeneity in the progression and prognosis of Acute Myeloid Leukemia (AML), Dr. Sameer Bakhshi, Department of Science and Technology, 4, 2017, 2021, Rs. 50.7 lakhs
10. Indian Childhood collaborative leukaemia group multicentre national standardisation study for newly diagnosed acute lymphoblastic leukemia (ALL), Dr. Sameer Bakhshi, National Cancer Grid, 5, 2016, 2021, Rs. 35 lakhs
11. SADAL: A Phase 2b Open label Study of Selinexor (KPT-330) in Patients with Relapsed/Refractory Diffuse Large B-Cell Lymphoma (DLBCL), Dr. Sameer Bakhshi, Excel Life Sciences, 5, 2018, 2023, Rs. 11 lakhs

12. A Phase 2, Open-Label Trial Evaluating the Efficacy and Safety of Two Dosages of Once Daily Oral CA-170 in Patients with Selected Relapsed Advanced Tumors (ASIAD), Dr. Sameer Bakhshi, Veeda Clinical Research Pvt. Ltd, 5, 2018, 2023, Rs. 3.8 lakhs per patient
13. A Phase IV Multi-Centric Post-Marketing Study Evaluating the Safety, Immunogenicity and Efficacy of the Marketed Formulation of Hetero – Rituximab, Dr. Sameer Bakhshi, Hetro Pharma Ltd, 6, 2018, 2024, Rs. 12 lakhs
14. Single-day Intravenous Fosaprepitant vs. 3-day oral Aprepitant anti-emetic regimen in pediatric patients receiving highly-emetogenic chemotherapy: An Investigator-initiated, Randomized, Open-label, Non-inferiority trial, Dr. Sameer Bakhshi, Glenmark Pharmaceuticals Ltd, 3, 2020, 2023, Rs. 5.52 lakhs
15. Childhood Cancer Survivorship Program, Dr. Sameer Bakhshi, CanKidsKidScan, 5, 2020, 2025, 12 lakhs
16. Lymphocyte reconstitution in Autologous Stem Cell Transplantation, Dr Ranjit Kumar Sahoo, DST, 3 years, 2018-21, Rs. 47,45,022
17. Evaluation of STK 11 mutations to predict anticancer effect of metformin in patients with advanced NSCLC (Non Small cell Lung Cancer), Dr. Prabhat Singh Malik, AIIMS, 02 years, 2019- 2021, Rs. 10 lakhs
18. Liquid Biopsy: An exploratory study on exosome-based diagnostics for lung cancer, Dr. Prabhat Singh Malik, AIIMS-IIT Delhi, 02 years, 2019- 2021, Rs. 10 lakhs
19. A phase III, randomized, double-blind, placebo-controlled, multicenter, international study of osimertinib as maintenance therapy in patients with locally advanced, unresectable EGFR mutation-positive non-small cell lung cancer (stage III) whose disease has not progressed following definitive platinum-based chemoradiation therapy (LAURA) Dr. Prabhat Singh Malik, Astrazeneca Pharma India Ltd, 05 years, 2021-2025, Approx. Rs. 50 lakhs
20. Safety Study of Nivolumab for Selected Advanced Malignancies in India, Dr Prabhat Singh Malik, BMS India Pvt Ltd, 02, 2018-2020, Approx. Rs. 20 lakhs
21. An observational, multicentre, Prospective study to evaluate concordance of detecting EGFR mutation by circulating tumour free DNA versus tissues biopsy in NSCLC(CONCORDANCE), Dr. Prabhat Singh Malik, Astrazeneca Pharma India Ltd, 1.4, 2018-2020, Rs. 5 lakhs
22. A multi-country, multi-centre, observational, retrospective study to reveal the patient characteristics, disease burden, treatment pattern and patient journey of stage III non-small-cell lung cancer patients (Kindle study), Dr. Prabhat Singh Malik, Astrazeneca Pharma India Ltd, 1.5, 2018-2020, Rs. 7 lakhs
23. A prospective, multicenter, Phase-IV clinical trial to assess safety of TAGRISSOTM (Osimertinib) in Indian adult patients with metastatic epidermal growth factor receptor (EGFR) T790M mutation-positive non small cell lung cancer (NSCLC)", Dr. Prabhat Singh Malik, Astrazeneca Pharma India Ltd, 02, 2018-2020, Rs. 5 lakhs
24. Establishing a registry for breast and ovarian cancer with mutations in hereditary cancer predisposition genes and a germline DNA repository at AIIMS, New Delhi, Dr. Raja Pramanik, Department of Health Research (DHR)-ICMR, GoI, 5 years, Not started yet(COVID 19 pandemic), Not started yet
25. A Prospective study to determine the efficacy of Positron Emission Tomography-Computed Tomography (18F-FDG PET-CT) scan in detecting residual disease in Locally Advanced Head & Neck Squamous Cell Carcinoma managed with primary Chemo-Radiation Therapy and its comparison with CECT, Nuclear Medicine, Radiation Oncology, Medical Oncology, Radiology
26. Olanzapine versus fosaprepitant for prevention of chemotherapy induced nausea and vomiting in patients receiving carboplatin (AUC<sub>≥4</sub>) containing chemotherapy regimen: A Randomized, double-blind, placebo-controlled trial
27. Exploring how  $\beta$ -catenin induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics, Dr. Chandra Prakash Prasad, ICMR extramural Grant, 3, 2019-2022, Rs. 21.65 lakhs
28. Exploring how Phosphofructokinase-1 (PFK-1) induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics, Dr. Chandra Prakash Prasad, Science & Engineering Research Board (SERB), 3, 2018-2021, Rs. 46.65 lakhs
29. Study of HuR mediated metabolic changes in Triple Negative Breast cancer (TNBC), Dr. Chandra Prakash Prasad, Science & Engineering Research Board (SERB), 3, 2020-2024, Rs. 46.65 lakhs
30. Evaluating the significance of extracellular lactate in cancer progression, Dr. Chandra Prakash Prasad, AIIMS-Intramural, 2, 2020-2022, Rs. 10 lakhs
31. Estrogen Related Receptor Gamma (ERR $\gamma$ ) as a potential biomarker and therapeutic target for thyroid cancer and its correlation with iodine handling genes in thyroid, Dr. ThoudamDebraj Singh, DST-SERB Core, 3, (2020-2023), 50 lakhs
32. Multivalent targeting-based delivery of paclitaxel using elastin like polypeptide containing IL-4 receptor targeting peptide (AP1-ELP) for ovarian cancer therapy, Dr. ThoudamDebraj Singh, ICMR, 3, (2019-2022), 36 lakhs
33. To study the role of USP37 in oncogenesis of ovarian cancer by using carbon nanodots embedded 3D cell culture platform, Dr. Mayank Singh, AIIMS IITD, 2, 2019-2021, Rs. 10,00,000

34. Development of Liquid biopsy, cf (cell free) DNA based assay for prognosis of Cervical Cancer, Dr Mayank Singh, AIIMS, 2, 2021-2024, 10,00,000 Evaluation of regulation of programmed death-ligand 1 (PD-L1) expression by microRNA in lung cancer, Sachin Kumar, ICMR, 3, 2019, 2022, Rs. 47.64 lakhs
35. Global profiling of circular RNAs in small cell lung cancer: a pilot study, Sachin Kumar, AIIMS, 2, 2020, 2022, Rs. 10 lakhs
36. Elimination of leukemic and angiogenesis ability with altered macrophages plasticity in Acute Myeloid Leukemia, Self, AIIMS, 2, 2019-2021, Rs. 10 lakhs
37. APP-DIP: Development of AI based prognostic platform for an early detection of infections in immunocompromised patients, Self (PI from AIIMS), DBT (Indo-Sweden Project), 3, 2021-2024, Rs. 90 lakhs
38. Role of HOTAIRM1 long non-coding RNA in chemo resistance of acute myeloid Leukemia, Dr Surender K Sharawat, DST-SERB, 3, 2019, 2022, Rs. 48.49 lakhs
39. The significance of UCA1 long non-coding RNA in pediatric acute myeloid leukemia, Dr Surender K Sharawat, AIIMS, 2, 2020, 2022, Rs. 10 lakhs

### **Completed**

1. Elucidating the mechanism of regulation of PD-L1 expression in lung cancer – role of epigenetics and copy number alterations, Sachin Kumar, AIIMS, 2, 2017, 2019, Rs. 10 lakhs
2. Identification of a dysregulated circulating miRNA signature in non-small cell lung cancer, Sachin Kumar, SERB, 3, 2014, 2017, Rs. 23 lakhs
3. Investigating the efficacy of microRNAs as molecular marker in cytogenetically normal pediatric acute myeloid leukemia, Sachin Kumar, DBT, 3, 2015, 2018, Rs. 65.51 lakhs
4. MGMT methylation in primary CNS lymphoma, Dr Ranjit Kumar Sahoo, AIIMS, 3 years, 2015-2017, Rs. 3,15,000
5. Role of Phosphofructokinase-P (PFKP) in Breast Cancer, Dr. Chandra Prakash Prasad, AIIMS-Intramural, 2, 2017-2019, Rs. 10 lakhs
6. Role of RRM1, RRM2, hENT1 and ERCC1 expression in Advanced Carcinoma of Gall Bladder treated with Gemcitabine-Platinum Doublet, Dr Ranjit Kumar Sahoo, Nag Foundation, Pune, 3 years, 2016-2018, Rs. 5 lakhs
7. Studies of therapeutic potential of endothelial cells and angiogenic properties in hepatocellular carcinoma, Self, DST, 3, 2016-2019, Rs. 30 lakhs
8. Validation of USP37 as a Diagnostic prognostic marker in Osteosarcoma, Dr. Mayank Singh, AIIMS, 2, 2017-2019, Rs. 10 lakhs

### **Departmental Projects**

#### **Ongoing**

1. Deciphering the oncogenic potential of Deubiquitinating enzymes (DUBs) in Gynaecological Cancers. (Ravi Chauhan)
2. Evaluation of the potential of AP1-functionalised Elastin Like Polypeptide nanocarriers for multivalent targeting-based delivery of paclitaxel in human ovarian carcinoma. (Ridhima Goel)
3. Exploring the role of long non coding RNAs in lung cancer. (Abhirup Mukhopadhyay)
4. Gene expression profile & its co-relation with mitochondrial energy metabolism in pediatric Acute myeloid leukemia. (Shilpi Chaudhary)
5. Generation and characterization of therapeutic BCMA (B Cell Maturation Antigen) specific antibodies in multiple myeloma. (Ashna Gupta)
6. Immunomodulatory properties of mesenchymal stem cells in Graft-Versus-Host-Disease. (Mohini Mendiratta)
7. Prognostic and Therapeutic Relevance of Human Antigen R (HuR) in Triple Negative Breast Cancer. (Arundhathi Dev J R)
8. Role of Beta-Catenin induced metabolic changes in Triple Negative Breast Cancer (TNBC) prognosis and therapeutics. (Umar Sheikh)
9. Role of long non coding RNA HOTAIRM1 in Acute Myeloid Leukemia. (Christine Wilson)
10. Role of PARP1 and  $\gamma$ -Glutamyl Cysteine Synthetase (GCS) Inhibitors on cisplatin sensitivity and DNA Methylation in ovarian cancer. (Luxmi Devi)
11. To investigate the significance of estrogen related receptor gamma (ERR $\gamma$ ) expression in thyroid cancer and study its potential as a therapeutic target. (Deepak Gulwani)
12. A Phase II Study of Gemcitabine Docetaxel Combination in Metastatic Relapsed Synovial Sarcoma (Dr. Ghazal Tansir)

13. A phase II study of Metformin plus Pemetrexed/Carboplatin in patients with Non-squamous non-small cell lung cancer. (Dr. Saurav Verma)
14. A retrospective study of early-stage epithelial ovarian cancer. (Dr. Avinash)
15. A single arm feasibility phase II study of EMF regime in platinum refractory recurrent metastatic head and neck squamous cell carcinoma (Dr. Annie)
16. A study of familial aggregation in non-small cell lung cancer. (Dr. Sindhura Durga)
17. Adjuvant chemoradiation and chemotherapy in resected gastric cancer. (Dr. Shalabh)
18. An ambispective cohort study of clinicopathological characteristics in patients of locally advanced breast cancer (Dr. Priyanshu Choudhary)
19. An ambispective study of survival outcomes in patients with HER2 positive breast cancer. (Dr. Anshul Gupta)
20. An audit of clinic-pathological characteristics and outcome to therapy in high-risk endometrial cancer treated at tertiary cancer centre: Retrospective analysis. (Dr. Kaushal Kalra)
21. Analysis of clinico-radiologic outcomes of patients with extremity fibromatosis after stoppage of sorafenib post one year of treatment. (Dr. Bharat BG)
22. Assessment of Sexual Health and Intimacy in Cancer Patients: Perspective from Patient and Health Care Workers. (Dr. Aman Chaudhary)
23. Bendamustine, pomalidomide and dexamethasone in relapsed and/or refractory multiple myeloma. (Dr. Sudhir)
24. Clinicopathological features and outcome of patients with Hodgkin's lymphoma (Dr. Kapil)
25. Comparison of "Multigene hereditary panel testing" profiles in breast cancer patients qualifying and not qualifying the NCCN criteria for genetic testing: a prospective study in North Indian population. (Dr. Abhenil Mittal)
26. Cost effectiveness of early stoppage of early antibiotic therapy at clinical recovery in pediatric cancer patients with high-risk febrile neutropenia compared to delayed stoppage of early antibiotic therapy (Dr. Rupak)
27. Early integrated palliative care versus routine oncological care for advanced adult sarcoma patient in tertiary care centre in India: a randomized phase II trial. (Dr. Vikas Garg)
28. Gender inequity in the Utilisation of Oncology Healthcare services for childhood malignancies in India (Dr. Kanu Priya Bhatia)
29. Incidence and impact of gut colonization by multi-drug resistant organism in patients receiving high intensity chemotherapy for AML or autologous HSCT (Dr. Shuvadeep)
30. Incidence of invasive colon cancer and colon polyps in first degree relatives of patients with colorectal cancer (Dr. Sravan Kumar)
31. Olanzapine versus fosaprepitant for prevention of chemotherapy induced nausea and vomiting in patients receiving carboplatin (AUC $\geq$ 4) containing chemotherapy regimen: a randomized, double blind, placebo-controlled trial (Dr. Sneha B)
32. Outcome analysis of triple negative breast cancer. (Dr. Rakesh)
33. Psychosocial, functional, sexual, educational, vocational, outcomes, in survivors of extremity bone sarcomas (Dr. Raghavendra Rao)
34. Randomized double blind placebo-controlled study of topical diclofenac in patients receiving Capecitabine in breast and Gastrointestinal cancers. (Dr. Akhil P Santosh)
35. Retrospective analysis of patterns and outcomes in Relapsed Multiple Myeloma. (Dr. Rohit Reddy)
36. Single day intravenous Fosaprepitant versus 3-day oral aprepitant anti emetic regimen in pediatric patients receiving highly emetogenic chemotherapy: An investigator-initiated, randomized, open label, non-inferiority trial. (Dr. Azgar)
37. Stoppage of empirical antibiotic therapy in pediatric high-risk febrile neutropenia: A randomized open label Phase III clinical trial. (Dr. Santosh Kumar C)
38. Study of Nilotinib drug levels with foods and their clinical outcome in patients of chronic myeloid leukemia (Dr. Ankur)
39. The effect of germline mutations on survival outcomes in patients with breast cancer-a case control study (Dr. Nithin SG)
40. The Feasibility of weekly paclitaxel in improving performance status of advanced NSCLC patients with poor performance status: A single arm phase II trial. (Dr. Neha Pathak)

## **Medical Physics**

### **Funded Projects**

#### ***Ongoing***

1. Development of new and novel radiation dosimetric OSL materials by ion implantation technique and chemical methods for improved dosimetry, Dr Pratik Kumar, DRDO, 3 years , 2019-2022, Rs. 23,65,828
2. Development of tissue equivalent optically stimulated luminescent materials for radiation dosimetric applications in low and high doses of medical radiation, Dr Pratik Kumar, Department of Health Research, 3 years, 2017-2020, Rs. 15,53,254
3. Preparation and study of radiochromic film as radiation dosimeter for medical applications, Dr Pratik Kumar, ICMR, 3 years, 2018-2021, Rs 16,69,920

### **Departmental Projects**

#### ***Ongoing***

1. Calibration and use of optically stimulated luminescence dosimeter
2. Development of new luminescence material for dosimetry purpose
3. Development of radiochromic film dosimeter

#### ***Completed***

Development of protocol for quality assurance of lead apron and thyroid collar

## **Preventive Oncology**

### **Funded Projects**

#### ***Ongoing***

1. A study to quantify the burden of insulin resistance in breast cancer women and its relation with other known prognostic and predictive factors of breast cancer, Dr Pallavi Shukla, AIIMS-intramural, 2 yrs, 2020-2022, Rs. 3.25 lakhs
2. Detection of HPV circulating tumor DNA in cervical cancer patients before and after chemoradiotherapy by droplet digital PCR, Dr Sujata Pathak, AIIMS-Intramural, 2 years, 2019-2021, Rs 9.5 lakhs
3. Development of a novel cancer immunotherapeutic agent by integrating tumour antigen TRP-2 with Mycobacterium indicus pranii and analysis of its antitumour efficacy and immune-mechanisms using a mouse model, Dr. Pawan Kumar, AIIMS-Intramural, 2 years, 2019-2021, Rs 10.0 lakhs
4. Identification of immunogenic regions from SARS-CoV-2 spike protein capable of eliciting robust humoral response, Dr Asrar Alam, AIIMS-Intramural, 1 year, 2020-2021, Rs 10.0 lakhs
5. In vitro evaluation of chloroquine and artemisinin for sensitization effect on multidrug-resistant small cell lung cancer cells, Dr Asrar Alam, AIIMS-Intramural, 2 years, 2019-2021, Rs 10.0 lakhs
6. To develop a prophylactic vaccine against SARS-CoV-2 by incorporating its spike protein subunit 1 (S1) into Mycobacterium indicus pranii and to evaluate it for inducing virus specific antibodies and TH1 type of immunity using a mouse model, Dr Pawan Kumar, AIIMS-Intramural, 1 year, 2020-2021, Rs 10 lakhs

## **Radio Diagnosis**

### **Funded Projects**

#### ***Ongoing***

1. Artificial Intelligence in detection of cancer on mammography in the Indian Scenario, Krithika Rangarajan, DBT, Three years, March 2020-March 2023, Rs. 80,00,000
2. Artificial Intelligence to decode COVID-19, Whom to treat how to treat, when to treat, Krithika Rangarajan, AIIMS Intramural grant, 1 year, April 2020-2021, Rs. 2,00,000
3. Diagnostic accuracy of Contrast enhanced Ultrasound in detecting early response to Neoadjuvant Chemotherapy in Breast cancer patients, Ekta Dhamija, AIIMS Delhi intramural project, Two year, March 2019- February 2021, Rs. 8,00,000

#### ***Completed***

1. Comparative evaluation of Nasoenteric feeding and Percutaneous Radiologic Gastrostomy for enteric support in patients with moderate and severe dysphagia due to neoplasms of oropharynx or esophagus: A Pilot Randomized controlled trial, Mukesh Kumar, AIIMS Delhi intramural project, 2 years, March 2018- February 2020, Rs 5,00,000



## **Departmental Projects**

### ***Ongoing***

1. Developing and Using Robotic arm for performing Ultrasound remotely' in collaboration with IIT Delhi
2. Role of Multiparametric MRI in predicting the grade of adult Peripheral Soft tissue sarcomas
3. Role of whole body MRI in the evaluation of lung cancer

### ***Completed***

1. Assessment of the effectiveness of Transversus abdominis plane (TAP) block for pain relief in percutaneous transhepatic biliary drainage in gall bladder cancer patients- a randomized control trial

## **Collaborative Projects**

### ***Ongoing***

1. A comparison of efficacy of Trans rectal ultrasonography (TRUS) and Magnetic resonance imaging (MRI) in assessing tumor characteristics in women with early stage cervical malignancy, Gyne-Oncology
2. A Phase II Study of Gemcitabine/Docetaxel in Patients with Relapsed Metastatic Synovial Sarcoma, Medical Oncology
3. Assessment of cell free DNAs (cf-DNA) as a biomarker in common gastrointestinal track cancers, Department of Medical Oncology
4. Childhood cancer survivorship program, Department of Medical Oncology
5. Development of tissue equivalent optically stimulated luminescent materials for measurement of low doses of medical radiation, Medical physics unit, BRAIRCH, and Department of Health physics inter university accelerator centre, New Delhi
6. Evaluation of surgical resectability of epithelial ovarian, fallopian tube and primary peritoneal carcinoma using computed tomography based reporting system, Gyne-Oncology
7. Exploring the role of AI in differentiating metastasis from granuloma in patients with pediatric sarcomas, Department of medical oncology, IIT Delhi
8. Genetic changes of TP53 and its role in treatment management of patients with advanced soft tissue sarcoma, Pathology
9. LOI-Cancer immunotherapy and Epigenetics Research Network (CIEReN): Centralized e-platform for iER-TME (Immunotherapy based Epigenetic Reprogramming of Tumor Immune Micro Environment), Department of Surgical Oncology
10. Prospective comparison between 18F-FDG PET/CT and conventional modalities for Ewing's family of tumors, Nuclear medicine
11. Role of multimodality imaging and liquid biopsy for response assessment in colorectal carcinoma: An Ambispective study, Department of radio-diagnosis
12. Stereotactic body radiation therapy in management of recurrent head and neck carcinoma: an assessment of treatment outcome and toxicity, Department of Radiation Oncology
13. Validation of clinical examination with Doppler studies in the management of patients presenting with vascular disease: A Prospective study, Department of Surgery

### ***Completed***

1. A cross-sectional observational study to evaluate Health related quality of life (HRQoL) in patients with Desmoid type Fibromatosis, Medical Oncology
2. A Prospective study to determine the efficacy of Positron Emission Tomography/Computed Tomography (PET/CT) in detecting residual disease in Locally Advanced Head & Neck Squamous Cell Carcinoma managed with primary Chemo- Radiation Therapy, nuclear medicine
3. A randomized control trial comparing the pain scores in gall bladder cancer patients undergoing percutaneous transhepatic biliary drainage under transversus abdominis plane block versus without transversus abdominis plane block, Radiology
4. Assessment of brain metastases in advanced NSCLC, Department of medical oncology
5. Comparison of CT vs PET CT in Ca ovary for accuracy of staging, disease burden and prediction of resectability and determination of PCI, a prospective study, surgical oncology
6. Comparison of Multigene hereditary panel testing profiles in breast cancer patients qualifying and not qualifying the NCCN 2018 criteria for genetic testing: A prospective study, Medical Oncology
7. Evaluation of Indocyanine Green dye-based navigation surgery in optimizing axillary management of carcinoma breast, Surgical Oncology

8. Outcome of advanced unresectable synovial cell sarcoma from and Indian tertiary care center: retrospective study, Medical Oncology
9. Prevalence of sarcopenia in patients with upper gastrointestinal and lung malignancy undergoing surgical resection and its impact on immediate postoperative outcomes: A prospective observational study, Surgical Oncology
10. Role of MR guided biopsy in detecting prostate cancer- DC MEMBER, NMR
11. Role of Ultrasound guided wire localization and surgical removal of clipped pretreatment positive axillary lymph nodes in increasing the diagnostic accuracy of sentinel lymph node biopsy after neoadjuvant chemotherapy in breast cancer patients, Radiology

## **Radiation Oncology**

### **Funded Projects**

#### ***Ongoing***

1. A Multicenter Open-label, Single-arm, Phase IV Clinical Trial to Evaluate the Safety and Efficacy of KRABEVA®/Abevmy® Administered as per the Prescribing Information in Patients with Solid Tumors, Dr Subhash Gupta, Syngene, 3 years, 2020- 2023, Rs 12,00,000
2. A prospective pilot study to evaluate the effectiveness and toxicity of Stereotactic body radiotherapy (SBRT) for Portal Vein Thrombosis in patients with advanced Hepatocellular carcinoma (HCC) (DHR Grant), Dr Haresh KP, DHR, 3 years, 2019-2022, Rs 31,00,000
3. A prospective study to elucidate genetics, clinical and molecular factors in gall bladder carcinoma in Indian patients, Dr G K Rath (Co-Investigator), Cancer Foundation, 4 years, 2017- 2021, Rs 40,00,000
4. Cervical cancer tumour micro-environment immune-profiling and effect on early response to standard chemoradiotherapy in Indian patients, Dr PreetiPatil, AIIMS, 2 years, 2020, 2022, Rs 5,00,000
5. Clinical validation of synergistic effect of Vardhamana Pippali Rasayana along with conventional treatment after unraveling its mechanism of action in Breast cancer: From Experimental model to Clinical trial, Dr Subhash Gupta, ICMR, 3 years, 2021, 2024, Rs 25,00,000
6. ICMR TASK Force Comparative study of Genetic, Clinical and Epidemiological factors of Breast Cancer in Indian population”, Dr. GK Rath (Co-P.I), ICMR, 5 years, 2017- 2022, Rs 1,91,00,000
7. ICMR TASK Force Genomics of gallbladder carcinoma in Indian Patients, Dr.G.KRath (P.I), ICMR, 5 years, 2018-2023, Rs 1,99,00,000
8. Identification of Hereditary Breast and Ovarian Cancer (HBOC) syndrome families with breast cancer and their BRCA1 & BRCA2” gene mutation profiling in NER population, Dr. GK Rath (Chief Project Co-coordinator and co-PI), NCDIR-ICMR, 3 years, 2020-2023, Rs 25,38,000
9. Interplay between Cancer Testis/ Germline POTE antigen and NOTCH Signaling and its association with Global DNA Methylation in Ovarian Cancer, Dr. GK Rath (Co-I), ICMR- MOHFW, Rs 42,50,000
10. Optimum radiation dose for palliation in head and neck Squamous cell carcinoma – A phase 3 randomized controlled trial (OpRaH), Dr Supriya Mallick, ICMR, 3 years, 2021, 2024, Rs 16,00,000
11. Phase II study of hypo-fractionated accelerated radiotherapy with concurrent and maintenance temozolomide in newly diagnosed IDHwt Anaplastic Astrocytoma (NCI-R-01-HyRAA), Dr Supriya Mallick, AIIMS, 1 year, 2021-2022, Rs 5,00,000
12. To Investigate the role of HPV infection and its association with breast cancer in India: A patient-based exploration study. Project Code: I- 1159, Dr. GK Rath (P.I), ICMR, 2 years, 2020-2022, Rs 10,00,000

#### ***Completed***

1. Mycidac C in Lung cancer, Dr Subhash Gupta, Cadila, 3, 2017, 2019
2. A5481037: A study of Palbociclib in combination with Letrozole as treatment of postmenopausal women with hormone receptor positive, Her 2 new negative advanced breast cancer for whom Letrozole therapy is deemed appropriate, Dr Haresh KP, Pfizer India, 3 years, 2017-2019, Rs. 10,00,000

## **Surgical Oncology**

### **Funded Projects**

#### ***Ongoing***

1. “Comparative Sphingolipid profiling of breast cancer cell and tissue types for identification of Potential MetastaticBiomarkers”, SVS Deo, DST, 5 years, 2016-ongoing, Rs 47,15,480
2. Breast and Ovarian cancer awareness, MD Ray, Funded by DST, Govt of India, 2 years, 2019-2021, 28 lakhs

3. Clinical significance of cell-free DNA in intraoperative pleural lavage fluid and plasma in patients undergoing pulmonary metastatectomy: A pilot study, Dr Sunil Kumar, AIIMS, 2 years, 2018-2020, Rs 10 lakhs
4. Comparison of pulmonary metastasis detected with PET-CT vs NCCT chest with surgical pathology, Dr Sunil Kumar, AIIMS, 2 years, 2018-2020, Actual cost basis
5. Determine whether a predictive microRNA signature from TCGA acts as a biomarker in Indian Colorectal cancer (CRC) patients, Dr. Sagar Sengupta, DBT, 4 years, Rs 40 lakhs
6. HBCR & Pattern of care and survival studies in breast, head & neck and cervical cancer, SVS Deo, ICMR, 8 years, 2014-ongoing, Rs 35,00,000
7. Patterns of care and survival studies on cancer in childhood, lymphoid and hematopoietic malignancies, SVS Deo, ICMR, 5 years, 2017-ongoing, Rs 5,00,000
8. Patterns of Care and Survival Studies on Gall Bladder Cancer under ICMR- National Cancer Registry Programme (NCRP), Dr Sunil Kumar, ICMR, 5 years, 2019-2023, Rs 13 lakhs
9. Predicting the response to neo-adjuvant chemotherapy by analysis of exome and transcriptome in squamous cell carcinoma of esophagus, Dr Sunil Kumar, 4 base Care Genomics Pvt Ltd, 1 year, 2020-2021, Actual cost basis
10. Role of heavy metals As etiology for carcinoma of the gallbladder, Dr. Sandeep Bhorawal, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
11. SURAKHA – Breast Cancer Genetic awareness and risk Assessment, SVS Deo, DBT-Welcome trust, 1 year, 2020, Rs 20,00,000

### **Completed**

1. “Association of HIPEC treatment with expression of T regulatory cells (FOXP3) in epithelial ovarian cancer and its clinical significance”, MD Ray, Intramural, AIIMS, 3 years, 2018-2020, Rs. 10 lakhs
2. Development of Standard Operating Procedures (SOP) of Hyperthermic Intraperitoneal Chemotherapy (HIPEC) in peritoneal surface malignancies for Public set up in India, M D Ray, Funded by DST, Govt of India, 3 years, 2018-2021, Rs 48 lakhs
3. Role of T- Regulatory cells (Tregs) and their clinical correlation in Epithelial Ovarian Cancer.”, M D Ray, PhD Thesis, AIIMS, 2017-2021

### **Departmental Projects**

#### **Ongoing**

1. “EMF (Erlotinib/Methotrexate/5-FU) Regimen As An Efficacious Therapy In Unresectable Or Recurrent/Metastatic Head Neck Squamous Cell Carcinoma After Platinum Failure: Investigator Initiated, Single Arm, Phase II Trial”
2. 1% topical diclofenac in prevention of hand foot syndrome in patients receiving capecitabine for breast and gastrointestinal cancers
3. A prospective study on germline mutation profiles of consecutive patients with ovarian cancer
4. A Study Of Familial Aggregation In Non-Small Cell Lung Cancer
5. A study on familial aggregation in lung cancer
6. Adjuvant Chemotherapy or Chemo-radiation in Gall Bladder Cancer: A Phase III Randomized Controlled Study (ACCele Rate trial)
7. Analysis of Patterns and Outcomes of Relapsed Multiple Myeloma: an ambispective study
8. Assessment Of Sexual Health And Intimacy Related Problems In Cancer Patients Undergoing Chemotherapy
9. Bendamustine, Pomalidomide and Dexamethasone in relapsed and/or refractory multiple myeloma: A Phase two study
10. Concurrent Chemotherapy and External Radiation Therapy: An Open Label Non-Inferiority Phase III Randomized Controlled Trial of Weekly versus Three Weekly Cisplatin and Radical Radiotherapy in Locally Advanced Head and Neck Squamous Cell Carcinoma.
11. Cost-effectiveness study of early stoppage of empirical antibiotic therapy at clinical improvement in paediatric cancer patients with high risk febrile neutropenia nested within an ongoing open label randomised control trial
12. Diagnosing Hereditary Cancer Predisposition In Indian Men With Prostate Cancer: A Pilot Study
13. Early stoppage of empirical antibiotic therapy at clinical improvement in pediatric cancer patients with high risk febrile neutropenia. A randomized open label clinical trial
14. Gene expression profile and its correlation with mitochondrial energy metabolism in pediatric AML
15. Immunomodulatory properties of Mesenchymal Stem Cells in GVHD
16. Incidence and Impact of Gut Colonization by Multi-Drug Resistant Bacteria in Patients receiving Standard Induction Chemotherapy for AML or Conditioning for Autologous HSCT

17. Minimal residual disease in myeloma
18. Multiple myeloma: Clinico-laboratory characteristics and outcome: Experience at the AIIMS
19. Phase 2 Prospective Studies Of Gemcitabine/ Docetaxel In Synovial Advanced Synovial Sarcoma
20. Pre and post transplant evaluation of natural killer T cells in multiple myeloma
21. Psychosocial, Functional, Functional, Sexual, Educational, Vocational, Outcomes, In Survivors Of Extremity Bone Sarcomas
22. Role of PARP 1 and gamma glutamyl cysteine synthetase (GCS) inhibitors on cisplatin sensitivity and DNA methylation in epithelial ovarian cancer
23. Single-day Intravenous Fosaprepitant vs. 3-day oral Aprepitant anti-emetic regimen in pediatric patients receiving highly-emetogenic chemotherapy: An Investigator-initiated, Randomized, Open-label, Non-inferiority trial
24. The feasibility of weekly paclitaxel in improving performance status of advanced NSCLC patients with poor performance Status: A Single Arm Phases Two Trial
25. To study the effect of fatty meals on nilotinib drug levels in blood of newly diagnosed patients of chronic myeloid leukemia chronic phase
26. Transplant versus no transplant in multiple myeloma
27. VRd (bortezomib, lenalidomide and dexamethasone) versus VCd (bortezomib, cyclophosphamide, and dexamethasone) in newly diagnosed multiple myeloma: A randomized study
28. VRd (bortezomib, lenalidomide and dexamethasone) versus VPd (bortezomib, pomalidomide and dexamethasone) in newly diagnosed multiple myeloma: A randomized study

### ***Completed***

1. A phase II study of Metformin plus Pemetrexed/Carboplatin in Patients with Advanced/Metastatic Non-Squamous Non-Small Cell Lung cancer
2. A pilot study to assess safety and efficacy of modified FOLFIRINOX in unresectable Gall Bladder Cancer
3. A retrospective analysis of early stage epithelial ovarian cancer
4. A two arm randomized open label prospective parallel design superiority Phase II multicentric clinical trial to evaluate the efficacy of a doublet second line chemotherapy versus monotherapy in advanced unresectable or metastatic gall bladder cancer progressing on first line chemotherapy
5. Clinicopathological characteristics and outcome to therapy in high risk endometrial cancer
6. Immune reconstitution in Autologous Stem Cell Transplantation
7. Multiple myeloma: Stem cell mobilization – a risk adapted algorithm based approach
8. Patient reported outcomes in patients with desmoid type fibromatosis.
9. POEMS syndrome: consolidation with autologous stem cell transplantatio
10. Predictors of chemotherapy resistance and relapse in gestational trophoblastic neoplasia
11. Retrospective analysis of testicular germ cell tumors at IRCH
12. Role of RRM1, RRM2, hENT1 and ERCC1 expression in Advanced Carcinoma of Gall Bladder treated with Gemcitabine-Platinum Doublet.

### **Radiation Oncology**

#### **Departmental Projects**

#### ***Ongoing***

1. A phase II study to assess the feasibility of involved site radiotherapy for consolidation after chemo-immunotherapy in newly diagnosed patients of stage I-II nodal diffuse large b-cell lymphoma
2. A phase II study to evaluate the efficacy of cisplatin and gemcitabine based neo-adjuvant chemotherapy followed by dysphagia optimized intensity modulated radiotherapy with concomitant cisplatin and correlation of clinical outcome with serial plasma Epstein Barr virus DNA titer in patients with locally advanced nasopharyngeal carcinoma
3. A phase III randomized controlled study comparing xerostomia after tubarial salivary gland sparing IMRT versus standard IMRT in patients with locally advanced oropharyngeal squamous cell carcinoma
4. A pilot study to evaluate the feasibility, toxicity profile and quality of life in patients with newly diagnosed glioblastoma, receiving adjuvant chemoradiation using stereotactic radiotherapy in comparison to conventional radiotherapy

5. A prospective pilot study to evaluate the role of stereotactic body radiotherapy in portal vein thrombosis in patients with hepatocellular carcinoma.
6. Development of gel bolus and patient - specific phantom with additive manufacturing for radiation dosimetry.
7. Pilot study to compare moderate hypofractionated radiotherapy versus stereotactic body radiotherapy (SBRT) in intermediate and high risk prostate cancer, a toxicity and quality of life comparison.

## **Surgical Oncology**

### **Departmental Projects**

#### ***Ongoing***

1. A Pilot Randomisation Study Comparing perioperative outcomes between Hyperthermic Intraperitoneal Chemotherapy (HIPEC) and Early Postoperative Intraperitoneal Chemotherapy (EPIC) with Audit and Analysis of Peritoneal Surface Malignancy Database
2. A pilot study to assess role of preoperative chemoradiotherapy in locally advanced / recurrent extremity soft tissue sarcoma & audit of soft tissue sarcoma database
3. A study evaluating MIS for of colorectal cancer patients and learning basic laboratory techniques of molecular biology for miRNA extraction in colon and rectal cancer patients
4. A study to evaluate time trends of clinical profile and risk factors among breast cancer patients and learning basic laboratory techniques of breast cancer lipidomics
5. Clinical spectrum, patterns of care and outcomes of Indian cancer patients treated by Multidisciplinary team management
6. Feasibility study of dual technique- blue dye and fluorescence imaging for detection of sentinel node in oral cavity cancer – a prospective validation study
7. Functional recovery and Return to work after Thoracic surgery in patients with Malignant thoracic Diseases: A Prospective study
8. Hospital Based Cancer Registry at National Cancer Institute (NCI)-AIIMS
9. Pilot study to evaluate the role of Toluidine Blue Dye and Narrow Band Imaging for assessment of malignant and potentially malignant disorders in oral cavity and update and analysis of Oral Cancer Database
10. Prospective evaluation of diagnostic imaging methods and its impact on surgical decision-making algorithm in the management of nodal disease in recurrent differentiated thyroid cancer and audit of the thyroid cancer database for evaluation of clinical and surgical spectrum and outcomes
11. Prospective study of in person versus online cancer genetic counseling And Ambispective evaluation of patients undergoing risk reducing surgery
12. Prospective study on the expression of cancer-testis antigen (CT45) in the patients of advanced epithelial ovarian cancer undergoing Hyperthermic Intraperitoneal Chemotherapy and its correlation with response to platinum based chemotherapy
13. Role of heavy metals As etiology for carcinoma of the gallbladder
14. Role of PET-CT and diagnostic laparoscopy in assessing the staging of gall bladder cancer patients: A single arm prospective study
15. Validation of the role of pet-ct and diagnostic laparoscopy in the staging of gall bladder cancer patients a prospective study and update and analysis of the hepatobiliary and pancreatic cancer database

#### ***Completed***

1. A prospective assessment of quality indicators of peri-operative outcomes in major oncological surgeries at a high volume tertiary care center
2. A prospective comparative study between HIPEC and EPIC and a Retrospective analytic survey of HIPEC patients
3. A Study Of Colorectal Cancer Patients – Clinical Profile, Treatment And Relapse Patterns And Learning Basic Laboratory Techniques Of Molecular Biology For miRNA Extraction In Colon And Rectal Cancer Patients
4. Efficacy of Neoadjuvant chemotherapy in carcinoma esophagus- A pilot study comparing Cisplatin+5-FU with Paclitaxel+Caboplatin
5. Evaluation of Indocyanine green dye based navigation surgery in optimizing axillary management of carcinoma breast.
6. Prevalence of sarcopenia in patients with upper gastrointestinal and lung malignancy undergoing surgical resection and its impact on immediate postoperative outcomes: A prospective observational study
7. Role of T- Regulatory cells (Tregs) and their clinical correlation in epithelial ovarian cancer
8. Validation of role of PET-CT and Diagnostic Laparoscopy in the gall bladder cancer patients – A prospective study



## **Collaborative projects**

### **Laboratory Oncology**

#### ***Ongoing***

1. Correlation of imaging traits with region-specific gene expression profiles in glioblastoma multiforme. Funded by (DBT), Department of Neuro-Radiology
2. Developing platelet based liquid biopsy assay for cancer detection- A pilot study, IIT, Delhi
3. Digital Holographic Microscopy of acute leukemic cell for 3D morphology based classification. Funded by (AIIMS and IIT-Delhi)
4. Elucidation of circulating cell free miRNA in pathogenesis, disease progression and outcome in multiple myeloma using integrated bioinformatics and experimental approach. Funded by (AIIMS), Department of Biophysics, AIIMS, New Delhi
5. Identification of network pathways for drug targeting in Multiple Myeloma from NGS data using Deep Learning. Funded by (DST), IIT-Delhi
6. Minimal Residual Disease Estimation in Multiple Myeloma using Image Processing: Design and Development of Myelomaimager - an Automated Computer Assisted Tool. Funded by (DST), IIT- Delhi
7. Study of the erythroid and megakaryocytic lineages under normal development and pathological myeloproliferation, IIT, Delhi

### **Medical Oncology**

#### ***Ongoing***

1. A Multicenter, Double-Blind, Randomized parallel-group, active controlled, two part phase III, global study to evaluate the pharmacokinetics, efficacy and safety of BP 02 (Trastuzumabd) in comparison with herceptin- EU in patients with HER2- positive Early Breast Cancer (EBC) and metastatic Breast Cancer (MBC), Dr. Ajay Gogia Associate Professor, Medical Oncology BRAIRCH AIIMS, Delhi
2. A phase III Double-Blind, Randomised, Placebo-controlled study assessing the efficacy and safety of capivasertib + Abiraterone Versus Placebo+ Abiraterone as treatment for patients with De Metastatic Hormone-Sensitive Prostate Cancer (mHSPC) Characterised by PTEN deficiency (CAPItello-0281), Dr. Atul Batra Assistant Professor, Medical Oncology BRAIRCH AIIMS, Delhi
3. Assessment of serum tumor markers in response to neoadjuvant chemotherapy in locally advanced triple negative breast cancer, Dr. Atul Batra Assistant Professor, Medical Oncology BRAIRCH AIIMS, Delhi
4. Assessment of symptom burden in cancer patients through an innovative mobile-based patient reported outcomes system in India, Dr. Atul Batra Assitance Professor BRAIRCH AIIMS, Delhi
5. Cellular functions and clinical significance of Nrf2 signalling in T cell acute lymphoblastics leukemia, Dr. Nehal Thukral Women Scientist Fellow, Lab Oncology IRCH
6. Clinical profile and outcomes in patients with carcinoma penis and evaluation of Health-related quality of life (HRQoL) in survivors, Dr. Atul Batra Assistant Professor, Medical Oncology BRAIRCH AIIMS, Delhi
7. Cost conundrum of anti-cancer drugs: A study on pricing variations across India, Dr. Vijaydeep Siddharth Associate Professor, Dept, of Hospital Administration AIIMS, New Delhi
8. Development of Mutation specific monoclonal antibodies against p53 for selective diagnosis of cancer and aid in therapy, Dr. Ritu Gupta Professor & Office in charge Laboratory Oncology Dr. BRAIRCH AIIMS, Delhi
9. Effects of aNaesthesia in ColoREctal cancer outcome trial – ENCORE The effects of anaesthetic techniques on time to start of adjuvant chemotherapy, and early and late outcomes following surgery for colorectal cancer (Stage I-II), Dr. Akhil Kant Singh Assistant Professor Anaesthesiology, Pain Medicine And Critical Care
10. Evaluation of Determinants for High Incidence of Breast Cancer with a focus on triple and Quadruple Negative Breast Cancer, Dr. Ajay Gogia Associate Professor, Medical Oncology BRAIRCH AIIMS, Delhi
11. Mediastinal Germa Cell tumors: A retrospective Analysis, Dr. Atul Batra Assistant Professor, Medical Oncology BRAIRCH AIIMS, Delhi
12. Mycotic thoracic pseudoaneurysms-CT angiography as a modality for vascular mapping to guide management, Dr. Priyanka Naranje Assistant Professor Radio Diagnosis
13. Quantification of EBV DNA in nasopharyngeal cancer a retrospective exploratory analysis from a non-endemic region, Dr. Sampa Ghose Scientist II BRAIRCH AIIMS, Delhi
14. Randomized phase II open-label study of topical diclofenac in prevention of hand-foot syndrome in patients receiving capecitabine, Dr. Atul Batra Assitance Professor BRAIRCH AIIMS, Delhi

15. Retrospective analysis to study clinicopathological aspects of Adrenocortical carcinoma and their outcome in Indian patients at tertiary care centre, Dr. Atul Batra Assistant Professor, Medical Oncology BRAIRCH AIIMS, Delhi
16. Role of advanced MRI and PET –CT in response Assessment in Colorectal Carcinoma: An Ambisective study, Dr. Abhishek Soni Junior Resident Department of Radiodiagnosis AIIMS, New Delhi
17. Standardizing sequence of adjuvant Radiation and Systemic therapy for breast cancer (STARS): A phase III randomized controlled trial, Dr. Supriya Mallick Assistant Professor Radiation Oncology, IRCH
18. Understanding the role of RhoBTB2 in acute myeloid leukemia, Dr. Anita Chopra Additional Professor, Laboratory Oncology unit, BRAIRCH AIIMS, Delhi
19. P 53 mutation and its relevance to treatment in patients with advanced soft tissue sarcoma – A pilot study, Department of pathology
20. A phase ii study to evaluate the efficacy of cisplatin and gemcitabine based neo-adjuvant chemotherapy followed by dysphagia optimized intensity modulated radiotherapy with concomitant cisplatin and correlation of clinical outcome with serial plasma epstein barr virus dna titre in patients with locally advanced nasopharyngeal carcinoma, radiation oncology, medical oncology, radiology, ent
21. A phase iii randomised controlled study comparing xerostomia after tubarial salivary gland sparing imrt versus standard imrt in patients with locally advanced oropharyngeal squamous cell carcinoma, radiation oncology, medical oncology, radiology, ent
22. A prospective study of in-person versus online cancer genetic education and counselling in india. Ambispective evaluation of breast cancer patients undergoing risk reducing surgery, surgical oncology, medical oncology, radiology
23. Cellular and immunological role of DPP3 in esophageal cancer., Biochemistry, Pathology, Medical Oncology, Surgical Oncology
24. Comparison of short course radiotherapy followed by neoadjuvant chemotherapy with long course concurrent chemoradiotherapy in locally advanced rectal cancer: a randomized controlled trial, radiation oncology, medical oncology, surgical oncology, gi surgery, radiology
25. Hypofractionated palliative radiotherapy using “quadshot regimen” with concurrent cisplatin in patients with locally advanced head and neck squamous cell carcinoma unsuitable for curative treatment, radiation oncology, medical oncology, radiology
26. Efficacy of Neoadjuvant chemotherapy in carcinoma Esophagus-A pilot study comparing Cisplatin+5-FU with Paclitaxel+ Carboplatin, Surgical Oncology, Medical Oncology, Radiation Oncology, Nuclear medicine.
27. Rare pediatric tumor prospective study, Multi-institutional collaboration
28. Adjuvant radiation in breast cancer delivered in one or three weeks: A phase II randomized controlled trial (NCI-R-02-OthAR), Radiation Oncology, Radiology, Pathology
29. Cervical cancer tumour micro-environment immune-profiling and effect on early response to standard chemoradiotherapy in Indian patients, Radiation Oncology, Pathology, Radiology
30. Optimum radiation dose for palliation in head and neck Squamous cell carcinoma: A phase 3 randomised controlled trial, Radiation Oncology, Radiology, Pathology
31. Phase II study of hypo-fractionated accelerated radiotherapy with concurrent and maintenance temozolomide in newly diagnosed IDHwt Anaplastic Astrocytoma (NCI-R-01-HyRAA), Radiation Oncology, Radiology, Pathology
32. Phase III trial of hypofractionated accelerated intensity modulated radiotherapy with concurrent and maintenance temozolomide in newly diagnosed GBM (HYART-GBM), Radiation Oncology, Radiology, Pathology
33. p53 in regulation of Epithelial-Mesenchymal Transition in breast cancer: role of micro-RNA Indo-Russian Joint Project-DST (2018-2021) - as Co-PI, PI: Dr RituKulshreshtha, IIT Delhi, India, PI: Dr NikolaiBarlev, Inst of Cytology, St Petersburg, Russia
34. A Prospective Randomized Control Trial of Goal directed Vs Standard Fluid Therapy in Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy
35. A single arm feasibility phase II study of EMF(erlotinib/mtx/5-FU) in platinum refractory R/M HNSCC
36. Deciphering the Oncogenic potential of Deubiquitinating enzymes (DUBs) in Gynaecological Cancers
37. Pazopanib based combination oral Metronomic therapy in Platinum Resistance, Platinum Refractory and advanced Ovarian Cancer: A randomized phase 2 Study
38. Role of PARP1 and  $\gamma$ -Glutamyl Cysteine Synthetase (GCS) Inhibitors on Cisplatin Sensitivity and DNA Methylation in Ovarian Cancer
39. Translational approach for reducing Hepatocellular Carcinoma through modulation of extracellular matrix protein Lysyl Oxidase (LOX) in tumor microenvironment, Self as a Co-PI, DST, 3 years, 2019-2022, 87 lakhs

40. Translational approach to inhibit hepatoma cell stemness by altering survival signals to prevent recurrence of carcinogenesis, Self as a Co-PI, ICMR, 3 years, 2019-2022, 73 lakhs
41. Project Title “Elucidation of the role of long non-coding RNA-Ginir as a biomarker in lung tumorigenesis”. Funding Agency: DBT; Duration: 03 years; Funds: 89 lakhs (In collaboration with NCCS, Pune (Role: Co-investigator)
42. Project Title “Evaluation of regulation of programmed death-ligand 1 (PD-L1) expression by microRNA in lung cancer”. Funding Agency: ICMR; Duration: 8/2019-8/2022; Funds: 47.64 lakhs (Role: Co-investigator)
43. Project Title “Study of Clinical Significance of Genetic Alterations and Feasibility of Adopting Children Oncology Group (COG) Risk-based Stratification of Wilms Tumor in Indian Children” Funding Agency: ICMR; Duration: 8/2020-8/2023 (Role: Co-P investigator)

## **Preventive Oncology**

### ***Ongoing***

1. A Study of Gut (oral, fecal and bile) Microbiome in Patients with Gallbladder Cancer, Dept. of Surgical Disciplines, Dept. of Gastroenterology, Translational Health Science and Technology Institute, Faridabad
2. Artificial Intelligence in Oncology: Harvesting big data and advanced computing to provide personalized diagnosis and treatment for cancer patients, Department of Biochemistry, AIIMS, New Delhi
3. Cancer Awareness and Referral Engagement (CARE) program for medical officers/ specialists in selected districts of Haryana, Preventive Oncology, NCI
4. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Urology, AIIMS, New Delhi, Laboratory Oncology, AIIMS, New Delhi
5. Comparative study of Genetics, Clinical and Epidemiological factors of breast cancer in Indian Population, Laboratory Oncology, AIIMS, New Delhi National Institute of Pathology, Delhi National Institute of Cancer Prevention and Research, Noida
6. Genomics of Gall Bladder Carcinoma in Indian patients, Laboratory Oncology, AIIMS, New Delhi National Institute of Cancer Prevention and Research, Noida, IGIB, New Delhi
7. Prevalence of BRCA1/2 germline mutations in young Indian women (<40 years) with triple negative breast cancers, Dept. of Surgical Disciplines, AIIMS, New Delhi
8. To study the Interplay between Cancer-Testis germline POTE antigen and Notch signaling and its association with global DNA methylation in Ovarian Cancer, Department of Biochemistry, AIIMS, New Delhi

## **Radiation Oncology**

1. A prospective study to elucidate genetics, clinical and molecular factors in gall bladder carcinoma in Indian patients, Cancer Foundation
2. Artificial intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for Cancer patients. Funding Agency: Ministry of Electronics and Information Technology, Department of Biochemistry
3. EMF (Erlotinib/Methotrexate/5-FU) regimen as an efficacious therapy in unresectable or recurrent/metastatic Head Neck squamous cell carcinoma after platinum failure: Investigator initiated single arm phase II trial, Department of Medical Oncology, AIIMS New Delhi
4. H19 long non-coding RNA (lncRNA) and its association with the clinical outcomes in Indian pediatric patients of Wilms tumor, Departments of Pediatric Surgery, Pathology, Medical Oncology, AIIMS New Delhi
5. ICMR TASK Force Comparative study of Genetic, Clinical and Epidemiological factors of Breast Cancer in Indian population”, ICMR
6. ICMR TASK Force Genomics of gallbladder carcinoma in Indian Patients
7. Identification of Hereditary Breast and Ovarian Cancer (HBOC) syndrome families with breast cancer and their BRCA1 & BRCA2” gene mutation profiling in NER population, NCDIR-ICMR
8. Interplay between Cancer Testis/ Germline POTE antigen and NOTCH Signaling and its association with Global DNA Methylation in Ovarian Cancer, ICMR- MOHFW
9. Role of Nuclear Receptor network signaling in pathogenesis of Gallbladder cancer, Department of Biochemistry

## **Surgical Oncology**

### ***Ongoing***

1. A comprehensive analysis of mammalian target of rapamycin (mTOR) and mitogen activated protein (MAP) Kinase signaling pathways in non- small cell lung carcinoma, Department of Pathology
2. A prospective study to elucidate molecular genetic risk factors of gallbladder carcinoma in Indian Population, Department of Lab Oncology
3. An economic analysis of alternative treatment methods of ovarian cancer in India, Department of obs& Gynae, AIIMS & TMC, Kolkata
4. Clinical profile and outcomes in patients with carcinoma penis and evaluation of Health related quality of life (HRQoL) in survivors, Department of Medical Oncology, AIIMS, New Delhi
5. Development of microRNA-based biomarkers for ovarian cancer, Department of Reproductive Biology, AIIMS, New Delhi
6. Differentiating inflammatory and metastatic mediastinal lymphadenopathy on 18-FDG- PET/CT in lung cancer: Role of steroid suppression, Department of Nuclear Medicine
7. Establishment of patient specific 3D organoid biobanking in AIIMS, Dept. of Stemcell facility, AIIMS, New Delhi
8. Evaluation of Human Epididymis Protein 4 (HE4) level in the diagnosis of ovarian cancer”, Department of Lab Oncology, AIIMS
9. Finding novel diagnostic and prognostic biomarkers in ovarian cancer. Department of Lab Oncology, Dr BRA IRCH, AIIMS, New Delhi
10. Isolation, identification and characterization of cancer stem cells from different histopathological grades of colorectal carcinoma, Department of biochemistry AIIMS, New Delhi
11. LOI- Cancer Immunotherapy and Epigenetics Research Network (CIEReN): Centralized e-platform for iER-TME (Immunotherapy based Epigenetic Reprogramming of Tumor Immune Micro Environment) research, Department of Bio-Chemistry, AIIMS
12. POTE, family a novel Cancer-Testis/Germline antigen with strong potential as a target for immunotherapy against cancers, Department of Bio-Chemistry, AIIMS
13. Retrospective analysis to study clinico-pathological aspects of Adrenocortical carcinoma and their outcome in Indian patients as tertiary cancer centre. Dr Atul Batra, Department of Medical Oncology, AIIMS, New Delhi
14. Role of nuclear receptors in pathogenesis of carcinoma gall bladder, Department of Biochemistry
15. Study of a Surrogate Panel of Immunohistochemical and Molecular Markers to Classify Human Colorectal Carcinomas as per the Consensus Molecular Subtypes and Clinical Correlation, Department of pathology AIIMS, New Delhi
16. Targeting CXCL 12-CXCRa/CXCR7 axis in breast cancer stem cells with a novel curcumin derivative and its synergistic effect with screened dietary phytochemical, School of Biotechnology, Gautam Buddha University, Greater Noida

### ***Completed***

1. “A cross-sectional study to identify the social context of pain in cancer patients”, Department of Onco-Anaesthesia BRA- IRCH, AIIMS New Delhi
2. “Bio-Statistical Models for Evaluation of Lymph Node Involvement among Oral Cancer Patients”, Department Of Biostatistics AIIMS, New Delhi
3. “Development of an Instrument to Evaluate Total Pain in Cancer Patients in Indian Context”, Department of Onco-Anaesthesia BRA-IRCH, AIIMS New Delhi
4. Comparison of Multigene hereditary panel testing profiles in breast cancer patients qualifying and not qualifying the NCCN 2018 criteria for genetic testing: A prospective study, Department of Medical oncology BRA- IRCH, AIIMS New Delhi
5. Perioperative anaesthetic management in cytoreductive surgery with hyperthermic intraperitoneal chemotherapy: A retrospective analysis in a single tertiary care cancer centre , Department of Onco-Anaesthesia BRA- IRCH, AIIMS New Delhi

## PUBLICATIONS

### Onco-Anaesthesia and Palliative Medicine

Journals: 89

### Delhi Cancer Registry

Journals: 5

### Laboratory Oncology

Journals: 65                      Abstracts: 14                      Chapters in Book: 1

### Medical Oncology

Journals : 161                      Abstracts : 2                      Chapters in Book : 1                      Books & Monographs: 1

### Medical Physics

Journals : 6

### Preventive Oncology

Journals : 2

### Radiodiagnosis

Journals : 39                      Abstracts : 1                      Chapters in Book : 2

### Radiation Oncology

Journals : 54                      Abstracts : 16                      Chapters in Book : 1

### Surgical Oncology

Journals: 43                      Abstracts: 4                      Chapters in Book : 5                      Books & Monographs: 1

### Anaesthesiology

Chapters in Book: 9

## PATIENT CARE

1. **TOTAL BED STRENGTH** = 182
  - a. Medical Oncology = 78
  - b. Radiation Oncology = 37
  - c. Surgical Oncology = 61
  - d. Palliative Care Unit = 06
2. **TOTAL OPD ATTENDANCE – (2017-18) (TOTAL = 171778)**
  - a. New Patient's Registered = 7093
  - b. Revisits = 75299
3. **DESCRIPTION OF VARIOUS OPD/CLINICS AT DR. BRAIRCH (YEAR 2020-2021)**

S.No.	Name of the OPD/Clinic	New Patient Registered			Revisits		
		Male	Female	Total	Male	Female	Total
1.	Adult Medical Oncology Clinic	733	684	1417	8571	15812	24383
2.	Adult Lymphoma Leukemia Clinic	-	-	-	-	-	-
3.	Aml/Hi Clinic	64	36	100	1536	849	2385
4.	All/Cml Clinic	91	45	136	2406	1852	4258
5.	Breast Cancer Clinic	40	349	389	649	2884	3533
6.	Bone & Soft (Tissue) Clinic	44	45	89	300	245	545



7.	Cancer Prevention And Screening Cl.	-	-	-	-	-	-
8.	Familial Cancer Clinic	-	-	-	-	-	-
9.	Gastro-Intestinal Clinic	117	78	195	322	270	592
10.	Gynaecology Clinic - `A`	-	02	02	-	43	43
11.	Gynaecology Clinic - `B`	-	11	11	-	95	95
12.	Gynaecology Clinic - `C`	-	80	80	-	429	429
13.	Genitourinary & Gynae Clinic	66	130	196	355	653	1008
14.	Head & Neck (Surgery) - A	134	29	163	326	302	628
15.	Head & Neck (Ent) – B	33	07	40	88	24	112
16.	Hepatobiliary & Pancreatic Clinic	43	40	83	202	228	430
17.	Lung Cancer Clinic	240	86	326	2217	1461	3678
18.	Nhl/Mm/ClI Clinic	46	29	75	674	814	1488
19.	Neuro Oncology Clinic	121	44	165	545	262	807
21.	Ophthalmic Tumour Clinic	10	08	18	-	-	-
22.	Paediatric Medical Oncology Clinic	172	60	232	3040	2319	5359
23.	Paediatric Lymphoma Leukemia Clinic	122	50	172	1737	1148	2885
24.	Paediatric (Surgery)	31	27	58	272	153	425
25.	Pain Relief Clinic	401	322	723	2738	2937	5675
26.	Pain & Palliative Care Clinic (Rt-II)	-	-	-	-	-	-
27.	Paediatric Palliative Care Clinic	-	-	-	-	-	-
28.	Radiotherapy Clinic	836	710	1546	3236	4651	7887
29.	Surgical Oncology (Clinic)	181	144	325	1056	1562	2618
30.	Thoracic Oncology Clinic	87	65	152	623	543	1166
31.	Transplant Clinic	19	09	28	675	441	1116
32.	Urology Malignancy Clinic	229	41	270	1749	770	2519
33.	Endo Malignancy Clinic	62	40	102	742	493	1235
	<b>Total =</b>	<b>3922</b>	<b>3171</b>	<b>7093</b>	<b>34059</b>	<b>41240</b>	<b>75299</b>

**G TOTAL = 7093 + 75299 = 82392**

<b>ADMISSIONS (2020-21)</b>	
REGULAR ADMISSIONSS	6002
SHORT/DAY CARE ADMISSIONS	22223
TOTAL ADMISSIONS	28225

<b>DISCHARGES (2020-21)</b>	
REGULAR DISCHARGES	5718
SHORT/DAY CARE DISCHARGES	21908
TOTAL DISCHARGES	27626

<b>TOTAL DEATHS – (2020-21)</b>	<b>189</b>
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<b>OPERATION THEATRE SERVICES – (2020-21)</b>	
MAJOR OPERATIONS	654
MINOR OPERATIONS	2996
TOTAL OPERATIONS	3650

<b>ELECTRO-CARDIOGRAM (ECG) – (2020-21)</b>	<b>3073</b>
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<b>OPD PROCEDURES (TREATMENT ROOM NO.15)</b>	<b>4265</b>
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<b>OPD CHEMOTHERAPY SERVICES (TREATMENT ROOM NO. 15)</b>	
MALE CT	2382
FEMALE CT	1218
MALE CHILD CT (PAED.)	2747
FEMALE CHILD CT (PAED.)	1130
<b>TOTAL CASES</b>	<b>7477</b>

**OPD ATTENDANCE NEW PATIENT'S REGISTERED (MALE & FEMALE) – (2020-1)**

<b>NEW PATIENT'S REGISTERED</b>	<b>MALE</b>	<b>FEMALE</b>	<b>TOTAL</b>
APRIL – 2020	20	14	34
MAY – 2020	33	21	54
JUNE – 2020	64	44	108
JULY – 2020	279	217	496
AUGUST – 2020	352	246	598
SEPTEMBER – 2020	438	376	814
OCTOBER – 2020	415	386	801
NOVEMBER – 2020	359	286	645
DECEMBER – 2020	396	339	735
JANUARY – 2021	452	334	786
FEBRUARY – 2021	510	404	914
MARCH – 2021	604	504	1108
<b>TOTAL</b>	<b>3922</b>	<b>3171</b>	<b>7093</b>

**TOTAL (MALE & FEMALE) = 3922 + 3171 = 7093**

**OPD ATTENDANCE REVISITS (MALE & FEMALE) – (2020-21)**

<b>REVISITS</b>	<b>MALE</b>	<b>FEMALE</b>	<b>TOTAL</b>
APRIL = 2020	1154	1009	2163
MAY – 2020	1922	1637	3559
JUNE – 2020	1492	1803	3295
JULY – 2020	1774	2287	4061
AUGUST – 2020	2075	2798	4873
SEPTEMBER – 2020	2730	3586	6316
OCTOBER – 2020	3155	3667	6822
NOVEMBER – 2020	3089	3472	6561
DECEMBER – 2020	4011	4587	8598
JANUARY – 2021	3420	4630	8050
FEBRUARY – 2021	4099	5001	9100
MARCH – 2021	5138	6763	11901
<b>TOTAL</b>	<b>34059</b>	<b>41240</b>	<b>75299</b>

**TOTAL (MALE & FEMALE) = 34059 + 41240 = 75299**

**GEOGRAPHICAL DISTRIBUTION ACCORDING TO THEIR RESIDENCE =**

<b>S. NO</b>	<b>State</b>	<b>Total</b>
1.	Andhra Pradesh	02
2.	Andman Nicobar	01

3.	Assam	12
4.	Arunachal Pradesh	01
5.	Bihar	741
6.	Chandigarh	03
7.	Chhattisgarh	05
8.	Dadar & Nagar Haveli	-
9.	Daman & Diu	-
10.	Delhi	2605
11.	Goa	02
12.	Gujrat	07
13.	Haryana	677
14.	Himachal Pradesh	27
15.	Jammu & Kashmir	44
16.	Jharkhand	67
17.	Kerala	09
18.	Karnataka	07
19.	Lakshdeep/Ladakh	16
20.	Madhya Pradesh	115
21.	Maharashtra	06
22.	Meghalaya	01
23.	Manipur	09
24.	Mizoram	03
25.	Nagaland	05
26.	Orissa	35
27.	Pondicherry	-
28.	Punjab	33
29.	Rajasthan	107
30.	Sikkim	08
31.	Tamilnadu	04
32.	Telangana	-
33.	Tripura	04
34.	Uttar Pradesh	2257
35.	Uttaranchal	205
36.	West Bengal	51
	<b>TOTAL</b>	<b>7069</b>

#### OTHER COUNTRIES

1.	Afghanistan	01
2.	Bangladesh	04
3.	Behrain	-
4.	Camroon	-
5.	Fiji	-
6.	Iraq	-
7.	Kazakstan	-
8.	Nepal	19
9.	Uzbekistan	-
	<b>TOTAL</b>	<b>24</b>

**GRAND TOTAL = 7069 + 24 = 7093**

**LABORATORY ONCOLOGY SERVICES – (2020-21)**

1.	HEMOGRAM (HMG) – (HB, TLC, PLATELETS)	42877
2.	PERIPHERAL BLOOD SMEAR (PBS)	3603
3.	BONE MARROW ASPIRATION (BM)	3021
4.	CYTO-CHEMISTRY	602
5.	SERUM PROTEIN ELECTROPHORESIS (SPE)	2739
6.	IMMUNOFIXATION (IFX)	1753
7.	URINE ELECTROPHORESIS (UE)	696
8.	TUMOR MARKER	-
9.	FLOWCYTOMETRY	43055
10.	C.S.F.	1873
11.	ESR	-
12.	MOLECULAR BIOLOGY	6824
13.	SERUM FREELIGHT CHAIN	4447
14.	CYTOPATHOLOGY	-
15.	BETA 2 – MICROGLOBULIN	686
16.	CYTOLOGY	240
17.	HPB DNA	927
18.	IMMUNOGLOBULIN	873
	<b>Total</b>	<b>114216</b>

**G TOTAL = 114216****APHERESIS – (2020-21)**

1.	SINGLE DONOR PLATELETS (SDP)	1609
2.	PERIPHERAL BLOOD STEM CELL – HARVEST (PBSC)	134
3.	HEMOGRAM	12958
4.	PLASMA	-
5.	NO. OF GRANULOCYTES	82
6.	PLASMA EXCHANGE	-
7.	STEM CELL HARVEST	14
	<b>TOTAL</b>	<b>14797</b>

**G TOTAL = 14797****MEDICAL ONCOLOGY LABORATORY SERVICES- (2020-21)**

1.	CYTOGENETICS FOR DETECTION OF PHILDELPHIA CHROMOSOME	237
2.	CYTOGENETICS FOR CHIMERISM	02
3.	RT-PCR FOR DETECTION OF P210 AND P190 TRANSLOCATION IN CML (QUALITATIVE)	100
4.	RQ-PCR FOR DETECTION OF P210 AND P190 TRANSLOCATION IN CML (QUANTITATIVE)	428
5.	CD 34 COUNTS BY FLOW CYTOMETRY	243
6.	CD 3 COUNTS BY FLOW CYTOMETRY	26
7.	IMMUNO PHENOTYPING FOR LEUKEMIA	-
8.	MNC COUNTS	139
9.	CRYOPRESERVATION OF STEM CELLS – 80	91
10.	STORAGE OF STEM CELLS AT 4	56
11.	BONE MARROW TRANSPLANT	-
12.	INFUSION OF STEM CELLS	135
13.	VIABILITY OF STEM CELL	136

14.	ELISA FOR ASPERGILLOSIS DETECTION	952
15.	LDH	461
16.	MAGNESIUM	49
17.	EBV - DNA DETECTION FOR EBV INFECTION	10
	<b>TOTAL =</b>	<b>3065</b>

**G TOTAL = 3065**

**MEDICAL PHYSICS SERVICES –(2020-21)**

1.	No. of blood bags irradiated	1199
2.	Quality Assurance test done on X-Ray machines	1572
3.	Quality Assurance test done on film processor at DR. BRAIRCH, AIIMS	-
4.	Quality Assurance test on film processor at Radiology (Main)	-
5.	Radiation output measurements in X-Ray units	276
6.	Quality Assurance test done on film processor at AIIMS	-
7.	Radiation protection survey measurements	33
8.	Advise in inadvertent exposure to pregnancy	01
9.	Q.C. test fluoroscopy done at AIIMS	-
10.	Q.A. test done on Lead apron	02
	<b>Total =</b>	<b>3083</b>

**G. TOTAL = 3083**

**RADIOTHERAPY SERVICES – (2020-21)**

1.	CASES ON RADIOTHERAPY	33069
2.	TOTAL FIELD ON RADIOTHERAPY	-
3.	CASES ON BRACHYTHERAPY	316
4.	TREATMENT PLANNING AND SIMULATIONS	2169
5.	TWO AND THREE DIMENSIONAL DOSE DISTRIBUTIONS	608
6.	COMPENSATORS	280
7.	SHIELDING BLOCKS IMMOBILIZATION DEVICES AND ORIFITS	1376
8.	RADIATION REVIEW CLINIC	1440
9.	PLANNING C.T.	976
	<b>TOTAL</b>	<b>40236</b>

**G.TOTAL = 40236**

**RADIO-DIAGNOSIS SERVICES – (2020-21)**

1.	C.T. SCAN	4435
2.	ULTRA-SOUND	3739
3.	MAMMOGRAPHY	676
4.	X-RAYS (ROUTINE)	11352
5.	DOPPLER	233
6.	INTERVENTION	967
7.	SPECIAL INVESTIGATION (BA,I)	362
8.	INTERVENTION MA	-
	<b>TOTAL =</b>	<b>21764</b>

**G TOTAL = 21764**



The patient care data for the year 2020-2021 that pertains to National Cancer Institute, Jhajjar are given below:-

**Total Bed Strength** : 710

**Total Functioning Beds** : 694

(179+ 515 were added during COVID period 01.04.2020 to 31.03.2021)

**OPD Attendance** : 48676

**New Cases Registered** : 6277

**Revisits/Old Cases** : 42399

**Details of OPD Attendance:**

S. No	Discipline	New cases			Revisit/Old Cases			Grand Total
		Male	Female	Total	Male	Female	Total	
1	Medical Oncology	408	325	733	5940	6675	12615	13348
2	Surgical Oncology	280	352	632	1291	1970	3261	3893
3	Radiation Oncology	364	277	641	2508	2220	4728	5369
4	Onco. Anesthesiology	211	127	338	932	668	1600	1938
5	ENT Oncology	368	79	447	1759	347	2106	2553
6	Gynae. Oncology	0	68	68	00	244	244	312
7	Urology Oncology	38	04	42	03	03	06	48
<b>Other Services</b>								
1	C.T.	516	404	920	0	0	0	920
2	Linac-I & II	0	01	1	7737	5608	13345	13346
3	Brachy-Therapy	0	87	87	0	155	155	242
4	Physio-Therapy	788	656	1444	1669	871	2540	3984
5	Emergency/Casualty	600	324	924	992	807	1799	2723
<b>TOTAL</b>		<b>3573</b>	<b>2704</b>	<b>6277</b>	<b>22831</b>	<b>19568</b>	<b>42399</b>	<b>48676</b>

**DEPARTMENT WISE ADMISSION AND DISCHARGE**

Discipline	Admissions			Discharges (including LAMA, Absconded & Deaths)			Total Days of Care			Average Length of Stay on Regular Admission
	Regular	Short/Day Care	Total	Regular	Short/Day Care	Total	Regular	Short/Day Care	Total	
Medical Oncology	525	6968	7493	477	6662	7139	2179	6968	9147	4.6
Surgical Oncology	479	-	479	442	0	442	2839	-	2839	6.4
Radiation Oncology	291	-	291	253	0	253	1051	-	1051	4.1
Onco. Anesthesiology	215	-	215	196	0	196	733	-	733	3.7
ENT Oncology	236	-	236	226	0	226	1837	-	1837	8.1
Gynae. Oncology	53	-	53	53	0	53	373	-	373	7
Urology	42	-	42	37	0	37	176	-	176	4.8
Pulmo. Medicine (COVID-19)	6239	-	6239	6323	0	6323	68410	-	68410	10.8
<b>TOTAL</b>	<b>8080</b>	<b>6968</b>	<b>15048</b>	<b>8007</b>	<b>6662</b>	<b>14669</b>	<b>77598</b>	<b>6968</b>	<b>84566</b>	<b>9.7</b>

**DEPARTMENT WISE DEATH INDICES**

Discipline	Total Discharges	Total Deaths	Deaths Under 48 Hrs.	Deaths Over 48 Hrs.	Gross Death Rate %	Net Death Rate %
Medical Oncology	7139	18	5	13	0.25	0.18
Surgical Oncology	442	02	0	2	0.45	0.45
Radiation Oncology	253	02	0	2	0.79	0.79

Onco. Anesthesiology	196	28	11	17	14.29	9.19
E.N.T	226	01	0	1	0.44	0.44
Gynae. Oncology	53	-	0	0	0	0
Urology	37	-	0	0	0	0
Pulmonary Medicine (COVID-19)	6323	153	27	126	2.42	2.0
<b>TOTAL</b>	<b>14669</b>	<b>204</b>	<b>43</b>	<b>161</b>	<b>1.39</b>	<b>1.10</b>

**BED OCCUPANCY RATE** : **55.33 %** (On the basis of functional beds & COVID-19 beds)

**SURGICAL PROCEDURES (MAJOR AND MINOR)**

<b>MAJOR</b>	<b>MINOR IN IPD</b>	<b>MINOR IN OPD</b>	<b>TOTAL</b>
<b>675</b>	<b>352</b>	<b>4640</b>	<b>5667</b>

**MONTH-WISE DATA OF ROBOTIC CORE LABORATORY**

<b>MONTH</b>	<b>NO. OF TESTS PERFORMED</b>
APRIL, 2020	91868
MAY, 2020	150144
JUNE, 2020	216096
JULY, 2020	204611
AUGUST, 2020	215944
SEPTEMBER, 2020	246873
OCTOBER, 2020	237984
NOVEMBER, 2020	285315
DECEMBER, 2020	231658
JANUARY, 2021	201712
FEBRUARY, 2021	226078
MARCH, 2021	277170
<b>TOTAL</b>	<b>2585453</b>

**MONTH-WISE DATA OF RADIO-DIAGNOSIS DEPARTMENT**

<b>Month</b>	<b>X-Ray</b>	<b>C.T.</b>	<b>Ultra-Sound</b>	<b>Usg Doppler</b>	<b>Mammo-Graphy</b>	<b>M.R.I.</b>	<b>Biopsy</b>	<b>DRF</b>	<b>Total</b>
April, 2020	206	0	20	0	0	1	0	Started From February 2021	227
May, 2020	637	69	39	9	0	0	0		754
June, 2020	832	88	52	3	0	0	0		975
July, 2020	849	102	81	18	0	0	1		1051
August, 2020	712	120	143	23	2	0	12		1012
September, 2020	964	134	151	10	8	0	23		1290
October, 2020	1040	101	136	10	9	0	20		1316
November, 2020	1384	120	90	9	8	0	16		1627
December, 2020	921	136	169	11	22	3	28		1290
January, 2021	549	110	137	11	23	18	30		878
February, 2021	781	212	232	10	29	11	53	1	1329
March, 2021	855	309	243	17	49	19	57	7	1556
<b>Total</b>	<b>9730</b>	<b>1501</b>	<b>1493</b>	<b>131</b>	<b>150</b>	<b>52</b>	<b>240</b>	<b>08</b>	<b>13305</b>

## ACHIEVEMENTS OF MEDICAL SOCIAL SERVICE, NCI JHAJJAR (2020-2021)

S.No.	Nature of Work	No. of Beneficiaries
1.	Total Exemption	943
2.	Counseling	132
3.	Railway Concessions	286
4.	Consultation/Requisitions	09
5.	Ayushman Bharat	26
6.	Financial Assistance (RAN)	01
7.	Financial Assistance (HMCPF)	01
8.	Financial Assistance (CMF)	01
9.	Financial Assistance (PMRF)	03
	<b>TOTAL</b>	<b>1402</b>

### Anaesthesiology

#### Facilities available in the Department

The department head was the Chairperson of clinical services of COVID-19 task force at NCI, Jhajjar, AIIMS, New Delhi. The department has started the two important policies—Pain Policy and End of Life Care Policy at AIIMS, New Delhi under the leadership of Prof Sushma Bhatnagar. The department has two courses at AIIMS; MD, Palliative Medicine and DM, Onco-Anesthesia at Department of Onco-Anesthesia and Palliative Medicine.

The other services offered in the department includes:

1. Structured Pain and Palliative Care Program for whole of the hospital
2. Running Pain and Palliative care clinics all six days in a week at IRCH, and NCI AIIMS
3. Advance Interventional Pain Management techniques like PNFS (Peripheral Nerve Field Stimulator) and Programmable Intrathecal Implant
4. USG guided nerve blocks in supine position for Gastro intestinal and Gynecological Malignancy
5. Ultrasound guided line central venous line placements
6. Radiofrequency ablation for Cancer Pain Patients
7. Scrambler Therapy in Cancer Pain Patients
8. Indian Association of Palliative Care's Certificate Course in Palliative Care Unit of Anesthesiology, Dr. BRA, IRCH is Nodal Center for conducting Indian Association of Palliative Care's Certificate Course in Palliative Care twice in a year
9. Research on psychosocial and spiritual aspect of pain in Cancer patients International collaborative research started in area of Pain and Palliative Care

### Laboratory Oncology

Patients registered at the Out Patient Departments of Medical Oncology, Pediatrics and Emergency Medicine are referred to Laboratory Oncology Unit, Dr BRA IRCH for laboratory and molecular diagnostic work up for hematological malignancies. The laboratory provides morphological assessment and flow cytometric immunophenotyping at the time of diagnosis and serially during the patient management, particularly the minimal residual disease (MRD) assessment in cases of B-ALL, T-ALL, AML, CLL and Multiple myeloma. At the molecular unit, we routinely perform RT-PCR based detection of common chromosomal translocations and mutations including t(8;21); *RUNX1-RUNX1T1*, inv(16) or t(16;16); *CBFB-MYH11* and t(15;17); *PML-RARA* fusion transcripts in Acute Myeloid Leukemia (AML) as well as fusion transcript detection in Lymphoid Leukaemia (*BCR-ABL*, *TEL-AML*, *MLL-AF4*, *E2A-PBX* and *SIL-TAL1*). In addition, monitoring of patients post chemotherapy for *BCR-ABL* by qPCR in CML and *PML-RARA* fusion transcript by nested PCR in APL, we have introduced qualitative monitoring of *RUNX1-RUNX1T1*, inv(16) or t(16;16); *CBFB-MYH11* by qPCR. Detection of common mutations in *NPM1-A* and *FLT3* genes is performed by fragment analysis (allelic ratio of mutant to wild-type).

We routinely perform detection of *FLT3-TKD* (D835Y), *JAK2* (V617F) and MyD88 (L265P) mutations, by allele-specific PCR. We have standardized the detection of *NPM1-A* (859\_860insTCTG), *KIT* (D816V), *NRAS* (Q61K), *NRAS* (G12/13), *KRAS* (G12/13), *KRAS* (Q61), *BRAF* (V600), *IDH2* (R140Q) and *IDH2*(R172K) mutations by droplet digital PCR in follow-up samples. In addition, sanger sequencing based qualitative assay for Imatinib Resistance mutation analysis (IRMA), sequencing of *KIT*, *CEBPA*, *BRAF*, *CALR*, *MPL* and *JAK2* genes for mutation detection is routinely carried out. We have included Myeloid Next Generation Sequencing (NGS) panel for targeted sequencing in routine clinical service that

provide actionable information for improved diagnosis, prognosis, and risk stratification for myeloid malignancies including acute myeloid leukemia (AML), myelodysplastic syndrome (MDS), and myeloproliferative neoplasms (MPN) and multiple myeloma. We have optimized the detection of common fusion transcripts (n=15 targets) and gene expression (n=17 targets) by nCounter elements digital molecular barcode chemistry introduced by Nanostring. This multi-gene panel can simultaneously detect 85 gene targets including fusion genes in which the fusion partner is unknown such as KMT2A, MECOM, JAK2, PDGFRA, and MLLT1.

**Medical Physics**

**Medical Physics Services**

No. of blood bags irradiated	1199
Quality Assurance tests done on x-ray machines	1572
Radiation output measurements in x-ray units	276
Advices in inadvertent exposure in pregnancy	01
Radiation Protection Survey measurements	33
QA tests done on lead apron at AIIMS	02
<b>Total</b>	<b>3083</b>

**Preventive Oncology**

**Community Services**

Health awareness camps outside AIIMS

Breast Cancer Awareness for women police personnel on 8 March at Police Station, Dwarka.

Breast Cancer Awareness Programme for Women Police Personnel at Dwarka Police Station



## Radio Diagnosis

The department provided the following services:

X-Ray	11352
Ultrasound	3739
Doppler	233
C T Scan	4435
Mammography	676
Fluoroscopy procedures and intervention	362
Intervention(USG, CT, guided)	967
<b>Total</b>	<b>21764</b>

## Radiation Oncology

Department of Radiation oncology has following facilities in providing quality of patient care.

1. Linear accelerators (Three in IRCH and 2 in NCI)
2. Telecobalt (Two in IRCH)
3. Brachytherapy (Two in IRCH and 1 in NCI)
4. CT Simulator (One in IRCH and 1 in NCI)
5. One X ray Simulator

Department runs Head and Neck Cancer Clinic, Neuro-oncology Clinic, Breast Cancer Clinic, GI Malignancy Clinic, GU Malignancy Clinic, Gynecological Malignancy Clinic, Lung Cancer Clinic with different concerned departments.

### A. DEPARTMENTAL STATISTICS (IRCH)

1. Total cases of external beam radiotherapy : 33069
2. Total cases of brachytherapy : 316
3. Treatment Planning and Simulations : 2169
4. 2D and 3D distribution : 608
5. Compensators : 280
6. Shielding blocks, immobilization devices, molds : 1376
7. Radiation Review clinic : 1440
8. Planning CT : 976
9. Number of cases who underwent chemotherapy :

### B. DEPARTMENTAL STATISTICS (NCI-AIIMS, Jhajjar)

1. Total cases of external beam radiotherapy : 12299
2. Total cases of brachytherapy : 251
3. Planning CT : 1276
4. Total numbers of new patients planned : 792
5. Total Registration with RT :
6. Total OT performed :

## Surgical Oncology

Under the title: Patient care/supportive activities: please include information regarding: (a) facilities available in the department (including special clinics and/or special laboratory facilities (b) community services/camps etc. Please also provide data wherever appropriate.

### (A) Facilities available in department

- 1) **Minor Operation Theater:-** Diagnostic and minor therapeutic procedures including Lymph node biopsy, punch/trucut biopsy, excision of Skin/Oral tumors, soft tissue tumors, feeding jejunostomy, colostomy, insertion of Hickman's catheter / chemo ports for long term Chemotherapy are available in the Minor O.T.

- 2) **Endoscopy Services (Diagnostic & Therapeutic):**

Diagnostic Endoscopy: Video and Fibre optic upper G.I.endoscopy, side viewing duodenoscopy, Colonoscopy, Sigmoidoscopy, Bronchoscopy, Cystoscopy, Nasopharyngo laryngoscopy and laparoscopy.



Therapeutic Endoscopy: Stricture dilatation, Intraluminal Radiotherapy, Stenting and Percutaneous Endoscopic Gastrostomy.

- 3) **Major Operation Theater:** Facilities available for all major cancer Surgeries including radical resection and reconstruction of tumors involving Head & Neck, GI tract, Breast, Bone and Soft tissue, Gynaecological malignancies, Hepato-Biliary-Pancreatic malignancies and Thoracic tumors. Advanced reconstructive surgical procedures are under taken to reconstruct the defects after resection.

In addition advanced state of art surgical oncology services are being offered including Minimally Invasive Surgery for GI cancers, Thoracic cancers and Gynae cancers, HIPEC for peritoneal surface malignancies, complex Limb salvage procedures for sarcomas and Risk reducing surgery for hereditary cancers.

Total no. of Minor Operations & Endoscopic procedures performed: 3344

Total no. of Major Cancer Operations performed:977

### Community service

1. Prevention & Early Detection of Breast Cancer. Indian Cancer Society Cancer Sahyog Webinar as a - "Gulabi Charcha. 16 September 2020. New Delhi.
2. Providing free cancer care services and student awareness for Cancer in Bihar & Jharkhand through an NGO, Chandrakanti Devi Cancer Foundation

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

#### Anesthesiology

**Professor Sushma Bhatnagar** was the Chairperson of clinical services of COVID task force at NCI, Jhajjar, AIIMS, New Delhi; founder of two important policies Pain Policy and End of Life Care Policy at AIIMS, New Delhi. She is 'Council member' International Association of Study of Pain (IASP) Council for a period of six years till 2023; Council member of Asia Pacific Hospice Network; Member of Scientific Committee of World Congress on Pain to be held at Amsterdam in August, 2020. She is President - Indian Association of Palliative Care. She is member of Implementation Group - Lancet Commission Global Access to Pain Control and Palliative Care. She is recipient of 2018 International Innovation Grant (Project ID 12554) from Conquer Cancer Foundation by American Society of Clinical Oncology. She is appointed as 'Master mentor' of Palliative care program in India. She is the expert of National Palliative Care Program, Ministry of Health and Family Welfare, Govt of India. She is founder of two important courses at AIIMS. DM, Onco-Anesthesia & MD, Palliative Medicine. She is the expert member and given significant contribution in bringing amendment of NDPS Act, in 2014 by Parliament in the Narcotic Drugs and Psychotic Substance act 1985. She edited Book Cancer Pain Management in developing countries. She is conducting the certificate course of Indian Association of Palliative Care. She organized six workshops at various State Medical Colleges of Uttar Pradesh to increase the awareness of Cancer Pain Management. She is reviewer of articles for Lancet Oncology and British Journal of Anaesthesia.

**Dr Rakesh Garg** was awarded Fellowship of Indian College of Critical Care Medicine (FICCM) by Indian College of Critical Care Medicine, *The Education division of Indian Society of Critical Care Medicine*. He was appointed as Council member for Asian Council of Science editors. He was the technical committee member for World Bank Project World Bank funded project to provide recommendations on training needs for the Health Sector in the current scenario and post COVID. He is Associate Editor of Indian Journal of Anaesthesia, Journal of Anesthesiology and Clinical Pharmacology and Indian Journal of Palliative Care.

**Dr Sachidanand Jee Bharati** was nominated as member of the sub-committee namely Medical Disposables and Consumables of standing national committee on medicines (SNCM) for revision of National List of Essential Medicine (NLEM). He is reviewer of Indian Journal of Cancer and Journal of Clinical Anaesthesia and Pharmacology.

#### DCR

**Dr Rajeve Kumar Malhotra** received the Prof BG Prasad award (2019) received from Indian Society of Medical Statistics 38th ISMS virtual conference 2020 for best paper titled "The trends in lung cancer incidence in Delhi, India 1988-2012: Age-period-cohort and joinpoint analysis published in Asian Pacific journal of Cancer Prevention 2018; 1647-1654" published in the indexed scientific journal.

#### Laboratory Oncology

**Professor Ritu Gupta** received the AIIMS Oncology Research Award 2020; oral paper award at 61st Annual Conference of the Indian Society of Haematology and Blood Transfusion.

**Dr Sanjeev Kumar Gupta** received the first prize in MedGenome Prima Webinar Quiz on “Basics of genetic testing in Myeloproliferative Neoplasms”.

**Dr Pranay Tanwar** received the oral paper Award from ABPMT & ICBMT-2020. He was invited as Chairperson in talk “Use of HPV Testing in primary Screening” at AOGIN India Academics.

**Dr Amar Ranjan Singh** received the outstanding award for the poster titled “Evaluation of pulmonary nodule in Mantle Cell lymphoma” at KATRD Int Conf 2020, Seoul, Korea; Outstanding Award for poster titled: “Infective lesions in lung in mantle cell lymphoma” KATRD Int Conf 2020, Seoul, Korea; poster Exhibition Award for Primary non Hodgkin lymphoma of ovary: a rare case report, at ICBMT 2020, Busan, Korea; Exhibitor Prize Award at 33rd Annual Lorne Cancer Conference 2021.

**Dr Smeeta Gajendra** received the best Poster presentation Award at virtual 22nd INDO-US Flow Cytometry Workshop held on “Flowcytometry and its Applications in Biological Research and Clinical Diagnostics”.

**Dr Gurvinder Kaur** became the member of the American Society of Histocompatibility and Immunogenetics (ASHI) International Sub-Committee

### Medical Oncology

**Professor Lalit Kumar** was the member Expert Committee for (i) Vice Chairperson for the project: DHR-ICMR Advanced Oncology Diagnostic Services (DIAMOnDS). (ii) Member- National Apex Committee for Stem Cell Research and Therapy (ICMR) - New Delhi. (iii) Member- Special Technical Expert Committee (DBT) to review proposals on CART Cell Therapy (18.08.2021) (iv) Member Advisory Committee for Shanti Swaroop Bhatnagar Prize for Science and Technology- 2020 (14.09.2020) (v) Member Advisory Panel for fellowship of the National Academy of Medical Sciences, New Delhi. (vii) Member, Project review committee: BIRAC (Biotechnology Industry Research Assistance Council): Network of Clinical Oncology Trial in India. He was member, Faculty Selection Committee for Member Faculty Selection Committee in Medical Oncology for- (i) Banaras Hindu University (14.08.2021). (ii) K.G. Medical University Lucknow (04.01.2021). (iii) ESI-PGIMS, Basai Darapur, New Delhi (Super Specialist in Medical Oncology). He was the examiner at (i) PhD (Madras University, JNCASR (Jawahar Lal Nehru Centre for Advanced Scientific Research) Bangalore. (ii) DM Medical Oncology- Dr. B. Borooch Cancer Institute (S. S. University of Health Sciences- Guwahati) on 25.05.201. (iii) Examiner for DNB in Medical Oncology (paper setter, thesis evaluation) 2020-2021. (iv) MD & DM Thesis (PGIMER, Chandigarh). He was member, Scientific Committee, Non communicable diseases, ICMR, Member, Governing Council, Sun Pharma Science Foundation, Member, Scientific Committee, Cancer Institute, Adyar, Chennai, member (subject expert), Ethics Committee, Dharmshila Cancer Hospital, New Delhi. He is Associate editor (Asia) for Current Problems in Cancer (Elsevier), Member, editorial board - Indian Journal Of Medical Research (IJMR) (ICMR, Medknow (iii) Cancer Medicine (Wiley Online Library) and ONCOLOGY (Karger). He is the chairperson for the consensus document for management of acute myeloid leukemia [https://main.icmr.nic.in/sites/default/files/guidelines/Acute\\_Myeloid\\_Leu](https://main.icmr.nic.in/sites/default/files/guidelines/Acute_Myeloid_Leu) commissioned by ICMR : Non communicable div.

**Professor Atul Sharma** was awarded first prize in “Oncology Research Award” year 2019 in clinical research titled Modified gemcitabine and oxaliplatin or gemcitabine and cisplatin in unresectable gallbladder cancer: Results of a phase III randomised controlled trial by AIIMS, New Delhi.

**Dr Ranjit Kumar Sahoo** received the award of best debater in a seminar organized by Mumbai Hematology Group.

**Dr Raja Pramanik** was the Organizing Secretary for Indian Cancer Genetics and Genomics Conference, under the aegis of Research and Education society of Medical Oncology (RESMO), Department of Medical oncology, INDO-UK Genetic Education Forum, New Delhi.

**Dr Deepam Pushpam** received the first prize in eposter titled a retrospective analysis comparing oral metronomic therapy and pazopanib in metastatic soft tissue sarcoma at ISMOS 2021 Delhi.

**Dr Chandra Prakash Prasad** served as evaluator/external examiner for PhD thesis at Department of Pharmacology, JSS Academy of Higher Education and Research, Mysuru Department of Biotechnology, Jamia Hamdard, New Department of Biological Sciences, Institute of Liver & Biliary Sciences, New Delhi on thesis entitled “To study the role of bone marrow and tissue derived macrophages in hepatic regeneration”. He participated in EACR sponsored ‘Meet the Expert’ Webinar with ‘Joan Seoane’ titled Liquid biopsies and novel therapeutic targets in brain tumors and metastasis; HeriCureValyn-University conference ‘Impact of Natural Bioactive Compounds for the Treatment of CoVid-19: Diagnostic Challenges and Futuristic Perspectives; Digital discussion on ‘Cancer and Metabolism’ organized by Abcam; EACR 2020 Virtual Congress for EACR Members and Annual Conference of Indian Association for Cancer Research organized by ILS, Bhubaneswar. He was inducted as fellow i.e.F.S.L.Sc. of Society of Life Sciences, M.P, India. He was the chairperson for the session ‘Cutting edge genomic technology’ at Indian Cancer Genetics & Genomics Conference 2020 held on 21 & 22 Nov 2020 at AIIMS, New Delhi.

**Dr Mayank Singh** was the panelist in session entitled at “Indian cancer genetics and genomics conference 2020” at AIIMS New Delhi. He was appointed as Associate Editor for IACR (Indian Association for Cancer Research) News letter.

**Dr. Sachin Kumar** (Scientist II) was awarded First Prize in the Oral Paper Presentation titled Analysis of the expression of PD-L1 and PD-L1 regulatory microRNAs in lung cancer, in NALCCON 2020: 10th Annual Conference of Indian Society for Study of Lung Cancer (ISSLC) organized on virtual platform by Max Institute of Cancer Care, Delhi.

**Dr Surender K. Sharawat (Scientist I)** organized 7th and 8th Conventional Cancer cytogenetic Workshop for Post Graduate DM student, IRCH, AIIMS, New Delhi.

### Medical Physics

**Dr Pratik Kumar** was nominated by Bureau of Indian Standards (BIS) to International Electrotechnical Commission (IEC) Technical Committee TC62 and its various sub-committees and working groups dealing with medical radiation equipment, radiation dosimeters and radiation safety; Member, Program Monitoring Committee for projects submitted to BIRAC under SBIRI (Small Business Innovation Research Initiative), PACE (Promoting Academic Research Conversion to Enterprise) and, BIPP (Biotechnology Industry Partnership Programme); Member, sub-committee constituted by DST Expert Panel to look into different ionization based technology for air pollution control; External expert at Rajasthan Public Service Commission for the selection of the faculties in radiological physics; External expert to the meeting of the Board of Studies on B.Sc. Medical Technology (Radiodiagnosis & Imaging), SGPGIMS, Lucknow; Question setter for Super Specialty Cancer Institute & Hospital, Lucknow; Moderator for the panel discussion entitled “Impact of x-ray discovery on radiotherapy, radiology imaging and medical physics” at Virtual Symposium on International day of Medical Physics and 125th Anniversary of the discovery of x-rays, organised by SMS Medical college, Jaipur; Chaired a session at 21st National Conference on Solid State Nuclear Track Detectors & Their Applications, Ramjas College, University of Delhi; Expert for NRDC National Meritorious Innovation Awards 2020 instituted by National Research Development Corporation, Min. of Science & Technology; Member Secretary, Radiation Safety Committee, AIIMS; Referee for Journal of Medical Physics, Journal of Luminescence (Elsevier), Indian Journal of Radiological Imaging, European J of Medical Physics (Elsevier); Examiner for M.Sc. Radiography, UCMS & GTB hospital; Editor, Medical Physics Gazette, newsletter of Association of Medical Physicists of India (AMPI); Member, Editorial Board, Journal of Medical Physics; Member Electro-medical Equipment Sectional Committee, Bureau of Indian Standards (BIS), New Delhi.

### Radio Diagnosis

**Dr Chandrashekhara SH** was awarded Fellowship of Indian College of Radiology (FICR) by Indian College of Radiology and Imaging in 2020.

**Dr Mukesh Kumar** was reappointed as treasurer for society for emergency radiology India for 2021-22.

**Dr Ekta Dhamija** is the team member of Onco-Imaging Subspecialty Task force for preparing Oncologic Imaging Protocols and reporting checklist in Carcinoma cervix, ovary, endometrium and sarcomas and was appointed as governing council member of Breast Imaging society of India for term of two years (2019-2021).

### Radiation Oncology

**Professor G K Rath** is the member, Atomic Energy Regulatory Board (AERB), Govt of India; Chairman of the Research Area Panel (RAP) on Cancer at NCDIR-ICMR, Bengaluru; Chairman of the High power committee for the 2nd Campus, CNCI, Kolkata; Scientific Advisory Committee (SAC) of National Centre for Disease Informatics and Research (NCDIR), Indian Council of Medical Research, Bangalore; Expert for assisting in setting up of Comprehensive Radiation Oncology department at ESIC Medical College & Hospital, Faridabad; Member of ICMR Search cum selection committee for the post of Director ICMR-National Institute for Implementation Research on non communicable diseases, Jodhpur; Subject expert for the online APS interview for the Dept of Radiotherapy, AIIMS, Raipur. He is member Governing Body of AIPH university, Bhubaneswar & Super Speciality Cancer institute and Hospital, Lucknow; member Governing Bodies of 4 Regional cancer centers (RCC): Acharya Tulsi RCC, Bikaner, Acharya Harihara RCC, Cuttack, RCC, Agartala, andRCC, Allahabad; member of Indo US Advanced Radiotherapy Consortium (IUS-ARC) Working Group and member of Standing Academic and Research Council (SARC) of CNCI, Kolkata.

**Dr Subhash Gupta** was the external Examiner at Department of Radiation Oncology at Dr SN Medical College, Jodhpur; NBE practical examination in the specialty of BE practical exami at Indraprastha Apollo Hospital, New Delhi; evaluation of thesis for of thesis forthesis forpital, New Delhhandigarh; NBE practical examination in the specialty of BE practical exami at Indraprastha Apollo Hospital, New Delhi; evaluation of two thesis of AIIMS Jodhpur and Udaipur RNT Medical College. He was expert for the preparation of OSCE model questions in Radiotherapy at National Board of Examinations. External examiner for thesis evaluation at Udaipur RNT Medical College on 26 March 2021.

**Dr Haresh KP** was the coordinator and Expert for OSCE workshop for the preparation of questions in Radiotherapy at National

Board of Examinations; DNB practical examination in radiotherapy at National Board of Examinations; Examiner for the evaluation of DNB Thesis in Radiotherapy for the year 2020. He was the member of Project review committee (PRC) in Oncology of Indian Council of Medical Research (ICMR), New Delhi; member of Project review committee (PRC) of Research Methodology Cell at ICMR, New Delhi. He was steering committee member for the ARANOTE Study-Darolutamide in prostate cancer. He is the Lead Principal Investigator for India for the international ARANOTE Study of Darolutamide in prostate cancer

**Dr Supriya Mallick** was awarded AIIMS Excellence research award.

### **Surgical Oncology**

**Professor SVS Deo** has been nominated as Chair for VAIBHAV event organized by Govt. of India in collaboration with International scientific experts on “Low cost Cancer Care in India”; nominated by ICMR as Convener of multidisciplinary team for developing “ Telemedicine Guidelines for Cancer Care in India”. He was invited as Key note speaker by European Society of Surgical Oncology to deliver a keynote lecture on “Impact of COVID on Cancer Surgery in LMIC”. He was awarded seed funding for “SURAKHA Breast Cancer Genetics” project as Chief Investigator by prestigious “Welcome-DBT Research grants”. He was invited to deliver the Oration on “Past, Present and Future of Surgical Oncology” during World Cancer Day celebrations at IGIPGMR, Patna. He was elected as Treasurer “Breast Surgery International”, Switzerland; President “Indian Society of Peritoneal Surface Malignancies”; President of “Association of Breast Surgeons of India”; and Vice President “NCR oncology forum”. Dr. SVS Deo invited as subject expert for faculty selection by UPSC, AIIMS Jodhpur, IGIPGMS Patna.

### **VISITING SCIENTIST**

#### **Surgical Oncology**

- A. Professor David Wintreat, Professor of Surgical Oncology, University of Wisconsin, USA, Virtual Visit.
- B. Professor Robert Cerfolio, Professor of Thoracic Oncology, NYU, New York, USA, Virtual Visit.
- C. Professor Sanjay Warrier, Professor of Surgery, Sydney, Australia, Virtual Visit.

## 10.4. Rajendra Prasad Centre for Ophthalmic Sciences

### Chief and Professor of Ophthalmology

Atul Kumar

#### Professors

Pradeep Sharma (Upto January 2021)	Ramanjit Sihota	JS Titiyal
Radhika Tandon	SK Khokhar	Shakti Kumar Gupta (Medical Supdt.)
Dilip R Shende (Ocular Anesthesia)	Mandeep Singh Bajaj	Rajpal Vohra
Seema Sen (Ocular Pathology)	Sanjay Sharma (Radio-Diagnosis)	Seema Kashyap (Ocular Pathology)
Namrata Sharma	Tanuj Dada	Pradeep Venkatesh
Neelam Pushker	T Velpandian (Ocular Pharmacology)	Praveen Vashist (Community Ophthalmology)
Jasbir Kaur (Ocular Biochemistry)	Rohit Saxena	Viney Gupta (Ocular Anesthesia)
Renu Sinha	Tushar Agarwal	M Vanathi
Rajesh Sinha	Bhavna Chawla	Parijat Chandra
	<b>Associate Professors</b>	
Noopur Gupta	Rachna Meel	Vinod Kumar
Rohan Chawla	Swati Phuljhele	Vivek Gupta (Community Ophthalmology)
	Nishat Hussain Ahmed (Ocular Microbiology)	
	<b>Assistant Professors</b>	
Dewang Angmo	Shikha Gupta	Neiwete Lomi
Kanil Ranjith Kumar	Prafulla Maharana	Shorya Vardhan Azad (Ocular Anesthesia)
Rebika	Arshad Ayub (Ocular Anesthesia)	Amar Pujari
		Manpreet Kaur

### HIGHLIGHTS

Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS, the apex centre for ophthalmic care in the country, is recognized as a premier super-specialty institute with state-of-the-art equipment and world class facilities for patient care, teaching and research. Some of the key highlights of Dr RP Centre include:

- Retina Unit provides state-of-the-art services in the field of Pediatric Cataract, Refractive Surgery, Vitreo-retina, Uvea and Retinopathy of prematurity (ROP). The unit specializes in pediatric cataract surgery and postoperative visual rehabilitation. It also manages various sight threatening vitreo-retinal disorders such as Diabetic Retinopathy, Vascular Occlusions, Age-related Macular Degeneration, Retinal Detachment and Uveitis. The unit performs latest sutureless 27G vitreo-retinal surgeries. It is supported by state-of-the-art imaging and investigative tools and LASER delivery systems.
- **Unit IV** is responsible for the specialties of Glaucoma, Strabismus and Neuro-Ophthalmology.
- **Unit V** dedicated Strabismus, paediatric ophthalmology, neuro-ophthalmology, oculoplasty and ocular oncology services continued to provide compassionate patient care.
- **Unit VI** Started Plaque brachytherapy for treatment of ocular malignancies. Upgraded Low Vision Services with additional rehabilitation services. RPC under AIIMS guidelines successfully managed 3296 patients (total- 5136) via telemedicine services during lockdown in India. Patients took online appointment for their respective units.



- **Unit VI** Started Plaque brachytherapy for treatment of ocular malignancies. Upgraded Low Vision Services with additional rehabilitation services. RPC under AIIMS guidelines successfully managed 3296 patients (total- 5136) via telemedicine services during lockdown in India. Patients took online appointment for their respective units.
- **National Eye Bank (NEB):** Actively involved in teaching, research and patient care. NEB working towards target of eliminating corneal blindness includes 10500 pledges in north India in a single day, 22 corneal transplantations in a single day and 21 modern corneal surgeries (DSAEK) in a single day. NEB utilization rate is consistently greater than 70% over the last 10 years. For the last consecutive 4 years, more than 1000 corneal transplantations have been performed annually. NEB activities include tissue retrieval, serological investigations (HIV-1, HIV-2, HCV, HBV and Syphilis), tissue processing, tissue storage, tissue evaluation, specular microscopy, slit-lamp microscopy, training and workshop, eye donation promotion, teaching, research and education.
- **Ocular Pathology:** Research is being done in the field of Molecular Characterization of Malignant Lacrimal Gland Tumours, Antiretinal antibodies in autoimmune retinitis, Identification and Characterization of Molecular Targets in Orbital Tumors: Basis of innovative therapeutic strategies, Variable gene expression of collagen and associated degradative enzymes present in human vitreous in patients with myopia, Pigmentation marker in uveal melanoma, Tumour DNA sampling from aqueous humour in retinoblastoma and Receptor Tyrosine Kinase in Ocular Malignancies
- **Ocular Pharmacology & Pharmacy:** Received BIG GRANT (BIRAC) for the project entitled “Development and validation of TransRecon® Technique for sterile pharmaceutical preparation”, Received Prestigious Grand Challenges Award for the Project to address antimicrobial resistance jointly funded by Bill & Melinda Gates Foundation (BMGF) and DBT. A scientific analysis of bioactive compounds including antibiotics in surface and ground water in Delhi and NCR has been undergoing which is a part of the initiative of National Mission for Clean Ganga. Introduced longer storage media RPC Exstorsol for Govt Eye Banks.
- **Ocular Microbiology:** Despite the nationwide lockdown for most of the year, the section processed approximately 13,000 specimens during the last year for various investigations like Bacterial culture and antimicrobial sensitivity testing; Fungal culture; Culture and PCR for *Acanthamoeba* eye and CNS infections; Chlamydia antigen detection, serology, PCR assay from eye infections and male and female genital tract infections; Herpes simplex virus antigen detection; PCR assays for bacteria, fungi, viruses, *Chlamydia* and *Acanthamoeba* etc. from indoor and outdoor patients. The investigations for Chlamydial infections, viral infections and *Acanthamoeba* infections were also provided. Dr. Nishat Hussain Ahmed as Nodal Officer of COVID-19 and member secretary of COVID-19 Committee of the centre has trained more than 600 HCWs and has made educative video for the monitors. She has worked for making SOPs, posters and displays, and COVID-19 sample collection facility. Along with diagnosing Ocular Infections, maintaining safety of patient care articles and areas, contact tracing, evaluation of PPE, and surveillance of PPE use and infection control practices is being done.
- **Community Ophthalmology:** Community Ophthalmology is involved in the activities like comprehensive primary eye care services through 18 vision centres in underprivileged areas, outreach eye camps in community as well as in schools for the blind, school vision screening, low vision rehabilitation and in epidemiological research and surveys, training and capacity building, community awareness and mobilization apart from academic activities. Community ophthalmology is currently running 11 projects on eye care research & services in partnership with National agencies like NPCB&VI, DHR, ICMR, DST. Close collaborations have been developed with international agencies like World Health Organization, London School of Hygiene and Tropical Medicine UK, ORBIS, Sightsavers, VisionSpring, Operation Eyesight Universal, CBM etc. Under this initiative, vision rehabilitation services are being provided to people with visual disability by a team of rehabilitation of Community Ophthalmology. Orientation and Mobility, Reading and writing rehabilitation services, Low vision evaluation, counselling on vocational training, activities of daily living (ADL), Instrumental ADL, issuance of disability certificates, advice for environmental and lighting modification are various components of services being offered to the needy patients and family members etc.  
Community Ophthalmology completed National Survey on Human Resources and Infrastructure for Paediatric Eye Care Services 2020 in India across the country with support from National Programme for Control Blindness and Visual Impairment (NPCB & VI), Government of India, Vision 2020 and Orbis International. The survey involved online data collection from nearly 7900 eye care institutes across the country with regard to infrastructure and services. The results of surveys have been combined to generate the India Vision Atlas in which the findings of the survey have been displayed along with the previous National Blindness and Visual Impairment Survey 2015-19.

## EDUCATION

The Centre is actively involved in teaching and training of undergraduate MBBS, BSc (optometry) and postgraduate in Ophthalmology.

Ophthalmologists and other trainees in RP Centre 2020-21	Number
Senior resident doctors	54
Post graduate students in Ophthalmology	115
Number of M.D. Passed out	39
BSc Optometrist students- passed out	12
Number of PhD students- passed out	1
Details of short term/long term trainees in RP Centre	5

### CMEs/Workshops/Symposia/National and International Conferences

1. Organized Phacoemulsification and Refractive surgery workshop (Online). 10 January 2021. RP Centre for Ophthalmic Sciences, AIIMS. New Delhi
2. Organized Live ISCKRS Web Conference 2020 along with Annual GBM of Indian Society of Cornea & keratorefractive surgeons (ISCKRS), November 2020
3. Organizing Chairman, 35th National Eye Donation Fortnight Celebration (Online) at RP Centre, AIIMS New Delhi. August 2020
4. Strabismus Workshop, Dr. RP Centre for Ophthalmic Sciences, AIIMS, 19 July 2020, New Delhi
5. Glaucoma Workshop, Dr. RP Centre for Ophthalmic Sciences, AIIMS, 23 August 2020, New Delhi
6. Cornea Workshop, Dr. RP Centre for Ophthalmic Sciences, AIIMS, New Delhi, 18 October 2020
7. Indian Ophthalmology Network (ION) Online series on Refraction – 3 Modules: Refraction series: Module 1: Refraction and prescription guidelines in myope and hyperope, Refraction series: Module 2: Astigmatism and Refraction series: Module 3: Refraction and prescription in special conditions
8. Organized a webinar on “COVID-19 Challenges in Diagnosis and Pharmacotherapy” under the aegis of Delhi Pharmacological Society, on 5 September 2020

### Lectures delivered:

**SK Khokhar: 14**

**Shorya Vardhan Azad: 2**

**JS Titiyal: 21**

**Manpreet Kaur: 14**

**Rohit Saxena: 17**

**Dewang Angmo: 8**

**MS Bajaj: 4**

**Rachna Meel: 5**

**M Vanathi: 12**

**Nishat Hussain Ahmed: 1**

**Renu Sinha: 3**

**Senjam Suraj Singh: 13**

**Rajpal Vohra: 4**

**Parijat Chandra: 6**

**Namrata Sharma: 21**

**Ramanjit Sihota: 5**

**Viney Gupta: 1**

**Rebika: 3**

**Neelam Pushker: 5**

**Amar Pujari: 3**

**Noopur Gupta: 5**

**Seema Kashyap: 1**

**T Velpandian: 8**

**Vivek Gupta: 4**

**Vinod Kumar: 10**

**Rohan Chawla: 9**

**Tushar Agarwal: 5**

**Tanuj Dada: 14**

**Shikha Gupta: 9**

**Pradeep Sharma: 19**

**Swati Phuljhele Aalok: 10**

**Radhika Tandon: 21**

**Neiwete Lomi: 5**

**Seema Sen: 1**

**Praveen Vashist: 22**

**Sanjay Sharma: 3**

### SK Khokhar

1. COVID-19 and Eye Problems. Special show “Ayushman Bhava” in Rajya Sabha TV, 1 October 2020. Online
2. Challenges in pediatric cataract surgery during covid time. Delhi Ophthalmological Society Monthly Clinical Meeting of Army Hospital (R&R), 27 September 2020, Online (New Delhi)
3. Cataract surgery in infants: Tips and tricks. SAO-POSA 2020 - 2nd SAARC Academy of Pediatric Ophthalmology and Strabismus Webinar, 26 September 2020. Online
4. Webinar jointly organized by Asia Pacific Strabismus and Paediatric Ophthalmology Society, Asia-Pacific Strabismus and Paediatric Ophthalmology Society (APSPoS), Sankar Nethralaya and MCOA, 22 November 2020. Online
5. “In the bag IOL” and “Post optic Capture”, Straight 2020. Drashti Nethralaya, Dahod Sir as President, SPOSI, 13 December 2020. Online

6. Post COVID Impact on Eye Care. English special show India Fights Back Organized by Rajya Sabha Television Channel (RSTV), 14 December 2020. Online
7. Collaboration for research in govt service. How and why? The blueprint for thought leadership. DOS, Delhi “Doctors in Service Session”, 18 December 2020. Online
8. As Chairman, Topic On “Essential Pediatric Ophthalmology”. DOS, Delhi, 18 December 2020. Online
9. Topic on “Pediatric Cataract” As Chairperson. DOS, Delhi, 19 December 2020. Online
10. Live Surgery on ICL-1 - Transmission from Dr. RPC for Ophthalmic Sciences, New Delhi, DOS, Delhi, 20 December 2020. Online
11. Pediatric Surgery Cataract. AIOS, IOC 2021 International Ophthalmic Conclave AIOS - Asia Pacific Strabismus and Paediatric Ophthalmology Society Symposium, 21 February 2021. Online
12. UBM in Pediatric Cataract. 15th Founders’ Day of Advanced Eye Centre, PGI, Chandigarh, 20 March 2021. Online
13. Persistent Fetal Vasculature. 8th Midterm Strabismus and Pediatric Ophthalmological Society of India (SPOSI), 20 March 2021. Online
14. Pediatric Cataract. DOS midterm live surgery in RPC, 20 March 2021. Online

#### **Rajpal Vohra**

1. Retinopathy of Prematurity Session. Annual DOS 2020 Conference, 18-20 December 2020. Online
2. Posterior Segment Investigations. Annual DOS 2020 Conference, 18-20 December 2020. Online
3. Judge - Retina Free Paper - 5 session. Annual DOS 2020 Conference, 18-20 December 2020. Online
4. Attended as a faculty. DOS Mid Term Conference 2021, 20-21 March 2021, New Delhi

#### **Vinod Kumar**

1. Retinal imaging. VRSI, 25 April 2020, Webinar
2. A tale of power and fluid. Bangalore Retina Club, 15 May 2020. Online
3. Reducing postoperative Metamorphopsia after Retinal reattachment surgery. Retina edu, 7 August 2020, Webinar
4. Learning from mistakes. Masterclass by LVPEI, 30 August 2020. Online
5. Onion and the Ooze. Annual VRSI conference, 12 December 2020. Online
6. I can live without OCTA. AIOS ARC, Retina Update Series, 18 December 2020. Online
7. Dissecting a vascular bomb. Masterclass by LVPEI, 7 February 2021. Online
8. Diffusing a torpedo. AIOS International Surgical Retina Symposium, 20 February 2021. Online
9. Blood dyscrasias and metastasis. Cochin Ophthalmic Club, 7 February 2021. Online
10. VMTS-the way forward. DOS midterm conference, 21 March 2021. Online

#### **Shorya Vardhan Azad**

1. Tackling APROP with central attraction. Masterclass by LVPEI, 6 February 2021. Online
2. Postoperative and post injection endophthalmitis. CME Retina Workshop, 20 September 2020. Online

#### **Parijat Chandra**

1. Managing ROP detachments. 4th VRSI national webinar, 19 July 2020. Online
2. Challenging Pediatric Retina Cases. Annual VRSI meeting, 10-13 December 2020. Online
3. Management of Stage 5 ROP. DOS Winter Conference, 18-20 December 2020. Online
4. ROP Surgery. DOS Winter Conference, 18-20 December 2020. Online
5. Surgical Challenges in ROP. ROP Enclave: MGM Eye Institute, Raipur, 14 March 2021. Online
6. Managing Common Complications in Stage 4 ROP Surgery. DOS Midterm Conference, 20-21 March 2021, Delhi

#### **Rohan Chawla**

1. Fundus coloboma, DOS Annual Conference, 18-20 December 2020, Delhi
2. Diabetic Vitreous surgery. DOS Annual Conference, 18-20 December 2020, Delhi
3. Scleral nodule. VRSI, 1 November 2020. Online
4. Paediatric grt. VR surgery Masterclass, February 2021. Online
5. Laser in DR. 5th International diabetic summit, 1 March 2021. Online
6. Update on retina for the physician. IMA Delhi – Prof JJ Sood oration, 1 March 2021. Online

7. GRT flap issue. Delhi Retina forum, 1 September 2020. Online
8. PVRL- Lymphoma. Cochin Society Conference, 1 September 2020. Online
9. OCT terminologies and prognostic indicators in age related macular degeneration. Annual conference Kerala Society of Ophthalmology, 1 November 2020. Online

### **JS Titiyal**

1. Surgical strike in phacoemulsification. All India Ophthalmological Society & IIRSI, April 2020. Online
2. Which IOL to choose. Intra ocular implant and refractive surgery society of India (IIRSI), April 2020. Online
3. Pearls in the management of infective keratitis. 78th Annual Conference of AIOS 2020, April 2020. Online
4. Toric IOL: Image Guided surgery. 78th Annual Conference of AIOS 2020, May 2020. Online
5. Hard Cataract phacoemulsification. Cochin Academy of Ophthalmologist (Cochin), June 2020. Online
6. Cornea and Refractive Case files. 78th Annual Conference of AIOS 2020, June 2020. Online
7. Management of keratoconus and ectatic disorders. 78th Annual Conference of AIOS 2020, June 2020. Online
8. Cornea teaching PG program. AB Eye Institute, Patna, June 2020. Online
9. Kerakconnect: Cataract and coexisting corneal pathology. Cornea Society of India, July 2020. Online
10. Eye Banking, Corneal Surgery and Covid 19. All India Ophthalmological Society – Eye Bank Association of India, July 2020. Online
11. Endothelial keratoplasty learners' group. Shroff Charity Educational Series, July 2020. Online
12. A to Z of refractive surgery for general ophthalmologists. Maharashtra Ophthalmological Society, Pune, July 2020. Online
13. Corneal Biomechanics – not just for the scientist anymore. All India Ophthalmological Society, August 2020. Online
14. Practical tips for cataract surgery basics to advance. AIIMS Bhubaneshwar, August 2020. Online
15. Femto Second Laser Assisted Cataract Surgery. King George's Medical University, Lucknow, September 2020. Online
16. Advanced Cataract Care solutions. All India Ophthalmological Society, September 2020. Online
17. PG Update on Cataract Surgeries cornea. All India Ophthalmological Society, December 2020. Online
18. New Era of Digital Microscopes and Visualization Technologies and also Digital technologies improving intra-operative workflow. All India Ophthalmological Society, January 2021. Online
19. ARC Update Series on Refractive surgery (Difficult situations). All India Ophthalmological Society, March 2021. Online
20. Refractive surgery (Difficult situations). All India Ophthalmological Society, 19 March 2021. Online
21. Million-dollar questions in refractive surgery. KeraKconnect CME series with Intra ocular Implant & Refractive Society of India (IIRSI), 1 April 2021. Online

### **Namrata Sharma**

1. How will Corneal Endothelial Transplantation Change Eye Bank Cost and Revenue Models? Ophthalmology Futures Asian Retina Forums 2021, 26 March 2021. Online
2. Panotix IOLs. Intra ocular implant and refractive surgery society of India (IIRSI), 20 & 21 March 2021, New Delhi
3. Presented DEWS II: Tear Film. Online meeting Advances in diagnosis and management for Dry Eye: Understanding better the dry Eye Workshop Study (DEWS II), 27 February 2021. Online
4. MK Lasik What are the problems. AIOS-1 International Ophthalmic Conclave, 19-21 February 2021. Online
5. Indian Eye Banking in COVID era. AIOS-1 International Ophthalmic Conclave, 19-21 February 2021. Online
6. Descemet's membrane detachment. Walk in Patient in your OPD – How to Diagnose, Treat and when to refer? 24 January 2021. Online
7. iOCT guided Corneal and Ocular surface surgeries. Webinar on Intraoperative OCT and Anterior Segment, 13 December 2020. Online
8. Intraoperative OCT GUIDED Phacoemulsification. Cataract Surgery in Difficult Situations an IrSO-IIRSI Webinar, 29 October 2020. Online
9. Corneal transplantation and Eye banking: the way forward. World Sight Day Celebration- Hope in sight, 8 October 2020. Online
10. iOCT guided anterior segment surgeries. TOSCON 2020- Online Conference, 27 September 2020. Online

11. iOCT assisted DMEK & PDEK. Endothelial Keratoplasty Symposium organized by Intraocular implant and refractive Society (IIRSI) Annual Conference, 19th Sepr 2020. Online
12. Biomechanics in pediatric keratoconus. International Webinar “Corneal Biomechanics” not just for the scientist anymore, 15 August 2020. Online
13. Approach to pterygium/ pseudo-ptyerygium lesions. Webinar on Unlocking Ocular Surface, 26 July 2020. Online
14. Approach to a case of Peripheral Ulcerative Keratitis. Webinar on Unlocking Ocular Surface, 26 July 2020. Online
15. OPD and OT in COVID times. Webinar on Problem, Precision & Premium, 13 June 2020. Online
16. Lasers for post keratoplasty astigmatism management. Managing Post Keratoplasty Astigmatism – KeraKconnect E CME-2, 13 June 2020. Online
17. Epithelial Ingrowth after LASIK. Webinar on Complications of Refractive Procedures, 30 May 2020. Online
18. Covid Conjunctivitis. Webinar on Ocular Emergencies, 7 May 2020. Online
19. Iatrogenic Dry Eye and Practical Tips. TFOS-AIOS National Webinar, 27 April 2020. Online
20. Management Pearls of Fungal Keratitis. Webinar on Pearls in Management of Infective Keratitis, 25 April 2020. Online
21. COVID-19 related research in Ophthalmology - A new paradigm. Webinar on COVID-19 and Ophthalmology, 19th April 2020. Online

### **Tushar Agarwal**

1. Phaco in Stromal Dystrophy, Kerakconnect-E-CME Series. Cornea Society of India, 25 July 2020, Webinar
2. Nuclear Management-Hard & Soft Cataracts. Ophthafest-2020, Practical Surgical tips in Cataract Surgery: Basics to advanced, Department of Ophthalmology, AIIMS, Bhubaneswar, Odisha, 28 August 2020, Webinar
3. C Traumatic Corneal Laceration Repair. Cornea Workshop, 18 October 2019, New Delhi
4. Post-RK Cataract, Challenging Case-Scenarios in Phacoemulsification. Phacoemulsification & Ref Surgery Update, 10 January 2021, New Delhi
5. Surgical Skill Development for Ophthalmology Residents. Advanced Eye Centre, 21 March 2020, Chandigarh

### **Manpreet Kaur**

1. Video Bouquet of SMILE: Different techniques and difficult situations. American Academy of Ophthalmology, November 2020, Las Vegas, USA
2. N Different management strategies for a Wide spectrum of White Cataracts. American Academy of Ophthalmology, November 2020, Las Vegas, USA
3. C Optimizing outcomes in Toric IOLs & Managing Challenging Situations. American Academy of Ophthalmology, November 2020, Las Vegas, USA
4. Case study models and cross learning across states and nations. LVPEI SEARO WHO Webinar, March 2021, Online
5. iOCT guided phakic IOL implantation. Delhi Ophthalmological Society, 20-21 March 2021, Delhi
6. Complications of small incision lenticule extraction. Phaco & Refractive Update, RP Centre, 10 January 2021, Delhi
7. Complications of small incision lenticule extraction. Delhi Ophthalmological Society, 18-20 December 2020, Delhi
8. IOL Power Calculation in Premium IOLs. Indian Society of Cornea and Keratorefractive Surgeons, 15 November 2020, Delhi
9. Halting progression in Ectasia. RP Centre, 18 October 2020, Delhi
10. iOCT guided phakic IOL surgeries (Online). IIRSI Annual Conference, 19-29 September 2020. Online
11. ASOCT, iOCT and UBM (Online). iFocus PG teaching program, 26 August 2020. Online
12. Phacoemulsification after Radial keratotomy. CME, 25 July 2020. Online
13. Role of posterior corneal curvature and understanding of total K in biometry. ISCKRS Webinar, 25 June 2020, Online
14. Formulate guidelines for Refractive Surgery. AIOS, 5 May 2020. Online

### **Ramanjit Sihota**

1. Subject Expert. AIIMS Kalyani, 26 July 2020, AIIMS, Delhi
2. Diagnosis and Management of Angle Closure. 3 WGA Global Webinar, 13 February 2021, Online Meet, RPC, AIIMS, Delhi



3. Long Term Stabilization of Glaucoma. International Ophthalmic Conclave 2021, 20 February 2021, Online Meet, RPC, AIIMS, Delhi
4. Panel Discussion. World Glaucoma Week Lok Sabha TV (LSTV), 12 March 2021, SKYPE/Online RPC, AIIMS, Delhi
5. Delivered Lecture. 15th Founders' Day of Advanced Eye Centre, PGIMER, 20 March 2021, Online Meet, RPC, AIIMS, Delhi

#### **Tanuj Dada**

1. Meditation: a polypill for Glaucoma. World Ophthalmology Congress, June 2020, Delhi
2. Gonioscopy – Video assisted skill Transfer. Glaucoma Society of India, 1 July 2020, Delhi
3. Should we adopt New MIGS techniques. International Society Glaucoma Surgery, 1 July 2020, Delhi
4. Management of Primary Angle Closure. RP Centre Glaucoma Workshop, 1 August 2020, New Delhi
5. Trabeculectomy technique and modifications. RP Centre Glaucoma Workshop, 1 August 2020, New Delhi
6. How to evaluate the Anterior chamber Angle. RP Centre Glaucoma Workshop, 1 August 2020, New Delhi
7. Targeting the Brain in Glaucoma. Webinar of All India Ophthalmological Society, 1 August 2020. Online
8. OCT for Glaucoma. Masterclass for All India Ophthalmological Society, 1 September 2020, Delhi
9. Angle Closure Glaucoma. PG Teaching for ARC, AIOS, 1 September 2020, Delhi
10. How Mindfulness Meditation Can Benefit glaucoma patients. Asia Pacific Glaucoma Society, 1 November 2020, Delhi
11. Micro pulse cyclophotocoagulation. World Glaucoma Association, 1 November 2020, Delhi
12. Trabeculectomy. PG Teaching for ARC, AIOS, 1 January 2021, Delhi
13. Effect of meditation in Glaucoma patients. DOS monthly meeting RP Centre, 1 February 2021, Delhi
14. How to perform Gonioscopy. Govt. Medical College Chandigarh, 1 March 2021, Chandigarh

#### **Rohit Saxena**

1. Disc Edema. COS Webinar, 20 May 2020, Delhi
2. Optic Neuritis. ARC Webinar, 4 July 2020, Delhi
3. Ethambutol: Consensus Guidelines. INOS, 5 July 2020, Delhi
4. Debate, ARC Webinar, 26 July 2020, Delhi
5. Approach to Disc edema. BOS, 4 August 2020, Delhi
6. Management of Optic. GOS, 6 August 2020, Delhi
7. Expert Panel. NN Webinar, 13 August 2020, Delhi
8. Evaluation of Squint. Kalpavriksh, 16 August 2020, Delhi
9. Managing Diplopia. NN Webinar, 21 August 2020, Delhi
10. Cataract Symposium. ARC Webinar, 29 August 2020, Delhi
11. Speaker: Management of Optic Neuritis. ARC Webinar, 17 September 2020, Delhi
12. Myopia Prevention. Nagpur Squint Club, 2 October 2020, Delhi
13. IIH Management. HOA, 22 November 2020, Delhi
14. Atropine for Myopia Debate. IIRSI, 5 December 2020, Delhi
15. Myopia Pandemic. OSA, 20 January 2021, Delhi
16. Pediatric Ophthalmology. ARC Meeting, 23 January 2021, Delhi
17. Squint Surgery simplified. DOS Midterm, 21 January 2021, Delhi

#### **Viney Gupta**

1. Managing Pediatric Glaucoma. AIOS ARC Series, 10 July 2020. Online

#### **Shikha Gupta**

1. Managing complications in trabeculectomy: VAST. Glaucoma workshop, RPC, 1 August 2020, RPC, AIIMS, Delhi.
2. Newer drugs in glaucoma. Glaucoma workshop, RPC, 1 August 2020, RPC, AIIMS, Delhi
3. Managing complications in trabeculectomy: VAST. Delhi Glaucoma Forum, 5 September 2020, Online meet, Delhi

4. Modified sewing machine technique: Doing it my way, Senior Instructor. AAO 2020, 1 November 2020, Online meet, USA
5. Secondary types of glaucoma. DOS winter meet 2020, 19 December 2020, New Delhi
6. Newer therapies in glaucoma. AIOS: YOSI webinar, 16 January 2021, New Delhi
7. Glaucoma awareness. DD Kisan News channel, 14 March 2021, New Delhi
8. Descemet Membrane changes in Primary congenital glaucoma eyes. IPGS 2021, 20 March 2021, New Delhi
9. My Oops moments in trabeculectomy. DOS mid-term meet 2021, 21 March 2021, New Delhi

#### **Dewang Angmo**

1. Guidelines on Glaucoma in COVID Times. AIOS Webinar, 7 June 2020, Delhi
2. ASOCT Imaging in Angle Closure glaucoma. GSI Webinar, 3 July 2020, Delhi
3. Case of NVG – A Pandora's box. Kolkata Academy of Ophthalmology (KAO) Webinar, 15 August 2020, Delhi
4. Lasers in Glaucoma. RPC Glaucoma Workshop, 23 August 2020, Delhi
5. OCT-RNFL/GCC in Glaucoma. RPC Glaucoma Workshop, 23 August 2020, Delhi
6. OHT & Glaucoma Suspect. DOS Annual Conference 2020, 18 December 2020, Delhi
7. Diagnosis in Glaucoma. DOS Annual Conference 2020, 18 December 2020, Delhi
8. Glaucoma Video presentation. DOS Annual Conference 2020, 19 December 2020, Delhi

#### **Rebika**

1. A typical optic neuritis. DOS annual conference 2020, 18 December 2020, New Delhi
2. Differentiating Glaucomatous versus non-glaucomatous optic neuropathy. DOS annual conference 2020, 18 December 2020, New Delhi
3. Ocular Emergencies. OSA Optometry Explorer, 20 February 2021, New Delhi

#### **Pradeep Sharma**

1. Nystagmus. Webinar, 1 May 2020, Aravind Eye Hospital, Coimbatore/ Online
2. Paralytic Strabismus. PG Lecture on YouTube, 13 May 2020. Online
3. Transpositioning Muscle Techniques. Mid Term SPOSI, 7 June 2020, Amritsar Ophthalmology Society/Online
4. Nystagmus-Simplified. Ophthalmology Reboot 2020, 20 June 2020, Kochi, Kerala/Online
5. Strabismus surgery-Pearls & Perils. Strabismus Workshop, 19 July 2020. Online
6. Ophthalmic Pearl of the month, Quiz "Brain Teaser". 2 August 2020, Sarakshi Netralaya Pune/Online
7. Acute onset diplopia: How to workup and the differential diagnosis of acute diplopia. Neuro Ophthalmologic 2020, 16 August 2020/Online
8. Managing Wobbly eyes. Update Ped. Ophthalmology, 21 August 2020, ARC AIOS/Online
9. Nystagmus evaluation and Management. Update Ped. Ophthalmology, 21 August 2020, ARC AIOS/Online
10. Newer Procedures in Strabismus surgery. KGMU Eye Lecture Series, 30 August 2020, KGMU, Lucknow/Online
11. Nystagmus-Simplified. Controversies in Strabismus surgeries, 4 September, Cybersight.org (ORBIS)/Online
12. PG Update in Pediatric Ophthalmology. AIOS, 10 September 2020, AIOS-ARC/Online
13. Neuro Ophthalmology (Expert Panel). AIOS ARC, 17 September 2020, AIOS/Online
14. Difficult and Advanced Strabismus. SAO POSA (SAARC), 26 September 2020, SAARC/Online
15. Evolving Procedures in paralytic strabismus. Centenary Celebrations with Pediatric Ophthalmology Symposium, 21 November 2020, Sao Geraldo Hospital, Brazil/Online
16. Paralytic Strabismus: Being a general Ophthalmologist what can I do! VISTA 2020, 22 November 2020, HOA VISTA/Online
17. Management of Duane retraction syndrome. DOS Conference, 18-19 December 2020. Online
18. Management of Lost muscle. DOS Conference, 18-19 December 2020. Online
19. Duane Retraction Syndrome. 36th Annual conference Odisha State Ophthalmological society, 9-10 January 2021. Online

#### **MS Bajaj**

1. Minimally invasive approach for management of Orbital Venolymphatic Malformation. Oculoplasty and Ocular Oncology
2. Workshop, 22 November 2020. Online
3. Innovations in Ptosis Surgery. DOS Hybrid International Conference, 18-20 December 2020. Online

4. International Oculoplasty and Ocular Oncology Session. DOS Hybrid International Conference, 18-20 December 2020. Online
5. Liposarcomas of the Orbit. OPAI Oculoplasty and Oncology session, 1 March 2021. Online

#### **Neelam Pushker**

1. Ptosis. 14th Kalpvriksha Online CME programme, August 2020. Online
2. Targeted Therapy. Annual Online Oculoplasty & Oncology RPC Workshop, November 2020, RPC, AIIMS, NEW DELHI/Online
3. Composite graft in Lid Reconstruction. DOS Online Annual Conference, December 2020, Online/Online.
4. Complications after Orbitotomy. Mid-term DOS Conference, March 2021, New Delhi/Online
5. Exenteration. AIOS-ARC PG Update Online series in Orbit & Oncology, March 2021. Online

#### **Swati Phuljhele Aalok**

1. Advances in amblyopia therapy. Strabismus Workshop, RP Centre, AIIMS, 19 July 2020. Online
2. Superior Oblique Palsy. Strabismus Workshop, RP Centre, AIIMS, 19 July 2020. Online
3. Esotropia. Strabismus Workshop, RP Centre, AIIMS, 19 July 2020. Online
4. DVD. Strabismus Workshop, RP Centre, AIIMS, 19 July 2020. Online
5. Suspected Optic Neuritis. Kozhikode ophthalmology Society Webinar, 30 May 2020. Online
6. Neuro-ophthalmology: History and clinical examination. Neuro-Ophthalmology Webinar, 3 August 2020. Online
7. Decision Making in Squint Surgeries. Kalpvriksha, Post Graduate Teaching Programme, 14 August 2020. Online
8. III Nv palsy. ARC, AIOS PG update Series, 10 December 2020. Online
9. Decoding Anisocoria. Annual Conference of Delhi ophthalmology Society, 18-20 December 2020. Online
10. Anterior Segment Ischemia. Midterm Conference of Delhi ophthalmology Society Delhi ophthalmology Society, 21 March 2021, New Delhi

#### **Rachna Meel**

1. Don't forget ears in ophthalmology. Oculoplasty Webinar, 12 July 2020. Online
2. Interferon in OSSN. Back to Basics Ocular Oncology' workshop, 20 September 2020. Online
3. TED – Tackling the Yearsoid eye. Oculoplasty and oncology workshop, 22 November 2020, Delhi/Online
4. Surgical management in TED. DOS annual conference 2020, 19-20 December 2020. Online
5. An unusual case of proptosis in a child. DOS monthly meeting (Dr RPC), 31 January 2021. Online

#### **Amar Pujari**

1. Smartphone Glaucoma clinic. Japanese annual glaucoma conference, 2nd October 2020. Online
2. Posterior polar cataract classification using ASOCT. North Indian talent search, 16 November 2020. Online
3. Role of ASOCT in posterior polar cataracts. Young Ophthalmologists' Session. DOS annual 2020, 20 December 2020. Online

#### **Radhika Tandon**

1. Development of Diagnostic panel for inherited retinal diseases. Digital Project Evaluation Committee (PEC) Meeting, 9 July 2020. Online
2. COVID-19 & Eye Banking. Eye Banking & COVID-19! 2020, 19 July 2020. Online
3. Changing Paradigm of Keratoplasty in the COVID Era. 35th National Eye Donation Fortnight Celebrations & COVID-19 & The Conundrum of Eye Donation & Corneal Transplant, 25 August 2020. Online
4. Hospital Cornea Retrieval Programme. Webinar on HCRP during the “National Fortnight on Eye Donation”, 7 September 2020. Online
5. Cornea donation in India: Current status and the way forward. National Online Nursing Conclave on Cornea Donation, 8 September 2020. Online
6. Management of post cataract surgery corneal complications. IIRSI 2020 Annual Conference, 19 and 20 September 2020. Online
7. Handling the graft DSAEK graft outside the eye, eye bank perspective/media, temp, trephines, blocks. Endothelial Keratoplasty Learners Group (EKLK), 27 September 2020. Online

8. Holistic Thinking and Solutions for Cornea Blindness, Keratoplasty and Eye Banking Program in India. National Contest on Eye Donation Pledge – Valedictory Function, 8 October 2020. Online
9. Stromal, DM and Endothelial Dystrophies. iFocus Online Session 39, 16 October 2020. Online
10. DSAEK. Cornea Workshop 2020, 18 October 2020. Online
11. Cornea 2020: Seeing Clearly Into the Future: Presenter COR06 - Imaging in Infectious Keratitis: An Update 656 - The Boston Keratoprosthesis: Practical Know-How. AAO 2020 Online: Senior Instructor, Annual Meeting of American Academy of Ophthalmology (AAO) 2020 Vision Online Meeting at Las Vegas, USA, 13-15 November 2020. Online
12. Dry eye update. Annual Conference of KSOS 2020, 27 November 2020. Online
13. Kera Hatke. KERACON 2020 - 8th National Meeting of Cornea Society of India, 13 December 2020. Online
14. Corneal Ulcer Demystified Clinical manifestations of HSV keratitis. Annual DOS 2020 Conference, 18-20 December 2020. Online
15. Refractive Surgery - Work up & Investigation. Online Annual DOS 2020 Conference, 18-20 December 2020. Online
16. Pediatric Keratoplasty- Special issue. Online Annual DOS 2020 Conference, 18-20 December 2020. Online
17. Who, What, Why & How of Ocular Antibiotic Selection. AIOS-Santen Webinar on Ocular Infection, 27 December 2020. Online
18. Pseudoexfoliation syndrome. Phacoemulsification & Refractive Surgery Update, 10 January 2021, Lecture Theatre, 6th floor, RP Centre
19. Challenging Case-Scenarios in Phacoemulsification. Phacoemulsification & Refractive Surgery Update, 10 January 2021, Lecture Theatre, 6th floor, RP Centre
20. Corneal Topographical Assessment. Annual Conference AIIMS OPTOMETRY EXPLORER 2021, 20-21 February 2021, New Delhi/Online
21. Challenging cases in Microbial Keratitis. Mid Term Conference of DOS, 21 March 2021, New Delhi

#### **M Vanathi**

1. Anterior segment OCT in Cornea and Refractive surgery. Update on Ophthalmic Imaging (Webinar Lecture series – Aravind Eye Hospital), 21 April 2020. Online
2. The Art of Scientific Writing: DO's and Dont's. Research & Publishing for all, 28 April 2020. Online
3. PG case discussion on corneal ulcer and chemical injury. Vinayaka Mission's Medical College, Karaikal, TN, 19.6.2020. Online
4. Penetrating keratoplasty – Near Live Surgery. Cornea Subspecialty Workshop, Dr RP Centre, AIIMS, New Delhi, 1 October 2020. Online
5. Nuances in Pediatric Keratoplasty. Essential Surgical Skills: Top Tips for pediatric cornea specialists, 7 November 2020. Online
6. Managing allograft rejection & high risk keratoplasty including immune suppression. Postoperative care, 7 November 2020. Online
7. Therapeutic keratoplasty in fungal keratitis. AAO Fungal Keratitis: Think like an expert, 14-16 November 2020, Las Vegas, USA Online
8. Case selection & Preoperative workup. AAO 2020 The Boston Keratoprosthesis: practical know-how,, 14-16 November 2020, Las Vegas, USA Online
9. Difficult scenarios in Lamellar Keratoplasty. Bangalore Ophthalmic Association Conference Cornea Session, 19 December 2020. Online
10. White Intumescent Cataract – Surgical Videos. Phacoemulsification & Refractive Surgery Update, 1 January 2021. Online
11. Ophthalmology PG long case Live – Survival tips explained. Cochin Ophthalmic Club Series, 7 March 2021. Online
12. Surgical Nuances: Interactive discussion, Taming the Tiger. Therapeutic Keratoplasty (LVPEI series), 20 and 21 March 2021. Online

#### **Noopur Gupta**

1. Management of Viral keratitis. RPC Cornea Workshop, 18 October 2020, New Delhi
2. Soft cataract: challenges. RPC Phaco & Refractive Surgery Update, 10 January 2021, New Delhi
3. Elimination of Trachoma: Are we on the right track. DOS Annual Meeting: ACOIN Session, 12 January 2020, New Delhi

4. Ophthalmology Grand Rounds. NPCBVI Training on Primary Eye Care, 26 February 2021. Online
5. Current status of Trachoma. NPCBVI Training on Primary Eye Care, 5 March 2021. Online

#### **Neiwete Lomi**

1. Radiation Therapy in Ocular Tumors. DOS 2020 International Hybrid conference, 8 October 2020, New Delhi
2. Management of Acute Chemical injury. Cornea Workshop, 18 October 2020, New Delhi
3. Plaque brachytherapy in ocular tumors. Oculoplasty & Ocular Oncology Workshop, 22 November 2020, New Delhi
4. Small Incision Cataract Surgery. Phacoemulsification & Refractive surgery Updates, 10 January 2021, New Delhi
5. The perfect debate: Chemotherapy for Group E Retinoblastoma. Back to Basic in Ocular Oncology, 20 September 2020, Vijayawada, Webinar

#### **Ocular Microbiology**

##### **Nishat Hussain Ahmed**

1. Represented RP Centre in meeting of COVID-19 sequelae with DGHS, Meeting with DGHS on 'Progress Made in Research to Study Clinical Sequelae of COVID-19', 22 February 2021, New Delhi

#### **Ocular Pathology**

##### **Seema Kashyap**

1. Interesting orbital lesions, Annual DOS conference 2020, 19 December 2020, Delhi (Online)

##### **Seema Sen**

1. Pathology of orbital Tumors. Oculoplasty Oncology workshop, 1 November 2020, Dr RP Centre, AIIMS

#### **Ophthalmic Anesthesia**

##### **Renu Sinha**

1. Covid Era: Time to Change Practice In Paediatric Anesthesia, COVID-19: Changes in Ophthalmic Anesthesia. Practice for Eye surgery" First Online World Congress of Ophthalmic Anesthesia (WCOA) Meet 2020, 30 May 2020. Online
2. Ophthalmic Emergencies in Operation Room: Covid Situation - Mock Drills. Annual Academic sessions & Pre-Congress workshops of Faculty of Pain Medicine of the College of Anesthesiologist & Intensivists of Sri Lanka (COAISL), 23 May 2020. Online
3. Anesthesia management of conjoint twin. CCR, 24 November 2020, AIIMS, Delhi

#### **Ocular Pharmacology**

##### **T Velpandian**

1. Evolving Therapeutics in COVID; Engagement of Pharmaceutical Medicine. Webinar organized by Ultra College of Pharmacy, Madurai in association with TN Dr. MGR Medical University, 1 June 2020. Online
2. Bio-intelligence: AI application in Pharmaceutical Research. XXXIII AICTE sponsored Quality Improvement Programme (QIP) on at Delhi Institute of Pharmaceutical Sciences & Research (DIPSAR), New Delhi, 22 September 2020. Online
3. AMR: Emerging Threat from Drug Trails. Webinar on "Emerging trends and challenges in pharmaceutical sciences and health care" organized by Nehru College of Pharmacy, Thrissur District, NGI-Kerala, 18 September 2020. Online
4. Opportunities for Natural Products. AICTE sponsored XXXV-QIP on Frontiers in Pharmaceutical in Education and Research: Emerging trends in Phytopharmaceuticals organized by Delhi Institute of Pharmaceutical Sciences and Research, 9 October 2020. Online
5. LC-MS/MS application in forensic science. 4th Workshop on LC- Mass for Analysis of Drugs and Explosives organized (Online) by Log Nayak Jai Prakash Narayan Institute of Criminology and Forensic Science, New Delhi, 23 November 2020. Online
6. Urban Waste Management: Impact of covid-19 pandemic on medical and non-medical waste. 3rd International Conference on Entrepreneurship, Innovation and Leadership (ICEIL 2020) at Amity University, Noida, Delhi-NCR, 18 December 2020. Online
7. Emerging Role of Artificial Intelligence in the Pharma Industry. Webinar organized by National Institute of Technology, Warangal-506 004 during, 4-6 March 2021. Online



8. Ethical issues in Preclinical Research. Workshop - cum - Training Programme on “Proposal writing and Ethical issues in Research”, 11 March 2021, VPCI, Delhi University, New Delhi

## **Community Ophthalmology**

### **Praveen Vashist**

1. National Blindness & Visual Impairment survey. MGM Institute, 8 May 2020. Online
2. National Program Strategies Beyond COVID-19. Orbis Cybersight- Regional Webinar Series on “Unlocking Possibilities Beyond Lockdown”, 15 May 2020. Online
3. CBM session on inclusion in Eye care -Advocacy efforts. Vision 2020- Right to Sight India annual conference, on 13 June 2020. Online
4. Status on National Survey on Human Resource & Infrastructure for eye care services in India. Vision 2020 Governing Body meeting, 29 July 2020. Online
5. Community Eye Health and Vision Center Guidelines during COVID Pandemic in India. Clear Vision Speaker Series-2020 - A series of webinars organized by VisionSpring, to educate, 13 August 2020. Online
6. Vision center approach for primary eyecare. National Eye Donation Fortnight 2020 ACOIN HARYANA programme, 31 August 2020. Online
7. COVID-19 Safe Community Access to Eyeglasses: New Guidelines for the New Normal. Webinar organized by Vision Spring, 7 October 2020. Online
8. Post Covid guidelines for cataract surgeries. Webinar on occasion of World Sight Day organized by Sightsavers, 8 October 2020. Online
9. Blindness in India, the quantum of problem: where are we? Webinar organized by AIOS, 8 October 2020. Online
10. National Blindness survey India 2019- Results and its implication. Webinar organized by ACOIN Odisha state chapter, 8 October 2020. Online
11. Vision Centres and its importance in achieving universal access to eye care and was also panelist for the session. Online workshop entitled “Vision Centre Excellence and Management” on occasion of World Sight Day organized by Sadguru Netra Chikitsalaya, 9 October 2020. Online
12. Safe Ophthalmic Practices during Post COVID Times. Webinar on celebration of “World Sight Day 2020: Hope in Sight organized by Sightsavers, West Bengal, 13 October 2020. Online
13. Guidelines for Eye Hospitals during this new normal”. Launch of “Comprehensive guidelines for OPD/IPD Services in Ophthalmology” - a joint initiative of Orbis and Quality and Accreditation Institute (QAI), 12 November 2020. Online
14. Epidemiology on corneal blindness in India. Centre for Sight series on Corneal Blindness, 20 November 2020. Online
15. Service Delivery Models for Community Eye Health & the role of Optometry and Allied Vision Care. Indian Optometric Association (IOA) - 2020” on, 6 December 2020. Online
16. Elderly Eye Care in technical exploratory workshop. National Program for Healthcare of Elderly (NPHCE) to witness the release of LASI – Longitudinal Aging Study of India Wave 1 Report by the Hon’ble Health & Family Welfare Minister Dr. Harsh Vardhan, 6 January 2021. Online
17. National Program for Control of Blindness and Visual impairment in India. Invited by Ophthalmology and Community Medicine department of AIIMS Bhubaneshwar, 1h February 2021. Online
18. Sharing field experience on Vitamin A deficiency. second meeting of Expert Committee on devising the revised strategy on Vitamin-A supplementation in under-five children in India is scheduled under the chairpersonship of JS-RCH, 18 February 2021. Online
19. Prevalence and causes of Blindness on Primary Eye Care on Community Level. Invited as an Advisor and Resource Person for NPCB training programme on Primary Eye Care in the Community, for 50 Medical Officer and ophthalmologists, 19 and 26 February 2021. Online
20. National Programme Strategies - Beyond Covid-19. Invited as a special educator for annual conference “AIIMS OPTOMETRY EXPLORER”, 20 February 2021. Online
21. Primary eye care on vision centre level. Invited as a resource person in the Online training program GDMOs and Ophthalmologist, 5 March 2021. Online
22. Achievements in Community Ophthalmology at RP Centre including contribution in NPCB&VI. 5th Founders’ Day of the Advanced Eye Centre, 21 March 2021. Online

### **Senjam Suraj Singh**

1. Vision Rehabilitation at tertiary eye care facilities. Delhi Ophthalmological Society (DOS), 3 April 2020. Online
2. The need of the hours Profile of the patient attending vision rehabilitation clinic at Dr. RP Centre for Ophthalmic Sciences AIIMS. Delhi Ophthalmological Society (DOS), 3 April 2020. Online
3. Leveraging the power of the Digital Technology. WDRPA, 26 June 2020. Online
4. Visual Disabilities and Assistive Technology. 5th World Disability and Rehabilitation Conference (WDRC 2020), 5th and 6 November 2020. Online
5. rATA methodology: sample size, sampling technique. Rapid Assistive Technology Assessment (RATA) workshop, organized by WHO, Geneva, 17-19 November 2020. Online
6. Adaptive training for people with visual impairments. Vision 2020 – Right to Sight India, 10 December 2020. Online
7. Assistive Technology. PHD Chamber of Commerce and Industry, 17 December 2020. Online
8. Assistive technology for visual impairment and its application. Delhi Ophthalmological Society (DOS), 19 December 2020. Online
9. To profile of low vision in LVR clinic. Delhi Ophthalmological Society (DOS), 19 December 2020. Online
10. Digital assistive technology for visual impairment. Sphere India on special occasion of World Braille Day Celebration, India, 4 January 2021. Online
11. Vision rehabilitation and assistive technology for visual impairment. The lens eye clinic and rehabilitation foundation (TELC), Nigeria, 4 February 2021. Online
12. Disability inclusive low vision services. The lens eye clinic and rehabilitation foundation (TELC), Nigeria, 4 February 2021. Online
13. Population Based Survey in eye health. Delhi Ophthalmological Society (DOS), 21 March 2021, New Delhi. Online

### **Vivek Gupta**

1. Infrastructure and setting up of Online campus. Online Approaches to Training and Capacity Building of Health Workforce for NCD service delivery, 19 June 2020, WHO Webinar.
2. Blindness in India quantum of problem: where are we. Berhampur Ophthalmic Society (BOS), 19 February 2021, Berhampur, Orissa
3. Surveys and its methodologies. AIIMS OPTOMETRY EXPLORE 2021, 20-21 February 2021, AIIMS, New Delhi
4. What next after National Blindness Survey-India 2016-19. DOS Mid-term Conference 2021, 21 March 2021, New Delhi.

### **Ocular Radiology**

#### **Sanjay Sharma**

1. MRI in prostate cancer. Conference of the North Zone Chapter of Urology Society of India (NZUCICON), 24 January 2021, N Delhi (Online)
2. Imaging and interventions in pediatric Budd-Chiari syndrome. AIIMS-MAMC-PGI, Paediatric Imaging Conference, 31 October 2020, N Delhi (Online)
3. Imaging of disorder of sex differentiation. AIIMS-MAMC-PGI, Paediatric Imaging Conference, 31 October 2020, N Delhi (Online)

### **List of oral papers/posters presented: 56**

1. A Biswas, YKN, Bakhshi S, Sen S, Kashyap S, Meel R, Mohanti B. Clinical outcome in patients with orbital Rhabdomyosarcoma- updated results from a regional cancer centre in north India. 52nd SIOP 2020. 14-17 October 2020, Free paper Online Ottawa, Canada
2. Agrawal S, Das D, Bajaj MS. Best Free Paper-Traumatic globe luxation with contralateral quadrantanopia and its pathomechanism. DOS 2020 International Hybrid Conference. 18-20 December 2020, New Delhi
3. Agrawal S, Das D, Bajaj MS. Case Presentation -Mysterious, Perplexing, Misdiagnosed Cases. Symposium The affair of the eyelid itch. Y O X. 1 October 2020. Online
4. Agrawal S, Das D, Gupta S, Singh P, Bajaj MS. Best Video award - Repositioning a luxated globe – a simple technique. DOS 2020 International Hybrid Conference. 18-20 December 2020, New Delhi
5. Agrawal S, Das D, Meel R, Pushker N, Bajaj MS. Video -Repositioning a luxated globe. ISOT 2020. 8th-11th Oct.2020, Berlin, Germany

6. Agrawal S, Das D, Singh P, Samdani A, Bajaj MS. Best Free Paper Award-A panorama of orbital foreign bodies – trivial to substantial. DOS 2020 International Hybrid Conference. 18-20 December 2020, New Delhi
7. Agrawal S, Das D, Sujeeth M, Bajaj MS, Pushker N. Free Paper -Traumatic globe luxation with contralateral quadrantanopia. ISOT 2020. 8-11th Oct. 2020, Berlin, Germany/Online
8. Ahmed NH, Basu A, Satpathy G, Das BK, Sharma N, Chawla R. A study of virulence factors and antimicrobial resistance in Staphylococcus epidermidis isolates from ocular infections. 30th European Congress of Clinical Microbiology and Infectious Diseases- 2020. 20 April 2020, Paris, France
9. Ahmed NH, Xess I, Singh G, Sharma N, Agarwal T, Chawla R, Tandon R. Rhodotorula species- an emerging pathogen in Ocular Infections. MYCOCON 2021, conference of the Fungal Infections Study Forum (FISF). 26-28 March 2021, Multiple cities across India and Abroad
10. Amar Pujari et al. Strabismus re-surgery. SPOSI. 1 December 2020. Online
11. Angmo D, Bruce G, Lakra S. ECP – An adjunct or savior in glaucoma. DOS Annual Conference 2020. 19/12/2020, New Delhi
12. Angmo D, Bruce G, Lakra S. End cyclophotocoagulation – A savior in glaucoma (Video ppt). DOS Mid Term Conference 2020. 20/03/2021, New Delhi
13. Angmo D, Mahalingam K, Sharma N. Evaluation of Coronavirus in tears and conjunctival secretions of patients with SARS COVID19 (ePoster). AIIMS Institute Day. 25-26 September 2020, New Delhi
14. Angmo D, Mahalingam K, Sihota R, Gupta V, Dada T. Comparative evaluation of I care Vs Perkins tonometer in paediatric glaucoma with varied corneal characteristics (Best Free Paper). DOS Annual Conference 2020. 18/12/2020, New Delhi
15. Anjum S, Sen S, Chosdol K, Bakhshi S, Kashyap S, Pushker N. Hypoxia-Inducible Factor-1 $\alpha$  in Tumorigenesis of Lacrimal Gland Adenoid Cystic Carcinoma, (Platform Presentation). USCAP Online 110th Annual Meeting. 16 March 2021, Palm Springs, CA, USA
16. Anshida K, Raj N, Lomi N. Metastatic versus second malignancy- a diagnostic dilemma in a treated case of bilateral retinoblastoma. DOS Mid-term conference. 20-21 March 2021, New Delhi
17. Azmira K, Angmo D, Sihota R, Gupta V, Dada T. Tonometry in pediatric glaucoma (ePoster). DOS Annual Conference 2020. 18/12/2020, New Delhi
18. Bhari A, Phuljhele S, Sharma P, Titiyal J S. Higher Order Changes after Unilateral Horizontal Muscle Recession and Resection Surgeries. 5th World Congress of Paediatric Ophthalmology and Strabismus. 26 September 2020. Online
19. Biswas A, Yousra KN, Adhikari N, Bakhshi S, Sen S, Kashyap S, Meel R, Mohanti B. Clinical outcome in patients with orbital rhabdomyosarcoma- updated results from a regional cancer centre in north India. 52nd congress of the international society of pediatric oncology (SIOP). 14-17 October 2020, Ottawa, Canada (Online)
20. Bruce G, Angmo D Sihota R, Gupta V, Dada T. Exploring the role of endocannabinoids in glaucoma. DOS Mid Term Conference 2020. 20/03/2021, New Delhi
21. Chauhan S, Sen S, Pushker N, Kashyap S, Bakhshi S. Met as a potential biomarker and therapeutic target in orbital Rhabdomyosarcoma with poor prognosis. SIOP 2020 Asia. 19-21 March 2021, Mumbai India (Online)
22. Chauhan S, Sen S, Pushker N, Kashyap S, Bakhshi S. Receptor Tyrosine Kinase Gene Expression Profiling of Orbital Rhabdomyosarcoma. 37th World Ophthalmology Congress (WOC 2020 Online (R)). 26-29 June 2020, Cape Town South Africa (WOC2020 Online®)
23. Chawla R, Agarwal S, Vohra RP, Kumar A. Imaging-Based Biomarkers as Predictors of Response to anti-VEGF Therapy in Idiopathic Choroidal Neovascularization. DOS Annual Conference. 18-20 December 2020. Online
24. Dhiman R, Mahalingam K, Kumar A, Sihota R, Saxena R. “Firecracker injuries-Effectiveness of current regulation”. DOS Annual conference 2020. 19 December 2020, New Delhi
25. Ebrahimian S, Singh R, Netaji A, Madhusudhan KS, Homayounieh F, Kalra MK, Saini S, Sharma S. Application of DECT-Based Radiomics and Quantitative Features for Differentiating Benign and Malignant Pancreatic Lesions in a Multi-Institutional Study. Radiological Society of North America RSNA 2020. November 30 – December 6, 2020, Chicago (Online)
26. Gupta J, Jayaraj P, Sen S. “Evaluation of Telomerase Reverse Transcriptase (TERT) Expression In Squamous Cell Carcinoma (SCC) of The Skin”. 1 International conference on innovation in Biotechnology and life sciences. 18-20 December 2020, Delhi Technological University
27. Gupta N, Vashist P, Jain S, Meel R, Gupta V, Bajaj MS, Tandon R, Kumar A, Solomon A. Audit of the phenotype, causes and correlates of trichiasis in New Delhi, India. 23rd Meeting of the WHO Alliance for GET2020 & TSIW. 20-30 November 2020. Online
28. Gupta S, Gupta V. Descemet Membrane in Primary congenital glaucoma. Indian Paediatric glaucoma Society. 20 March 2021. Online

29. Gupta V, Vashist P, Gupta N, Senjam S. Burden of Corneal Blindness in India: Evidence from RAAB Surveys in 31 Districts. World Cornea Congress. 14-15 May 2020, Boston, USA
30. Gupta V, Vashist P, Gupta N, Senjam SS. Current estimates of cataract blindness, surgical coverage, barriers and outcomes of cataract surgery in India. 37th World Ophthalmology Congress. 26-29 June 2020, ICO at Cape Town, South Africa. \*Received WCO Travel Grant
31. Gupta V, Vashist P, Senjam S, Gupta NP, Shukla P, Bhardwaj A, Shamanna BR, Gupta P. Current estimates of cataract blindness, surgical coverage, barriers and outcomes of cataract surgery in India. Online World Ophthalmology Congress. June 2020. Online
32. Harika R, Chandra P, Vohra R, Agarwal R, Chawla R, Kumar A. To Study the efficacy of additional posterior barrage laser in Type 1 Zone 2 Retinopathy of Prematurity. 35th APAO Congress. 22-26 April 2020, Xiamen, China/Online
33. Jha J, Pushker N, Meel R, Lomi N, Singh L, Singh MK, Sen S, Kashyap S. Role of Pigmentation Marker in Uveal Melanoma and its association with clinicopathological Parameters. 5th Emirates Pathology Utilitarian Conference. 1-2 December 2020. Online
34. Kambri L, Chawla R, Kumar A. Malignant hypertension masqueraded in HIV retinopathy. DOS Annual Conference. 18-20 December 2020. Online
35. Kaur M, Titiyal JS, Shaikh F. iOCT Guided Phacoemulsification in posterior polar Cataract-Elucidating Intraoperative Dynamics & Enhancing Safety (Online). American Academy of Ophthalmology. 13-15 November 2020, Las Vegas, USA
36. Madhusudhan KS, Gopi S, Sharma S, Gunjan D, Srivastava DN, Garg P. Embolization for hemorrhagic complications of pancreatitis: immediate and long-term outcomes. Cardiovascular and Interventional Radiological Society of Europe (CIRSE). 12-15 September 2020, Vienna, Austria (Online)
37. Madhusudhan KS, Srivastava DN, Sharma S. Portal vein interventions: A comprehensive review. Cardiovascular and Interventional Radiological Society of Europe (CIRSE). 12-15 September 2020, Vienna, Austria (Online)
38. Mahalingam K, Angmo D, Azad S. Interesting Cases - A rare presentation of hemorrhagic choroidal detachment following intravitreal bevacizumab (2nd Prize). DOS Annual Conference 2020. 18/12/2020, New Delhi
39. Mahalingam KK, Gupta V, Gupta S. Double cornea in a case of Axenfeld Rieger Syndrome. IPGS 2021. 20 March 2020, Delhi (Best three cases)
40. Maharana P, Karmakar S, Titiyal JS. Comparative Evaluation of Stereoacuity and Visual Quality in Newer Generation Multifocal IOLs. Refractive subspecialty Day -American Academy of Ophthalmology. 13-15 November 2020, Las Vegas (USA)
41. Manoharan D, Netaji C, Das CJ, Sharma S. A normalised dual-energy iodine ratio best differentiates renal cell carcinoma subtypes among quantitative imaging biomarkers from perfusion CT and dual-energy CT. European Congress of Radiology (ECR). 19 July 2020, Vienna Online
42. Manoharan D, Netaji C, Das CJ, Sharma S. Iodine parameters in triple-bolus dual-energy CT correlate with perfusion CT biomarkers of angiogenesis in renal cell carcinoma. European Congress of Radiology (ECR). 19 July 2020, Vienna Online
43. Mewar SK, Sharma S, Thulkar S, Dhamija E, Kumar P, Panaiyadiyan S, Jayasundar R, Kumaran SS, Datta Gupta S, Jagannathan NR, Kumar R, Kumar V. Pre-biopsy MRI to increase the detection rate and reduce the over diagnosis of prostate cancer. ISMRM 28th Annual Meeting & Exhibition. 18-23 April 2020, Sydney Online
44. Netaji A, Das CJ, Seth A, Sharma S, Sharma R, Kaushal S. A prospective comparison of MRI guided in bore biopsy with 12 core systemic transrectal ultrasound biopsy and comparison of the combined biopsy approach over systemic biopsy in the diagnosis of clinically significant prostate cancer. 107th Scientific Assembly and Annual Meeting of RSNA. 28 November to 2 December 2020, Chicago Online
45. Saksena K, Jayaraj P, Sen S. Immunohistochemical analysis of Telomerase reverse transcriptase (TERT) in conjunctival melanoma using Trichloroisocyanuric acid (TCCA) acid solution. 1 International conference on innovation in Biotechnology and life sciences. 18-20 December 2020, Delhi Technological University
46. Senjam SS, Gupta V, Vashist P. Assistive technology for visual impairment in Blind School Delhi. IPHA CCM. 29 February 2021, New Delhi
47. Shakha, Raj N, Ananya PR, Lomi N. Uveal Melanoma in a case of post traumatic closed globe injury. DOS Mid-term conference. 20-21 March 2021, New Delhi
48. Sharma S, Malik R, Dohare N, Madhusudhan KS. Direct intrahepatic portosystemic shunt (DIPS) for pediatric Budd Chiari syndrome (BCS). Cardiovascular and Interventional Radiological Society of Europe (CIRSE). 12-15 September 2020, Vienna, Austria (Online)



49. Singh R, Manoharan D, Netaji A, Madhusudhan KS, Hallak M, Kalra MK, Saini S, Sharma S. Quantitative iodine and radiomic features to differentiate benign and malignant focal renal lesions. 107th Scientific Assembly and Annual Meeting of RSNA. 28 November to 2 December 2020, Chicago Online
50. Singh R, Manoharan D, Netaji A, Madhusudhan SK, Homayounieh F, Kalra MK, Saini S, Sharma S. Multi-institutional study using iodine quantification and radiomic features to differentiate hyper-vascular hepatic lesions on dual energy CT: peri-tumoral and intra-tumoral analysis. 107th Scientific Assembly and Annual Meeting of RSNA. 28 November to 2 December 2020, Chicago Online
51. Singhal D, Maharana P. "Management of Corneal Fistula". Refractive subspeciality Day -American Academy of Ophthalmology. 13-15 November 2020, Las Vegas (USA)
52. Titiyal JS, Goswami A, Kaur M. Comparative Evaluation of Topical Chloroquine Phosphate and Topical Cyclosporine A in Post-LASIK Ocular Surface Stability ". American Academy of Ophthalmology. 13-15 November 2020, Las Vegas (USA)
53. Titiyal JS, Kaur M, Shaikh F. Visual quality and posterior capsule dynamics after implantation of hydrophobic acrylic IOL with UV/Ozone posterior surface modification. World Ophthalmology Congress 2020. 26-29 June 2020, Cape Town
54. Titiyal JS, Thangavel R, Kaur M. Ocular Pharmacokinetics and Clinical Outcomes of Once Daily and Twice Daily Dosing of Topical Bromfenac Sodium 0.09% after Phacoemulsification. American Academy of Ophthalmology. 13th -15th November 2020, Las Vegas (USA)
55. Vanathi M, Kumawat D, Singh R, Chandra P. Cataract Occurrence Secondary to Needle Injury Post-Intravitreal Anti-VEGF Injection in ROP Eyes. 38th ASCRS Film Festival, ASCRS/ASOA Annual Meeting. 15-19 May 2020, Boston, USA/Online
56. Vanathi M, Naik R, Ahmed NH, Tandon R. Antifungal Susceptibility Testing in Fungal Keratitis in Tertiary Care Centre in North India. Keracon 2020. 11-13 December 2020, Online Conference

## RESEARCH

### Funded

#### Ongoing

1. A comparative study to evaluate the efficacy of Idebnone in comparison with placebo in Leber's Hereditary Optic Neuropathy patients- A Pilot study. Swati Phuljhele Aalok, Intramural Grant. 2 years (2018-undergoing), Rs 4,32,000 per year
2. A Pivotal Phase II/III, Randomized, Double-Masked, Sham-Controlled Trial of QPI-1007 Delivered by single or Multi-Dose Intravitreal Injections to Subjects with Acute Non-Arteritic Anterior Ischemic Optic Neuropathy (NAION). Rohit Saxena, Quark Pharmaceuticals Inc. 4 years (2017-2021), Rs 32 lakhs
3. A Sustainable Model for Comprehensive Outreach Eye Care Service for underserved population in Delhi Slums and resettlement colonies. Prof. Praveen Vashist, Deepalaya. 5 years (2018-2022), Rs 1,25,10,800
4. A Sustainable Model for Comprehensive Outreach Eye Care Service in NCR. Prof. Praveen Vashist, Deepalaya. 5 years (2017-2022), Rs 77,12,242
5. A Sustainable Model for Comprehensive Outreach Eye Care Service in NCR. Prof. Praveen Vashist, Hero Motocorp. 3 years (2018-2021), Rs 37,04,530
6. AIIMS-IIT Delhi Collaborative Research project titled "To generate feasibility data (for human clinical trial) of Bio engineered cornea (for potential clinical application in keratitis patients) - An In-Vitro Study". Dr. Radhika Tandon, AIIMS. 2 years (2019-2021), Rs 5 lakhs
7. An Operational Research on Developing Disability Inclusive Eye Health Program in India. Dr.Suraj Singh Senjam/ Prof. Praveen Vashist, Christoffel Blind mission(CBM). 3 years (2015-2021), Rs 37,61,475.97
8. Aquatic vulnerability of high-volume chemicals including phthalates and metabolites in Delhi and NCR. Dr T Velpandian, DST, Govt. of India. 3 years (2020-2023), Rs 57.13 lakhs
9. Assessment of safe plasma levels of chloroquine & hydroxychloroquine using PK simulation based pharmacokinetic estimates. Dr T Velpandian, AIIMS. 1 year (2020-2021), Rs 4.99 lakhs
10. CBM- RPC Disability Eye Health Programme and Strengthening of LV & Rehabilitation Services. Rohit Saxena, CBM. 5 years (2015-2020), Rs 12,42,000 for current year
11. Clinical Evaluation and Efficacy for study of Early Generation Gas Permeable Corneal Refractive Therapy Contact Lens for Myopia in Indian Population. Prof. J.S. Titiyal, Vsquare Medi Enterprises, India. 3 years (2018-2021), Rs 16,00,000



12. Comparative evaluation of efficacy of conjunctival stem cell transplantation with cultivated oral mucosal epithelial transplantation in patients with bilateral cicatrizing ocular surface diseases, i.e., Steven Johnson syndrome & chemical burns (Project Code No. BT-1829). Dr. Radhika Tandon, DBT. 3 years (2017-2020), Rs 21,05,368
13. Comparison of high strength topical levofloxacin (1.5%) monotherapy with standard combination therapy for the management of bacterial keratitis: A Randomized controlled trial. Prof. Namrata Sharma, Santen Pharmaceutical Co, Ltd. 1 year (2020-2021), Rs 4.25 lakhs
14. Correlation between outdoor activity as measured by UV radiation exposure and myopic refractive error in school going children in New Delhi. Rohit Saxena, Orbis. 1.5 years (2019-2020), Rs 10,00,000
15. Developing quality control parameters and dispensing M.K. Media for corneal Transplant preservation for Indian Eye banks under ministry of health. Dr. T Velpandian, MHFW, Govt of India. 14 years (2009-2023), Rs 129 lakhs.
16. Development and validation of TransReCon technique for sterile pharmaceutical preparation. Dr. T Velpandian, BIRAC (BIG GRANT), Venture Centre. 18 months (2019-2021), Rs 28.3 lakhs
17. Differential role of Pigmentation Markers with the Tumor- Associated Macrophages in Uveal Melanoma. Seema Kashyap, ICMR. 3 years (2019-2022), Rs 35 lakhs
18. Disability Inclusive eye health program in Strengthening of Low Vision and Rehabilitation Services. Dr. Radhika Tandon, Christoffel Blind Mission (CBM). 5 years (2015-2020), Rs 6,12,000
19. Effect of YOGA based intervention on Intraocular Pressure, Quality of Life, Inflammatory Markers and Gene Expression Profile in Glaucoma Patients. Tanuj Dada, ICMR. 3 years (2019-2022), Rs 25 lakhs
20. Elucidating the therapeutic potential of a unani formulation in glaucoma. Dr. Jasbir Kaur, CCRUM, Ministry of AYUSH. 3 years (2020-2023), Rs 49,81,494
21. Epidemiological Study of avoidable blindness in India. Prof. Praveen Vashist, MoH&FW. 5 years (2015-2021), Rs 5,28,08,000
22. Evaluate Efficacy of intracameral injection of tropicamide-Phenylephrine-Lidocaine (Pheniocaine Plus) for pre-operative mydriasis in patients undergoing cataract surgery. Prof. Namrata Sharma, Entod Pharmaceuticals Ltd. 6 months (2021), Rs 2,64,70-
23. Evaluating ocular motion as a tool for characterizing visual field defects. Rohit Saxena, AIIMS-IIT project. 2 years (2019-2020), Rs 10 lakhs
24. Evaluation of Coronavirus in tears and conjunctival secretions of patients with SARS COVID19. Dewang Angmo, AIIMS, Intramural. 2 years (2020-2022), Rs 10,00,000
25. Evaluation of Efficacy of prophylactic use of Intracameral Moxifloxacin 0.5% in prevention of post-cataract surgery endophthalmitis in North India: A randomized Control trial. Prof. Namrata Sharma, Cipla Pvt. Ltd. 4 years (2018-2022), Rs 24,50,000
26. Evaluation of Genetic basis of Congenital Hereditary Endothelial Dystrophy (CHED) by characterization of the effect of homozygous and compound heterozygous SLC4A11 mutations in CHED patients and clinical phenotyping of mutation positive and negative cases. Dr. Radhika Tandon, AIIMS. 2 years (2018-2020), Rs 5 lakhs
27. Exome sequencing based detection of novel and causal mutation(s) associated with juvenile onset open angle glaucoma. Prof Viney Gupta, DRDO. 3 years (2017-2020), Rs 68 lakhs
28. Gene expression profiling for grading metastatic potential in uveal melanoma. Neiwete Lomi, AIIMS intramural. 2 years (2020-2022), Rs 5 lakhs
29. High throughput technology to monitor environment antibiotic dispersion and their impact on AMR. Dr. T Velpandian, DBT and the Bill & Melinda Gates Foundation. 18 months (2020-2022), Rs 41.3 lakh
30. Identification and Characterization of Molecular Targets in Orbital Tumors: Basis of innovative therapeutic strategies. Seema Sen, UGC. 5 years (2017-2022), Rs 33 lakhs
31. Identification of microRNA signatures in diabetic retinopathy: clinical significance. Dr. Jasbir Kaur, ICMR. 3 years (2021-2024), Rs 36,91,354
32. Identification of Novel Transcripts and Non-Coding RNA in Fuchs' Endothelium Corneal Dystrophy(FECD). Prof. J.S. Titiyal, SERB, DST, GOI. 3 years (2017-2020), Rs 72,00,000
33. Identification of the underlying differential expression and disease specific signature profile in patients with epidermal necrolysis. Prof. Namrata Sharma, ICMR. 3 years (2019-2022), Rs 48,00,000
34. Mapping of Human Resource & Infrastructure for Pediatric eye care services in India. Dr. Praveen Vashist, ORBIS. 1 year 6 months (2020-2021), Rs 25,13,747
35. MicroRNA as a novel biomarker for prediction of corneal graft rejection. Prof. Namrata Sharma, CSIR. 3 years (2019-2022), Rs 25,00,000
36. Mitochondrial genome variants and maternal inheritance in the pathogenesis of juvenile-onset primary open angle glaucoma. Dr. Jasbir Kaur, SERB, DST. 3 years (2020-2023), Rs 57,72,665

37. Multi Centric Study of Impact of exposure of Ultraviolet Radiation (UVR) & aerosol exposure on ocular health in India Phase - II. Dr. Radhika Tandon, ICMR. 5 years (2018-2023), Rs90 lakhs
38. Novel chemoport for ocular drug delivery. Dr Rohan Chawla, AIIMS-IIT (Intramural). 2 years (2019-2021), Rs 10 lakhs
39. Patterns and pathways of care seeking for cataract and common ocular morbidities and impact of local volunteers on the pathways among urban vulnerable population settings of West Delhi. Dr. Vivek Gupta, Swami Sivananda Memorial. 2 years (2017-2020), Rs 20,00,000
40. Post-Market clinical study of the Clareon ® AutoMe™ with Indian Population. Prof. J.S. Titiyal, M/s Alcon India Ltd. 3 years (2019-2022), Rs 10,00,000
41. Prospective Long-Term Evaluation of Posterior Capsule and Intraocular Lens Dynamics with IOL Vivinex Isert XY1 funded by M/s Hoya Surgical Ltd. (Reg. no. 107/RPC/Project/2018). Prof. J.S. Titiyal, Hoya Surgical. 3 years (2018-2021), Rs 17, 10,698
42. Rationalizing the usage of extemporaneously prepared topical solution of piperacillin and tazobactam combination based on their ocular kinetics. Dr. Nabanita Halder, AIIMS. 2 years (2019-2021), Rs 9 lakhs
43. Receptor Tyrosine Kinase in Ocular Malignancies: Novel Prognostic Markers and Therapeutic Targets. Seema Sen, CSIR. 3 years (2020-2023), Rs 27 lakhs
44. Regional pilot model to integrate Low Vision and Vision Rehabilitation Services at various levels of Health care delivery system through a Person- Centered Approach involving Assistive Technology. Dr. Praveen Vashist, WHO. 1 year (2020-2021), Rs 6,83,014
45. Role of hypoxia mediated cell metabolism in pediatric ocular malignancy. Seema Kashyap, ICMR. 3 years (2020-2023), Rs 37 lakhs
46. Role of Low dose heparin eye drops in chronic ocular cases of Steven Johnson Syndrome (SJS) and its correlation with immune pathway gene expression: A randomized controlled trial. Prof. Namrata Sharma, ICMR. 3 years (2019-2022), Rs 47,00,000
47. Safety and Efficacy of the Presbyopia IPCL for correction of Presbyopia with Moderate Myopia and Hyperopia'. Prof. J.S. Titiyal, Care Group. 3 years (2018-2021), Rs 41,95,180
48. Screening of known and novel genetic variations associated with Juvenile onset open angle glaucoma. Prof Viney Gupta, ICMR. 3 years (2018-2021), Rs 33 lakhs
49. Species identification, antifungal susceptibility profile and biofilm formation of Rhodotorula species isolates from ocular infections. Dr. Nishat Hussain Ahmed, AIIMS, New Delhi. Institutional grant. 12 months (2019-2020), Rs 5 lakhs
50. To evaluate the effect of increased outdoor activity on the incidence and progression of myopia in school children. Rohit Saxena, Department of Science and Technology. 5 years (2019-44317), Rs 31,10,462
51. To evaluate the effect of low dose atropine eye drops for childhood myopia. Rohit Saxena, Entod Pharmaceuticals. 3 years (2019-2022), Rs 16,01,000
52. To evaluate the relationship of burning fuel wood and biomass cooking on human eyes cardiac chronic illnesses and mental health of native tribal communities of Jharkhand India. Prof. J.S. Titiyal, Govt. of Jharkhand. 3 years (2019-2022), Rs 2,18,00,000
53. To Investigate the Molecular Mechanisms of Keratoconus amongst Indian Subjects. Prof. J.S. Titiyal, ICMR, GOI. 3 years (2019-2022), Rs 70,00,000
54. Traditional uses of Kachnar (Bauhinia Variegata) for human health and nutrition: An Epidemiological Study in Tribal Districts of Jharkhand. Prof. J.S. Titiyal, Govt. of Jharkhand. 3 years (2019-2022), Rs 4,12,00,000
55. Understanding the pharmacology of dipyrindamole for its ophthalmic use. Dr. T Velpandian, OD Ocular Discovery Ltd, Israel. 2 years (2020-2022), Rs 13.31 lakhs
56. Vision Screening and Eyeglasses Dispensing Program for Students in Delhi Schools. Prof. Praveen Vashist, Vision Spring. 1 year (2017-2019), Rs 6,40,000

### **Completed**

1. A Phase IV Controlled Clinical Study to Compare the Efficacy and Safety of CYCLOSPORINE (0.05%) Ophthalmic Emulsion against RESTASIS® in Subjects with Moderate to Severe Keratoconjunctivitis Sicca. Prof. Namrata Sharma, New India Biopharma. 1 year (2019-2020), Rs 4,83,000
2. Cascade screening of family members of JOAG patients. Viney Gupta, ICMR. 3 years (2015-2018), Rs 47 lakhs.
3. Clinicopathological significance of melanogenesis in uveal melanoma. Neiwete Lomi, AIIMS Intramural. 2 years (2018-2020), Rs 10 lakhs

4. Comparative evaluation of 0.1% Sodium Hyaluronate drops versus 0.5% carboxy methyl cellulose (CMC) in cases of Steven Johnson Syndrome (SJS) ocular sequelae: A randomized controlled pilot study. Prof. Namrata Sharma, CSIR. 3 years (2019-2022), Rs 25,00,000
5. Comprehensive primary eye care services in rural areas of Delhi/DJJS. Prof. Praveen Vashist, Divya Jyoti Jagrati Sansthan. 4 years (2016-2020), Rs 34,74,240
6. Correlation between outdoor activity as measured by UV radiation exposure and myopic refractive error in school going children in New Delhi. Dr. Rohit Saxena/ dr. Praveen Vashist, ORBIS. 1 year (2019-2020), Rs 10,00,000
7. Diabetic Retinopathy: An Epidemiological Study of its Risk Factors and Biological Markers in Delhi under NPCB & VI. Prof. Atul Kumar /Prof. Praveen Vashist, MoH&FW. 3 years (2017-2020), Rs 1,09,25,359
8. Epidemiology pathogenomics and system biology of A.flavus infections in India – an integrative approach. Prof. Gita Satpathy, Department of Biotechnology Govt. of India. 2 years (2013-2015), Rs 9.6 lakhs
9. Establishment of Multiplex PCR for Detection of Herpes Simplex Viruses Type 1 and Type 2, Cytomegalovirus, Varicella-Zoster Virus and Adenovirus in Ocular Viral Infections. Dr. Nishat Hussain Ahmed, AIIMS, New Delhi. Institutional grant. 24 months (2016-2018), Rs 7.7 lakhs
10. Exploring the role of endocannabinoids in primary adult glaucoma. Dewang Angmo, AIIMS, Intramural Project. 2 years (2017-2019), Rs 9 lakhs
11. Prospective audits of the phenotype, causes and correlates of trichiasis: A WHO Trachoma Collaborative Study. Noopur Gupta, WHO, Geneva. One year (2019-2020), Rs 5,92,956
12. Rationalizing the development of newer intravitreal agents/formulations for diabetic neovascular conditions. Dr. T Velpandian, Saksin Lifesciences Pvt Ltd. 2 years (2018-2020), Rs. 18 lakhs
13. Strengthening of Low Vision and Rehabilitation Services. Suraj Singh Senjam / Praveen Vashist, Christoffel Blindness mission (CBM). 1 year (2018-2021), Rs. 15,45,704

## **Departmental projects**

### ***Ongoing***

1. 3D Printed Pre-corneal Drug Eluting Polymeric Insert with Applicator for Night Dosing in Keratomycosis
2. A Longitudinal Study To Evaluate Visual Functions and Oct Parameters In Ethambutol Induced Optic Nerve Toxicity
3. A Multicentre randomized, double masked, active-controlled, comparative clinical study to evaluate the efficacy and safety of MYL-1701P and Eylea in Subject with Diabetic Macular Edema MYL-1701P-3001, Mylan Inc.
4. A Pilot Randomized Controlled Trial to study the effect of oral curcumin in dry eye disease
5. A prospective interventional study on correlation of Levator-Muller's complex thickness on UBM with clinical response to Botulinum toxin An injection in patients with thyroid –related retraction of upper eyelid
6. A Randomized, Prospective Comparison of Biomechanics, Epithelial remodeling, Visual Outcomes of SMILE (Flapless Corneal Surgery) versus PRK in mild to moderate myopia
7. Assessment of accelerated corneal collagen cross-linking as adjuvant therapy in moderate to severe fungal keratitis
8. Assessment of different tonometers for IOP measurement in Post LASIK patients
9. Assessment of retinal sensitivity and structural integrity in optic neuritis
10. Assessment of the extent of environmental exposure of potential endocrine disruptor (Bisphenols) in the waters of Delhi/NCR
11. Association of Hippo pathway with pigmentation in the tumor microenvironment of uveal melanoma and its clinical relevance
12. Autologous fat transfer for orbital volume augmentation in sockets with small non-seeing eyes.
13. Autologous fat grafting for the correction of cicatricial ectropion
14. Automated detection of ROP and Quantification of Plus Disease. AIIMS-IIT Project (Intramural)
15. Bacteriological profile of Central Line Associated Blood Stream Infections, with specific reference to biofilm formation and resistance pattern, and their correlation with response and outcome
16. Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis?
17. Capsular plaques in pediatric cataracts and their ocular & systemic correlation including histopathological and ultrastructural features
18. Changes in Corneal topography, Biomechanics, aberrometry & Ocular surface after trabeculectomy
19. Characterization of hereditary patterns of Axenfeld Reigers syndrome

20. Characterization of renal cell carcinoma with Dual Energy CT and multiparametric MRI and correlation with histopathology
21. Clinical Efficacy of Topical Caspofungin and its Comparative Evaluation with Topical Natamycin Monotherapy in Fungal Keratitis
22. Clinical severity and distress in periocular and ocular malignancy patients during COVID pandemic
23. Clinicopathological presentations of eyelid malignancies in COVID era vs. PRECOVID era
24. Community based operational research study on involvement of Accredited Social Health Activists (ASHAs) in strengthening Primary Eye Care services for Urban Vulnerable Population of Delhi
25. Community-based assessment of disability among adult population in Delhi using WHO International Classification of Functioning
26. Comparative Evaluation of corneal biomechanical changes and corneal aberration following corneal collagen cross linking between thin corneas (corneal thickness <400 microns) vs corneas with thickness >400 microns in patients with keratoconus
27. Comparative evaluation of corneal characteristics in eyes of Primary Congenital Glaucoma and Axenfeld-Rieger Syndrome
28. Comparative evaluation of monotherapy vs combination therapy in cases of fungal keratitis
29. Comparative profile of early vs late onset primary angle closure glaucoma
30. Comparing the efficacy and safety of ketamine and dexmedetomidine in bariatric surgery without the use of opioids; A randomized clinical trial
31. Comparison of Ambu aura gain and Block buster laryngeal mask for controlled ventilation in children undergoing general anaesthesia: A prospective randomized study
32. Comparison of Aqueous based and oil based 0.05% cyclosporine in moderate dry eye
33. Comparison of continuous pericapsular nerve group (cPENG) block versus continuous fascia iliaca block (cFIB) in patients undergoing hip fracture surgery- a randomized double blind study
34. Comparison of gastro-intestinal reflex after antral preserving & antral resecting laparoscopic sleeve gastrectomy in people with sleeve gastrectomy in people with severe obesity
35. Comparison of Pharmacokinetics and Sedative Effect of Sublingual Dexmedetomidine With Intranasal Dexmedetomidine In Paediatric Patients: A Double Blind Randomized Study
36. Comparison of serum and vitreous biomarker in patients of Type-1 and Type-2 Diabetes Mellitus with Diabetic Retinopathy
37. Comparison of Tenon's patch graft and SMILE-derived Lenticule transplantation in management of corneal perforations
38. Comparison of Time For Endotracheal Intubation With Flexible Tip Bougie Catheter Versus Standard Bougie In Simulated Cervical Spine Immobilisation In Adult Patients-A Randomized Control Trial
39. Controlling dry eye after femtosecond laser cataract surgery by the use of topical lubricants: A double blind randomized controlled trial
40. Co-relating Selective Laser Trabeculoplasty Outcomes with Anterior Segment OCT features
41. Development of a Detection Kit for the instant diagnosis of Acanthamoeba keratitis
42. Effect of 365 breathing technique on Intraocular pressure and autonomic functions in glaucoma patients
43. Effect of mindfulness meditation on IOP in patients with ocular hypertension
44. Effect of regional anaesthesia on inflammatory biomarkers levels in patients undergoing surgery for giant cell tumour of bone and it is correlation with peri-operative bleeding and outcome
45. Efficacy of Micropulse in Primary Angle Closure Glaucoma
46. Endogenous cortisol profile in patients with primary open angle glaucoma and primary angle closure glaucoma and correlation with psychological stress
47. Evaluating long term outcomes of Ahmed glaucoma valve (AGV) in refractory glaucoma
48. Evaluation of Donor characteristics and Graft Outcomes of corneal transplant from multi organ donors and cadaveric donors under hospital cornea retrieval program
49. Evaluation of intralesional bleomycin in periocular and adnexal vascular lesions
50. Evaluation of levels of topical atropine in aqueous humour and vitreous humour- A pilot study
51. Evaluation of long term outcomes of Ahmed Glaucoma Valve (AGV) in Refractory Glaucoma
52. Evaluation of outcome of oral sildenafil in orbital lymphangioma



53. Evaluation of peripapillary and macular OCTA characteristics in different stages of papilledema
54. Evaluation of PPMB in various types of optic neuropathy
55. Evaluation of Retinol Palmitate Ophthalmic Suspension in Severe Dry Eye and Ocular Surface Keratinization associated with Chronic Stevens Johnson Syndrome
56. Evaluation of the effects of a preoperative carbohydrate drink on postoperative vomiting in paediatric strabismus surgery: a randomized controlled observer blinded trial (MD thesis).
57. Evaluation of the role of Intralesional Bleomycin in orbital lymphangioma
58. Evaluation of visual cortex activity using fNIRS in primary glaucoma
59. Evaluation of vitreous seed regression using intravitreal melphalan in combination with intravenous chemotherapy for persistent/ partially regressing vitreous seeds in group C and D retinoblastoma
60. Exploring the application of artificial intelligence in diagnosing infantile congenital corneal opacities
61. Exploring the application of artificial intelligence in differentiating developmental variants of Anterior Segment Dysgenesis presenting with infantile corneal opacities
62. Fellow eyes of unilateral primary congenital glaucoma: incidence and risk factors for development of glaucoma over follow up
63. Fellow eyes of unilateral primary congenital glaucoma: incidence and risk factors for rise in IOP over follow up
64. Genetic dysfunction in mitochondrial complex I ND5 gene and development of juvenile open angle glaucoma
65. Genomic alterations in juvenile open angle glaucoma
66. Identification of endothelial progenitor cell markers in retinoblastoma
67. Imaging and functional outcomes post vitrectomy at differential Air infusion pressure
68. in patients with Juvenile onset Primary Open Angle Glaucoma (JOAG)
69. Incidence of Congenital Glaucoma - A multicentric Trial
70. Intravitreal methotrexate for uveitis
71. Intravitreal methotrexate in retinal detachment with PVR
72. Long Term Outcome of Optic Capture in Pediatric Traumatic Cataracts
73. Longitudinal Comparison of Tablet based perimetry with Humphery Analyser among Paediatric glaucomas
74. Macular and peripapillary oct changes in papilledema due to idiopathic intracranial hypertension
75. Macular imaging in Glaucoma suspects and Early glaucoma
76. Meibography in patients with trichiasis: Exploring the role of Machine learning in determining etiology
77. Metabolomic and pharmacogenomic evaluation of glaucoma therapy
78. Molecular alterations in glaucoma
79. Molecular Characterization of Malignant Lacrimal Gland Tumors
80. Molecular mechanism of melanogenesis pathway in uveal melanoma
81. Molecular Mechanisms Involved in the Development of Insulin Resistance due to Environmental Exposure of Phthalates
82. Neoadjuvant chemotherapy in sebaceous gland carcinoma
83. Notch signaling deregulation in Lachrymal gland tumors
84. Ocular adverse effects of targeted therapy and checkpoint inhibitors
85. Ocular Disposition of Bio-therapeutics and the Role of Peptide Transporters in Blood Ocular Barriers
86. Ocular Surface evaluation in vernal Keratoconjunctivitis
87. Outcomes of primary ranibizumab vs laser for treatment of zone 2 Type 1 ROP An ambispective study of profile, gaps in care and outcomes in stage 5 ROP
88. Pharmacokinetics of Hydroxy-isoleucine
89. Pilot Study Comparing Primary Anti-VEGF Therapy Vs Pan-Retinal Photocoagulation In Patients With Proliferative Diabetic Retinopathy
90. Post Procedure pain in preterm neonates undergoing retinopathy of prematurity screening: A descriptive study
91. Pre-Descemet's Endothelial Keratoplasty versus Descemet's membrane endothelial keratoplasty a pilot prospective comparative study
92. Prevalence of glaucoma in diabetic retinopathy patients
93. Prospective randomized study to evaluate anatomical result of VR surgery in RD with CD with or without ILM peeling



94. Proteomic alterations in glaucoma.
95. Psychosocial factors among patients undergoing orbital exenteration.
96. Pulmonary arterial velocity time integral and effect of sigh breaths in predicting fluid responsiveness in acute circulatory failure
97. Role of Combined Periocular Topotecan and Systemic Chemotherapy in Advanced Intraocular Retinoblastoma
98. Role of dual energy computed tomography and magnetic resonance imaging in the evaluation of chronic pancreatitis.
99. Role of Microscope integrated intraoperative optical coherence tomography (MIOCT) in pediatric keratoplasty
100. Role of split bolus spectral CT protocol in the evaluation of biliary malignancies.
101. Selfie fundus imaging in diabetic retinopathy screening. (co-guide)
102. Sensory and motor outcomes of surgery in intermittent divergent squint
103. Severity of Congenital glaucoma among Consanguineous births
104. Structural and functional changes of macula overtime in ocular hypertension vs age matched controls
105. Study of Congenital Hereditary Endothelial Dystrophy Patients with and without SLC4A11 gene mutation
106. Study of endothelial progenitor cell (EPC) tetrahydrobiopterin (BH4) levels and its association with EPC number and function in coronary artery disease (CAD) patients (Ph.D thesis). PI Cardiac Biochemistry
107. Surgical outcomes of Anti-VEGF with vitrectomy in stage 4 ROP
108. To assess the outcomes of combined plaque brachytherapy and transpupillary thermotherapy in choroidal melanoma
109. To comparatively evaluate corneal characteristics in eyes of Primary Congenital Glaucoma and Axenfeld-Rieger Syndrome
110. To Compare The Outcomes of Laser Vs Combined Laser and Ranibizumab In Threshold Retinopathy of Prematurity (co-guide)
111. To correlate the metabolic activity of primary uveal melanoma on 18-fluorodeoxy-glucose positron emission tomography /computed tomography (18-FDG PET/CT) scan with the known clinical and pathological prognostic factors
112. To evaluate the role of topical timolol for treatment of periorbital and eyelid capillary hemangiomas as compared with oral propranolol
113. To study variable gene expression of collagen and associated degradative enzymes present in human vitreous in patient with myopia worth is normal population (Intramural)
114. Topical Human immunoglobulin therapy in severe dry eye disease
115. Topical posaconazole in fungal keratitis
116. Topography Guided Excimer Laser Ablation Therapy to Treat Corneal Opacities Secondary to Resolved Adenoviral Keratoconjunctivitis
117. Venous excess ultrasound score (VEXUS score) for prediction of acute kidney injury (AKI) in critically ill septic patients: A prospective observational study
118. Visual Outcome of acrylic refractive implantable lenses versus implantable collamer lenses: A comparative study

### ***Completed***

1. A comparative double-arm randomized controlled study to assess the effect of Evolve™ Pure Eyelid wipes in subjects with meibomian gland dysfunction
2. A Phase2, randomized, prospective, double-masked, vehicle controlled study to assess the efficacy and safety of Nexagon® (NEXAGON) applied topically in subject with corneal persistent epithelial defects (PED) resulting from severe ocular chemical and/or thermal injuries
3. An ambispective study of profile, gaps in care and outcomes in Stage 5 Retinopathy of prematurity
4. Anatomical and functional outcomes of drainage through posterior retinotomy versus PFCL assisted drainage through pre-existing break in vitrectomy for rhegmatogenous Retinal detachment
5. Antifungal susceptibility testing in fungal keratitis
6. Assessment of Outdoor Ultraviolet Light Exposure and Serum Melatonin Levels In Young Myopes
7. Clinical and Epidemiological Profile of Polypoidal Choroidal Vasculopathy (PCV) in a Tertiary Centre
8. Clinical outcomes of retropupillary Iris claw IOL fixation in pediatric age group
9. Comparative evaluation of levels of dopamine in vitreous and tears among cases of myopic retinal detachment and non-myopic retinal detachment- A pilot study
10. Comparative Evaluation of Phacoemulsification Alone versus Phacoemulsification with Goniosynechialysis in Primary Angle-Closure Glaucoma

11. Comparative evaluations of different formulations of liposomal amphotericin B for the treatment of fungal keratitis
12. Comparison of Analgesic Efficacy and Safety of Erector Spinae Plane Block Versus Local Infiltration in Video Assisted Thoracoscopic Surgery in Adult Patients
13. Comparison of iCare ic200 and Perkin tonometry in paediatric glaucoma
14. Comparison of medial rectus plication versus medial rectus resection combined with antagonist recession in intermittent exotropia
15. Comparison of time to intubate and intubation conditions with CMAC Miller blade size1 and CMAC Macintosh blade size 2 in paediatric patients– A Prospective randomized controlled study
16. Correlation of Antibiotic Resistance patterns of Ocular bacterial isolates and Antibiotic use in patients admitted to hospital- A step towards Antimicrobial Stewardship
17. Early Macular Reconstruction in Proliferative Diabetic Retinopathy
18. Effect of Low Dose Ketamine On Inflammatory Markers and On Perioperative Analgesia In Patients Undergoing Laparoscopic hernia surgery -A prospective, randomized, comparative study
19. Effect of Topical Brinzolamide on Corneal Endothelium in Post Penetrating Keratoplasty Patients
20. Effectiveness of citicholine as adjuvant therapy to patching in the management of amblyopia: A randomized control trial
21. Epidemiological Study on Childhood Visual Impairment in Delhi
22. Evaluating the effect of refractive error correction on quality of life in school going children
23. Evaluation of donor characteristics and graft outcomes of corneal transplants from multi-organ do not and cadaveric donors under hospital corneal retrieval program
24. Evaluation of HRQoL in cases of Nystagmus
25. Evaluation of IR Plication in DVD
26. Evaluation of levator plication as compared to frontalis sling surgery in severe congenital ptosis
27. Evaluation of Mitomycin-c in Anophthalmic contracted socket reconstruction with Mucous membrane grafting
28. Evaluation of Optical Coherence Tomography-Angiography(OCT-A) Changes in Non Arteritic Anterior Ischemic Optic Neuropathy(NAION)
29. Evaluation of retinal function and morphology in Isoametropic amblyopia
30. Evaluation of risk factors causing Residual Refractive Error in Corneal Refractive Surgery
31. Evaluation of the Effects of Trabeculectomy on Corneal Topography, Aberrometry, Biomechanics and Ocular Surface
32. Evaluation of the involvement of phthalates in the development of insulin resistance using cell culture experiments
33. Evaluation of the role of 0.1% cutaneous tacrolimus in chronic vernal keratoconjunctivitis
34. Evaluation of the role of Intralesional Bleomycin in Orbital Lymphangioma
35. Evaluation of the role of RPE/BM angle as a definitive marker of true papilledema using spectral domain OCT
36. Imaging and Intervention in Budd Chiari Syndrome
37. Intra-operative monitoring of cerebral oxygen saturation using Near Infra Red Spectroscopy (NIRS) and Assessment of risk factors for Low cerebral oxygen saturation in preterm and very preterm infants with Retinopathy of prematurity during Vitreo retinal surgeries: An observational prospective study
38. Lenticular changes with use of statins - a hospital based prospective cohort study
39. Long term outcomes of Optic Capture in Pediatric Traumatic Cataracts due to Open Globe Injuries
40. Ocular biometry in pediatric cataract population less than 15 years using 35 mhz ultrasound biomicroscopy
41. Optical Coherence Tomography Angiography in Primary Open Angle Glaucoma and Primary Angle Closure Glaucoma
42. Outcomes of primary Renibizumab vs Laser for treatment of zone 2 type 1 retinopathy of prematurity
43. Pan retinal photocoagulation in proliferative diabetic retinopathy quality and adequacy study using ultra wide field imaging
44. Pilot study on the levels of bisphenols in environmental samples
45. Pilot study to evaluate efficacy of subthreshold micropulse laser (577nm) in cases of central serous chorioretinopathy.
46. Pilot study to evaluate efficacy of subthreshold micropulse laser (577nm) in cases of non resolving centre involving DME
47. Pneumatic vitreolysisvs pars plana vitrectomy in vitreomacular traction syndrome

48. Prevalence of Glaucoma in Patients having Diabetic Retinopathy
49. Prospective observational study to validate IOL power using optiwave refractive analysis (ORA) system & compare it with conventional IOL power calculation methods
50. Prospective pilot study comparing subtenon triamcinolone and intravitreal Methotrexate in Uveitis
51. Retrospective data assessment of strabismus re-surgery
52. Role of 3D Heads-up Digitally Assisted Vitreoretinal Surgery (DAVS) in Primary and Recurrent Rhegmatogenous Retinal Detachment with Proliferative Vitreoretinopathy - A Prospective Randomised Trial
53. Role of anterior segment OCT in anterior segment and extraocular diseases
54. Role of anti-VEGF post vitrectomy in stage 4 ROP
55. Role of conjunctival autofluorescence in ocular surface squamous neoplasia.
56. Species identification and determination of virulence factors of Coagulase negative Staphylococci in ocular infections
57. Steroids in persistent diabetic macular edema
58. STL for CSR
59. STL for diabetic macular oedema
60. Study of Tear Film and Ocular Surface Changes after long term use of rose K lenses in patients with keratoconus
61. Study of the effect of red tinted filters on colour discrimination in patients with congenital colour vision deficiency
62. To compare the Extrusion Rate of Silicone implant Versus PMMA (Mule's) Implant following Myoconjunctival Technique of Enucleation - A Randomized Control Trial
63. To compare the outcomes of 0.1 mg vs 0.25 mg Intravitreal Ranibizumab in Aggressive Posterior Retinopathy of Prematurity
64. To Compare the Outcomes of Laser vs Combined Laser & Ranibizumab in Threshold Retinopathy of Prematurity
65. To determine the association between altered cerebral blood flow in the frontal cortex during sevoflurane anaesthesia and incidence of postoperative emergence delirium in children: an fNIRS based observational study.
66. To study the outcomes of immediate sequential bilateral vitreo retinal surgery (ISBVS) in advanced ROP
67. To understand and determine the blood ocular barrier functions using selected transporters in inflammatory conditions
68. Topical autologous platelet lysate drops for severe dry eye disease in chronic ocular graft versus host disease
69. Topographical distribution of retinal neovascularisation in proliferative diabetic retinopathy
70. Topoguided custom ablation treatment in the management of post keratoplasty astigmatism
71. Ultra-wide field Indocyanine green angiography in central serous Chorioretinopathy
72. Use of advanced genomics in Microbiology of culture negative infections

## **Collaborative projects**

### ***Ongoing***

1. A double blind randomized pilot study evaluating the effect of topical urea as pretreatment for preventing a hand foot skin reaction in cancer patients Sunitinib therapy. Pharmacology/AIIMS
2. A prospective interventional study on correlation of Levator-Muller's complex thickness on UBM with clinical response to Botulinum toxin A injection in patients with thyroid –related retraction of upper eyelid. Endocrinology
3. AIIMS-IIT Delhi Collaborative Research project titled “To generate feasibility data (for human clinical trial) of Bio engineered cornea (for potential clinical application in keratitis patients) - An In-Vitro Study” (Project Code No. AI-23). AIIMS/IIT Delhi
4. Autologous fat grafting for the correction of cicatricial ectropion. Dermatology
5. Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis? IRCH
6. Biomarkers for bacteremia AMR and HAIs by NMR and LCMS/MS. Microbiology/AIIMS
7. Bortezomib in plasma with multiple myeloma. Pharmacology/AIIMS
8. Clinical severity and distress in periocular and ocular malignancy patients during COVID pandemic. Psychiatry
9. Clinical utility of serum surviving levels in RB. DM Paediatrics
10. Comparison of nucleosomes and tissue inhibitor of metalloproteinase1 in predicting sepsis severity and mortality in adult critically ill patients: a pilot study. Anesthesiology (DM Anaesthesia)

11. Determination of plasma drug levels of antitubercular drugs in patients with extra pulmonary tuberculosis outcomes. Medicine/AIIMS
12. Development of a portable and non-contact type intraocular (IOP) pressure measurement device. IIT Delhi and IIT Kharagpur
13. Establishing a Technical Support Unit (TSU) for Verbal Autopsy based Cause of Death Ascertainment in the Sample Registration System, Registrar General of India - MINErVA - N1715. CCM, AIIMS and Registrar General of India
14. Estimation of Bisphenols in Urine of PCOS patients. Gynaecology/AIIMS
15. Evaluating ocular motion as a tool for characterizing visual field defects. AIIMS-IIT Delhi
16. Evaluation of Coronavirus in tears and conjunctival secretions of patients with SARS COVID19. Microbiology, Pathology, Medicine
17. Evaluation of cystinosis by estimating leukocyte cystine. Pediatrics/AIIMS
18. Evaluation of Factors Affecting the Outcome of Optic Nerve Sheath Fenestration Surgery (ONSF) In Patients With Idiopathic Intracranial Hypertension (IIH). Department of Neurology
19. Hormonal response during oscillatory lower body negative pressure (Dr. Akanksha). Physiology/AIIMS
20. Incidence of postoperative cognitive decline in elderly undergoing open surgeries under general anaesthesia using isflurane or deflurane: A prospective observational pilot study. Anaesthesia
21. Molecular and Mutational Studies in the Uveal Melanoma and their correlation with Clinicopathological Parameters. Ophthalmology
22. Neoadjuvant chemotherapy in Sebaceous gland carcinoma of Eyelid. IRCH
23. Novel minimally invasive chemoport for painless intraocular drug delivery. Ophthalmology/AIIMS
24. Penicillin detection in plasma of RHD patients Dr. Kamaldeep. Cardiology, RML Hospital
25. Pharmacodynamic and pharmacokinetic interaction of the ayurvedic formulation (BGR-34) with glibenclamide in exper rats Pharmacology/AIIMS
26. Preparation and evaluation of zinc gluconate oral suspension. Pediatrics/AIIMS
27. Preparation of Quinidine sulphate tablets/capsules/sachets. Cardiology/AIIMS
28. Preparation of sachets for pre-operative drink. Anesthesiology/AIIMS
29. Randomized control trial of single dose oral Ivermectin in patients with COVID19 infection. Pulmonary Med/AIIMS
30. Regional pilot model to integrate Low Vision and Vision Rehabilitation services at various levels of health care delivery system through a Person-Centered Approach involving Assistive Technology. WHO -SEARO
31. Role of Low dose heparin eye drops in acute and chronic ocular cases of Steven Johnson Syndrome (SJS) and its correlation with immune pathway gene expression: A randomized controlled trial. ICMR, December 2019 onwards
32. Serum Benzathine Penicillin G levels in Indian Children and adolescence with Rheumatic heart disease. Pediatric Cardiology/RML
33. SNOMED-CT: NRCeS – Development of National Drug Repository database. MoHFW & C-DAC Pune
34. Standardization and validation of bioprinting technique for the regeneration of corneal epithelial cells. Ophthalmology/AIIMS
35. Study of Ocular Microbial flora in contact lens wearers using metagenomics. Ophthalmology
36. Sugar analysis in baby food-products. Centre for Dental Education and Research/AIIMS
37. TAPC as potential marker of invasive aspergillosis. Lab. Medicine/AIIMS
38. Tear Film Concentration of Oral Antibiotics in Bacterial Keratitis Patients. Ophthalmology
39. To determine the concentration of Betel nut alkaloids and Catechins in current and past betel nut users and their association with pro-oncogenic cytokines and oral potentially malignant disorders. Centre for Dental Education and Research/AIIMS
40. To estimate the 8-Oxo-dg and 8-Oxo-Guo in plasma. Pulmonary/AIIMS
41. To estimate the levels of N-Carboxymethyl lysine, arginine and Di-tyrosine in autistic children. Pediatrics/AIIMS
42. To study Nilotinib Drug interaction with fatty acid meal. IRCH/AIIMS
43. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population. Medicine/AIIMS
44. To study variable gene expression of collagen and associated degradative enzymes present in human vitreous in patients with myopia vs. normal population. Ophthalmology
45. Tools to Diagnose – Eye- Development and assessment of image analysis tool for identification of glaucoma. IIT Delhi

46. Tools to Diagnose- Eye- Development and assessment of image analysis tools for identification of retinal disorders- Diabetic Retinopathy. IIT Delhi
47. Topical human immunoglobulin as adjunct therapy in dry eye disease. Ophthalmology/AIIMS
48. Traditional medicine in India and South Africa: a comparative study. University of Delhi and South Africa
49. Tri-compartmental micro-carriers for the official management of Parkinson's Disease. Applied Mechanics, IIT, Delhi
50. Understanding the role of noncoding RNAs in osteogenesis. ICMR project- Co-investigator in collaboration with IGIB

### Completed

1. A Randomized controlled trial to evaluate the effect of low dose atropine eye drops for childhood myopia (Dr R Saxena). Ophthalmology/AIIMS
2. Analysing levels of cytokines in tears of keratoconus patient population. (Dr JS Titiyal). Ophthalmology/AIIMS
3. Autologous fat transfer for orbital volume augmentation in sockets with small non-seeing eyes. Dermatology
4. Colistin estimation in ICU patient (Dr. Manish). Medicine/AIIMS
5. Comparative evaluation of different formulations namely sonicated gel form, unsonicated drop and sonicated drop of liposomal Amphotericin B for the Treatment of Fungal Keratitis. Ophthalmology
6. Comparative evaluation of dopamine levels in vitreous humor and tears among the cases of myopic retinal detachment and non-myopic retinal detachment- A pilot study. (Dr. Rohit Saxena). Ophthalmology/AIIMS
7. C-phycoerythrin from Spirulina using LC-MS/MS (Dr. Aseem Bhatnagar). DRDO
8. Effect of ACE inhibitor on plasma levels of norepinephrine. (Dr. KK Deepak). Physiology/AIIMS
9. Effect of Garlic extract in mice model of chronic pancreatitis. (Dr. TS Roy). Anatomy/AIIMS
10. Efficacy of low dose versus standard regimen of oral betamethasone pulse therapy in rapidly progressive vitiligo: a randomized controlled trial. Dermatology. AIIMS
11. Efficacy of three different antiseptic solutions in neonates admitted in NICU: A randomized non-inferiority trial (Dr. Akash). Pediatrics/AIIMS
12. Efficacy of two different Chlorhexidine Gluconate Preparation for skin antisepsis in neonates. (Dr. Akash Sharma). Pediatrics/AIIMS
13. Estimation of ceramides in autosomal recessive congenital ichthyosis (Dr. Sethuraman). Dermatology/AIIMS
14. Estimation of Drug Quantity of anticancer drugs/antibiotics in marketed formulations (Dr. Atul Sharma). IRCH/ AIIMS
15. Estimation of neurotransmitters, metabolites and phospholipids from epileptic brain tissues. Neurosurgery/AIIMS
16. Exploring the role of endocannabinoids in primary glaucoma. (Dr. Dewang). Ophthalmology/AIIMS
17. Pharmacokinetics of Abiraterone levels with food (Dr. DS Arya). Pharmacology/AIIMS
18. Pharmacokinetics of second-line anti-tubercular drugs in children (Dr. Rakesh Lodha). Pediatrics/AIIMS
19. Phospholipids estimation resected brain tissue samples. (Dr. Krishna Kumar). Biophysics/AIIMS
20. Plasma Drug levels of Isoniazid, Ethambutol, Rifampicin and Pyrazinamide. (Dr. Urvashi B Singh). Microbiology /AIIMS
21. Psychosocial factors among patients undergoing orbital exenteration. Dental, Psychiatry

### PUBLICATIONS

**Journals: 317**

**Abstracts: 3**

**Chapters in books: 62**

**Books and monographs: 16**

### PATIENT CARE

**Medical record section: 1 April 2020 to 31 March 2021**

		<b>New Cases</b>	<b>Old Cases</b>	<b>Total</b>
1.	General O.P.D.	27496	63623	91119
2.	Emergency	9672	16629	26301
	<b>Total Cases</b>	<b>37168</b>	<b>80252</b>	<b>117420</b>



<b>Speciality Clinics</b>				
1.	Cornea Clinic	424	149	573
2.	Lens Clinic	-	26	26
3.	Uvea Clinic	-	12	12
4.	Contact Lens Clinic	273	240	513
5.	Glaucoma Clinic	01	17	18
6.	Ophthalmoplasty Clinic	-	02	2
7.	Paed. Ophthalmology Clinic	-	-	-
8.	Retina Clinic	01	10	11
9.	Neuro-Ophthalmology Clinic	-	10	10
10.	Vitreo Retinal Clinic	-	16	16
11.	ROP	05	221	226
12.	Ocular Oncology Clinic	-	11	11
13.	Low Visual Aid	701	1492	2193
14.	a) Orthoptic Clinic	-	1444	1444
	b) Squint Clinic	-	1423	1423
15.	Refraction	-	5081	5081
	<b>Total Cases</b>	1405	10154	11559
	<b>Grand Total of Cases</b>	<b>38573</b>	<b>90406</b>	<b>128979</b>
<b>Admissions</b>				
1.	General Admissions			4862
2.	Casualty Admissions			1822
3.	Private Admissions			375
4.	Short Admissions			3775
5.	Day Care Admissions			2952
	<b>Total</b>			<b>13786</b>
<b>Operations</b>				
1.	Major			7714
2.	Day Care			3504
3.	Total			11218
4.	Minor			7681
	<b>Grand Total</b>			<b>18899*</b>
	<b>Deaths</b>			Nil
<b>Other Figures</b>				
1.	Average Bed occupancy Ratio			82%
2.	Average length of stay			04 Per day
3.	Average OPD Attendance per working day			1967 Per day
4.	Average No. of Indoor Admission per day			38 Per day
5.	Average No. of Surgeries per day			52 Per day

**\*It includes minor procedure also**

#### **Casualty services**

1.	Total number of new cases seen in casualty	9672
2.	Number of patients admitted in emergency ward	2065
3.	Minor procedures done in casualty operating room	290
4.	Intravitreal injections	3886

5.	Brachytherapy Procedures	16
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**Investigative Laboratories:**

S.No	Investigations	Total No
1.	Tonometry (NCT+AT+Tonopen+Perkins+iCARE)	34982
2.	IOL Workup	12087
3.	Refraction	20400
4.	AR (Auto Refraction)	27945
.	HD- OCT + PS OCT	15450
6.	USG A Scan	4064
7.	USG Bscan	11364
8.	PDT	48
9.	GDx ECC / VCC	74
10.	UBM	321
11.	Adaptive Optics	205
12.	Flaremeter	419
13.	Perimetry (GVF+HFA+MP)	5180
14.	Electrophysiological Tests (VER+ERG+mfERG+EOG)	1990
15.	Medical Board	2544
16.	Fundus Auto-Flouresence	1301
17.	Dry Eye Work-up	326
18.	Contact Lens	767
19.	Ant. Seg. CP	3146
20.	Posterior Segment CP	1250
21.	ROP	8090
22.	Topography (VKG+Cassini+Sirius+I-Trace)	4207
23.	Post Segment Laser	1077
24.	Contrast Sensitivity	1104
25.	OCT Angiography	4095
26.	HRT 3	2390
27.	ECG	563
28.	Low Vision Aid Services	2424
29.	Colour Vision	3055
30.	Laser Interferometry	2720
31.	FFA + ICG	4387
32.	Specular Microscopy	7184
33.	ASOCT	8139
34.	Pentacam+ Corvis	4761
35.	Autolensometry (POG)	1610
36.	CCT / N.CCT (Pachymetry)	30039
37.	Ocular Surface Analyser	193
38.	Impression Cytology	181
39.	Orthoptics	1444
40.	LIPI (View+Scan+Flow)	240
	<b>TOTAL</b>	<b>231766</b>

**Community Ophthalmology:**

<b>Primary Eye care Services (April 2020 to March 2021)</b>	
Primary Eye care Clinics	18
Attendees at PEC Counters in Slums Cluster	20416
Refraction carried out in PEC Centres in slums Cluster	10513
Spectacles prescribed in Slums	10376
Patients referred to RP Centre	2230
<b>Patient Reported for treatment at RP Centre under Community Ophthalmology</b>	
Total Patient Reported under community ophthalmology:	380
Total Patient Operated for cataract surgeries under community ophthalmology	356
<b>Rehabilitation Services in Community Ophthalmology</b>	
Total patients registered for rehabilitation services/ Tele Health and Tele consultation	1816
Admission done for vocational training.	04
Total patients benefited for ADL training.	939
Total patients benefited for Mobility training.	224
Beneficiaries successfully admitted in special school.	05
Total patients benefited for visual disability certificate	98

**Ocular Radiology**

Table 0-1 Number of X-Rays	2197
Number of CTs	378
Number of MRI	Shared with the main department.

**Ocular Biochemistry:**

Sl. No.	Tests Name	IPD	OPD	Total
1.	Sugar (R, F, PP, GTT)	1089	1693	2782
2.	HbA1c	455	685	1140
3.	TBIL	1734	1556	3290
4.	DBIL	1734	1556	3290
5.	ALT or SGPT	1734	1556	3290
6.	AST or SGOT	1734	1556	3290
7.	ALP	1734	1556	3290
8.	TP	654	1379	2033
9.	ALB	654	1379	2033
10.	Creatinine (CRE)	1753	1600	3353
11.	Urea (UREA)	1753	1600	3353
12.	Uric Acid (UA)	1753	1600	3353
13.	Sodium (Na+)	1753	1600	3353
14.	Potassium (K+)	1753	1600	3353
15.	Chloride (Cl-)	1753	1600	3353
16.	TCHOL	259	731	990
17.	LDL-C	259	731	990
18.	HDL-C	259	731	990
19.	Triglyceride (TRIG)	259	731	990
20.	Free T3	142	456	598

21.	Free T4	142	456	598
22.	TSH	147	471	618
23.	Vitamin B12	55	321	376
	<b>TOTAL</b>	<b>23562</b>	<b>27144</b>	<b>50706</b>

#### Ocular Microbiology

1.	Bacterial culture & sensitivity	8340
2.	Fungal culture	2890
3.	Specimens processed for cytology	1638
4.	Specimens processed for Chlamydia Ag detection using DFA	32
5.	Specimens processed for HSV Ag detection using DFA	Nil
6.	Viral PCR for Herpes Simplex virus, Adeno & Coxsackie Virus (conjunctivitis / corneal ulcer)	59
7.	Specimens processed for microsporidia	7
8.	Specimens processed for mycobacteria	9
9.	Culture for acanthamoeba	18
10.	Automated (Bactec) culture for endophthalmitis	2
11.	Broad range PCR for endophthalmitis	2
	<b>GRAND TOTAL</b>	<b>12997</b>

#### Ocular Pathology:

Total number of Investigations	42,423
Blood	30,028
Urine	408
Cytology + Cytology research	403
Histopathology + Histopathology Research	11,584

#### Ocular Pharmacology:

DRUGS		Number of Vials
<b>Drugs fortified &amp; compounded at the Ocular Pharmacy</b>		
1.	Acetyl cysteine (10, 20%, 2.5%, 5%)	57
2.	Amphotericin b (0.25, 0.15%)	38
3.	Betaxolol (0.25%)	94
4.	Capsfungine acetate 0.5%	05
5.	Cefazolin (5%)	18
6.	Conc. Tobramycin (1.3%)	2567
7.	Mitomycin (0.02%, 0.04%)	49
8.	Pilocarpine (0.125%- 1%)	20
9.	Polymixin b (20k-50k iu)	22
10.	Povidoneiodine 5%	01
11.	Vancomycin (5%)	2332
12.	Timolol 0.25	19
13.	Ceftazidime	43
14.	Voriconazole (1%)	420
15.	Gentamycin 1.3%	01
16.	Proparacaine (0.5%, preservative free)	03
17.	Heparin (1300 iu/ml)	03

18.	Amikacin (1.3%, 2.5%)	22
19.	Levofloxacin 0.5%	4
<b>Drugs dispensed to Patients directly (Free of Cost) &amp; also for Hospital use</b>		
1.	Artificial tears	26,520
2.	Ciprofloxacin (0.3%)	5271
3.	Cyclosporine 2%, 1%	52
4.	EDTA (1.1%)	110
5.	Homatropine (2%)	9817
6.	Hypertonic saline (5%)	3531
7.	Methyl cellulose (2%) (30 ml/vial)	522
8.	Pilocarpine (2%)	10
9.	Acetazolamide 30mg, 10, 25, 40, 50, 60, 80mg	369 pkt
10.	Sodium ascorbate (10%)	180
11.	Sodium citrate (10%)	150
12.	Timerosal solution (0.005%)	24000 ml
13.	Tropicamide (1%)	27270
14.	Piperacillin	41
15.	Tropac+ phenylephrine (0.5%+2.5%)	6789
16.	Gancyclovair vials 100 mg	59
17.	Piloclonidine	278
18.	Olopatadin	1089
19.	Glycerin 20%	02
20.	PHMB	45
21.	Methylcellulose 2%	

**Kit & Other items dispensed (on demand)**

<b>DRUGS</b>		<b>Quantity</b>	
1.	Ethylalcohol 20%	161 x 5 ml	
2.	Gold chloride	23	vials
3.	Hydrazin hydrate	28	vials
4.	Liposomal amphoterecin b (0.15%)	02	vials
5.	TPA (injection, 1 mg/ml)	13	ampoules
6.	Infliximab inj 10 mg	10	vials
7.	Timolol maleate oint. 0.5%	17	ointments
8.	Acyclovir 120 mg	12	sachets
9.	Valganciclovir tablet	78	sachets
10.	Sirolimus powder	390	sachets
11.	Livofloxacin 0.5%	4	vials
12.	Voriconazole in parts	13	sachets
13.	Propranolol in parts	28	sachets
14.	Valganciclovir	9	sachets
15.	Hydrogen peroxide 3%	2550 ml	
16.	Sod. Hypochlorite 1%	26900 ml	
17.	Imepenam 5%	-	vials
18.	Ponkreflat ¼ sachet	54	sachets



19.	Hydrocortisone 5 mg	9	sachets
20.	Ceftriaxone 5%	1	vial
21.	Isoniazid	216	sachets
22.	Quinidine sulphate	753	sachets
23.	Quinidine 400 mg	865	capsule
24.	Tab. Quinidine 200 mg	235	sachets
25.	Cap. Quinidine 200 mg	1300	Sachets
26.	Cap. Idebenone	360	capsule
27.	Clarithromycin 0.25%	1	vial
28.	Augmentin 625 mg ¼	4	sachets
29.	Hydrocortisone	45	sachets
30.	Propranolol	20	sachets
31.	Sodium benzoate	40	sachets
32.	Haloparidol	36	sachets
33.	Alfamino power	10	sachets
34.	Quinidine sulphate 100 mg	400	capsule
<b>Sterile drugs dispensed</b>			
1.	Botox	96	ampoules
2.	Bevacizumab(avastin)	2648	ampoules
3.	Interferon	89	vials
<b>Biologicals dispensed</b>			
1.	Autologous serum	20	vials
2.	Autologous prp	150	vials
3.	Platelet rich plasma	2	vials

#### National Eye Bank

National Eye Bank (Neb):-		
Total Collection of Cornea		378
Total Utilization for Cornea Transplantation		311
Other Eye Bank (Oeb):-		
Total Collection of Cornea		47
Total Utilization for Cornea Transplantation		47
Total Number of Peoples Pledged For Eye Donation At Neb:-		
Total Number of People Pledged For Eye Donation		108

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Atul Kumar** is Member National Board of Examinations Specialist Board in discipline of Vitreo Retinal Surgery, Ministry of Health & Family Welfare, Govt of India 2020. Was awarded Krishna Sohan Singh Trophy by Delhi Ophthalmological Society for best Clinical Talk 200-2021.

**Professor Parijat Chandra** is External Examiner Thesis (MS Ophthalmology). PGIMER Chandigarh (June 2020). Internal Examiner MD Ophthalmology Exam, RP Centre, AIIMS (16-18 June 2020). External Expert - Faculty Recruitment Interview. AIIMS Kalyani (26 July 2020). Examiner - BSc (Optometry) Examination (Final) Phase II 2nd year. Ophthalmic Instruments and Appliances (Aug 2020). External Examiner Thesis (MS Ophthalmology). PGIMER Chandigarh (March 2021). Moderator. Session on ROP. DOS winter conference (18-20 December 2020). Convener. Session: Pediatric Ophthalmology. DOS Midterm Conference. Delhi (20-21 March 2021).

**Professor JS Titiyal** received Sarvepalli Radhakrishnan Memorial Award. Tejasvi Astitva Foundation on the occasion of Teacher's Day celebration, September 2020, New Delhi. Om Prakash International Oration Delhi Ophthalmological Society in its first Web Annual DOS Conference 2020 (December 2020), New Delhi. iOCT Guided Femtosecond laser assisted Phacoemulsification-Live web conference of Kerala State Ophthalmological Society Conference "Drishti 2020" November 2020. Health program DD -Bharti, live phone in National program on "Post Holi eye problems and solutions". March 2021, Prashar Bharti, Mandi House, New Delhi. BBC -Radio, Common eye problems and Covid -19, March 2021, New Delhi. "Swasth Kissan" DD Kishan live health program on Glaucoma Awareness Week. March. 2021, DD Kissan, DD Kendra, Khel Gaon, New Delhi. World Glaucoma Week Special program in channel New X "Medically Speaking "March 2021, New Delhi. Guest of Honour on 2nd foundation day celebration of Reginal Institute of Ophthalmology, BHU, Varanasi, September 2020. Guest of honour for Sakshyam Live Webinar on 35th National Eye Donation fortnight celebration, September 2020, New Delhi. Guest for Interview in D N News "Achievements of National Eye Bank and eye donation at AIIMS", September 2020, New Delhi. FM rainbow AIR live question answer program on Eye donation. September 2020. All India Radio. New Delhi. Total Health DD -2 National program on "National Eye Donation Fortnight and impact of corona pandemic in eye donation and keratoplasty". August 2020, Mandi House, New Delhi. FM rainbow AIR live program on Eye donation. August 2020, All India Radio, New Delhi. Live Webinar on impact of Covid in eye donation and eye banking. Dadhechi Deh Dan Samiti, July 2020. New Delhi. How to take care of eye problems. July 2020, Lokshabha TV, Doordarshan, New Delhi. How to safe guard your eyes in Corona Pandemic. June 2020, NDTV, New Delhi. How to safe guard your eyes in Corona Pandemic. May 2020, Door Darshan, National, Mandi House, New Delhi. Corona Pandemic and its effects on eyes. May 2020, Door Darshan, National, Mandi House, New Delhi.

**Professor Namrata Sharma** was Honorary General Secretary, All India Ophthalmological Society (AIOS); Regional Secretary, Asia-Pacific Academy of Ophthalmology (APAO); Honorary General Secretary, Eye Bank association of India (EBAI); Honorary General Secretary, Delhi Ophthalmological society (DOS); Chairperson scientific Committee of Indian Society of Cornea and Keratorefractive Surgeons (ISCKRS); General Secretary, Ophthalmic Research Association, RP Centre; Member Executive - Cornea Society of India (CSI).

**Professor Tushar Agarwal** received Senior Achievement Award by the American Academy of Ophthalmology on 13 July 2020.

**Dr Viney Gupta** was awarded First Prize for the 2021 Global Golden Helix Abstract Competition for his work titled "Digenic Inheritance in Juvenile open angle Glaucoma".

**Dr Rohit Saxena** received Hari Mohan Oration by Delhi Ophthalmological Society for 2020.

**Dr Rohit Saxena** received Excellence in Strabismology by Strabismus and Pediatric Ophthalmology Society of India (SPOSI) for the year 2020.

**Dr Rebika** was nominated for "Best Researcher Award" for "International Research Awards on New Science Inventions" NESIN 2021 awards by ScienceFather; Section Editor in INOS newsletter

**Dr Dewang Angmo** received AIIMS Excellence Research Award 2019 in recognition of Outstanding Publication under Clinical Science category for "Comparative Evaluation of Phacoemulsification Alone versus Phacoemulsification with Goniosynechialysis in Primary Angle-Closure Glaucoma"; received First Prize in the Free Paper Session for Free Paper titled "Comparative evaluation of iCare ic200 and Perkins tonometers in paediatric glaucoma with varied corneal characteristics" in the Glaucoma (Free Paper) - 1 in the DOS 2020 International Hybrid Conference, 18th-20 December 2020; received 2nd Prize in Interesting Cases section for "A rare presentation of haemorrhagic choroidal detachment following intravitreal bevacizumab" in the DOS 2020 International Hybrid Conference, 18-20 December 2020; received 2nd Prize in the Free Paper Session for Free Paper titled "Evaluating the role of endocannabinoids in PACG Vs Controls" in DOS Mid term Conference, 20-21 March 2021; Organized DOS Annual Conference 2020 and DOS Midterm conference 2021; Chief Instructor, Chaired and delivered successful Instruction Course in AIOS 2020 on Lasers in Glaucoma; Elected as the Youngest Executive member in DOS 2019-2021; Glaucoma section editor for IJO; Glaucoma section editor for RPC Newsletter; Assistant Editor in DOS Times.

**Professor Neelam Pushker** chaired sessions on Oculoplasty and Oncology in, 'Annual RPC Online Oculoplasty & Oncology workshop' held in November 2020.

**Dr Swati Phuljhele** delivered Best Paper: Ep poster Presentation Titled "5th World Congress of Paediatric Ophthalmology and Strabismus", 26 September 2020.

**Dr Rachna Meel** is the Chief instructor for Instruction course titled : A Quick Appraisal of Recent Trends for Common Ophthalmic Tumors ; conducted at AIOC 2020 14 February 2020, Gurugram  
She is Co-instructor for Instruction course titled: The Oculoplasty Tutorial – Step by step approach; conducted at AIOC 2020 14 February 2020, Gurugram.

**Dr Amar Pujari** received RN Sabrawal Gold Medal in DOS Annual Conference 2020.

**Professor Radhika Tandon** is Immediate Past President of Eye Bank Association of India; Immediate Past Vice - President of Association of Eye Banks of Asia; Member of National Organ and Tissue Transplant Organization (NOTTO) conferred by NOTTO; Member of Apex Technical Committee of National Organ and Tissue Transplant Organization, Govt. of India; Advisory Member for the Global Alliance of Eye Bank Associations (GAEBA); Appointed as Chairperson of the Committee for Standard Treatment Workflows (STWs) conferred by ICMR; Invited to participate in the framing of Barcelona principles for Ethical Practices in Usage of donated tissue released in collaboration with Global Alliance of Eye Bank Associations and WHO; Appointed as Member of the Advisory Committee for National Programme for Control of Blindness & Visual Impairment (NPCB&VI), Ministry of Health and Family Welfare, Government of India; Member Joint Working Group Indo-US DBT-NEI Vision Research-DBT; Member National Expert Group for Limbal Stem Cell Usage – ICMR; Chairman Vision Disability Sub-committee Ministry of Social Justice and Empowerment; Member Committee for Color Vision and Visual Disability Expert Group – MCI; Ophthalmology Expert for Department of Health Research, Ministry of Health and Family Welfare; Member of core group of the National Board of Examinations, India; Expert for AIIMS (Jodhpur), AIMS Mohali (Punjab), UCMS (University of Delhi), JIPMER (Puducherry), King George's Medical University (UP, Lucknow); Expert for Corneal Blindness Backlog Free Punjab Initiative of Govt of Punjab and NPCBVI; Expert Reviewer for Wellcome Trust, ICMR, DBT, DST, CSIR; Reviewer for American Journal of Ophthalmology, Archives of Ophthalmology, PLoS One, Ophthalmology, British Journal of Ophthalmology, Eye, Cornea, Graefes Archives of Clinical and Experimental Ophthalmology, Indian Journal of Ophthalmology, National Medical Journal of India etc.; Appointed as Chairperson of the Inspection Team of Delhi Organ Transplant Cell; Appointed as an Expert for Project Review Committee (PRC) conferred by ICMR; Nominated as Member for DBT Bioengineering Task Force, Department of Biotechnology, Ministry of Science & Technology, Govt. of India; Nominated as a Member of the Editorial Board of the Indian Journal of Medical Research (IJMR) from July 2018; Nominated as Co-Chairperson of Ocular Brachytherapy Committee at RP Centre, AIIMS, New Delhi; Appointed as a Technical Expert for the Ayushman Bharat Pradhan Mantri January Arogya Yojna (AB PM-JAY) to provide valuable inputs in the areas of expertise on Health Benefit Packages, Standard Treatment Guidelines, Medical audit and Quality of care etc. for the seamless implementation of the scheme, organized by National Health Authority (NHA) through Online Mode; Appointed become a Member of the Advisory Board/Action Committee of the Eye Bank Cornea Legislation Delink Action Committee for Eye Bank Association of India (EBAI); Appointed as Examiner to evaluate the PhD thesis of Ms. Vidya Pradeep (PH511); Member of the Inspection Committee for inspection of Bharti Eye Hospital, Greater Kailash-1, New Delhi and Guru Teg Bahadur Hospital, Tahirpur Road, GTB Enclave, New Delhi.

**Dr Noopur Gupta** was awarded the **AIIMS Excellence Research award** for outstanding publication in **Clinical Science** category titled, Population-based assessment of visual impairment and pattern of corneal disease: Results from the CORE Study; Invited as member of the **Advisory Board** for Community Eye health Journal published through International Centre for Eye Health, London, UK; Nominated as **Ophthalmology Expert** for Project Review Committee Meeting for the field of Ophthalmology for reviewing ICMR fellowships and extramural projects; Invited as Expert for inputs on Ophthalmology Guidance documents for AB PMJAY: Corneal surgeries under Ayushman Bharat Scheme, Govt. of India; Nominated by Vision 2020-Right to Sight-India to develop national guidelines for cataract management in the country; Task Force Member of National committee for mapping of human resource and infrastructure on eye health in the country under NPCBVI; Invited as **Consulting Editor** for the International and South Asia edition of Community Eye Health Journal on Basic Eye Examination and Primary Eye Care; Resource person for training of medical officers for NPCBVI Training on Primary Eye Care in Delhi.

**Dr Neiwete Lomi** secured First position Interesting cases Retina session for paper titled: “Metastatic versus second malignancy- a diagnostic dilemma in a treated case of bilateral retinoblastoma” at DOS mid-term conference 2021; Third position Interesting cases Retina session for paper titled: “Uveal Melanoma in a case of post traumatic closed globe injury” at DOS mid-term conference 2021; Convenor- DOS Oculoplasty International plenary session, 18th Dec. 2020. DOS Annual Conference; Judge-Ocular oncology interesting cases (free paper), 19 December 2020. DOS Annual Conference; For the first time BARC-developed plaque brachytherapy in ocular tumor was successfully used at RP Centre, AIIMS in September 2020 and is recognized by the Ministry Government of India; Attended the Google meeting organized by BARC, Mumbai, among the core ocular oncologist group of India, for facilitating the handing over of 1 version of RU-106 plaque simulator application on 28 March 2021.

**Dr Nishat Hussain Ahmed** has been conferred the award of ‘Outstanding Clinician in Microbiology and Infectious Diseases’, by the Venus International Foundation, in the Venus International Healthcare Awards 2020; has been conferred the “GAPIO (Global Association of Physicians of Indian Origin) Excellence in Diagnostics Award” 2021, in young category; Won first prize in the e-poster titled ‘Rhodotorula species- an emerging pathogen in Ocular Infections’, in MYCOCON 2021, conference of the Fungal Infections Study Forum (FISF); Nodal Officer of COVID-19 and member secretary of COVID-19 Committee of the centre. She has been conferred ‘Special honour for COVID control’, in the 54th Foundation day celebration of the centre. Ocular Pharmacology.

**Professor T Velpandian** received Special COVID Award to Honor for COVID Control by Ophthalmic Research Association, Dr. RP Centre, AIIMS in the 54th Foundation Day on 13 March 2021; Recipient of Grand Challenges Award under ‘Antimicrobial Resistance (AMR) call ‘under approaches to address antimicrobial resistance’ (Bill & Melinda Gates Foundation (BMGF) and DBT).

**Professor Praveen Vashist** is Member Secretary of the Presidential Committee of AIOS on prevention of blindness; Vice President of Vision 2020 Right to Sight India for the period 2020-2023; Oriented State Program Officers and District Programme Managers for National Survey on Human Resource & Infrastructure for eye care services in India in partnership with NPCB&VI, MoH&FW Government of India. The meetings were conducted in 18 states of India (Mizoram, Assam, Uttar Pradesh, Gujarat, Maharashtra, Andhra Pradesh, Tamil Nadu, Karnataka, Madhya Pradesh, Meghalaya, Chhattisgarh, Jharkhand, Haryana, Rajasthan, Tripura, West Bengal, Odisha, Bihar); Member for Digitization of IEC/Health Education material under National Programme for Control of Blindness & Visual Impairment (NPCB&VI); Member for Dossier Review Committee for elimination of trachoma in Myanmar. Reviewed and submitted the final report to WHO; Member of NPCB&VI Committee for planning Cataract backlog elimination; Member of the NHSRC expert Committee on development of following modules on eye care for Health and Wellness Centres NHSRC for ASHAs, Community Health Officers, ANM, Medical Officers, Staff Nurse (PHC/UPHC); Co-Chairman in Community Ophthalmology session in DOS conference on 19 December 2020; Nodal officer for the RP Centre annual report to AIIMS and MOH&FW; Member for ICMR Screening Committee Meeting for the recruitment of Scientist -B, D & E; Advisor, Faculty and Resource person for training programme of Medical Officers in Delhi NPCBVI Programme; Member of Expert consultation for WHO SEARO and IAPB Regional meeting to discuss the future plan for Vision 2020 Right to Sight by the year 2030; Expert invitee for WHO-SEARO to develop the “Regional Strategic Directions for Integration in Eye Care Services” covering all levels of eye care; Member of MoH&FW Expert Committee on devising the revised strategy of Vitamin A supplementation; Honored as “Corona Warrior” by Charitra Nirman Mandal (Bharat) for the service rendered in the ongoing COVID-19; Trained in the leadership program organized by the British Council on behalf of the Commonwealth Scholarship Commission in the UK; Convenor in the ACOIN session in the Mid Term Conference of DOS held on 21 March 2021, New Delhi.

**Dr Suraj Senjam Singh** started Telehealth and Rehabilitation Services on 17 April 2020 at community Community Ophthalmology, 7th Floor, RP Centre, AIIMS; Managing editor of Indian Journal of community Ophthalmology finalized all papers with other editorial board members; As focal and technical member for Rapid Assessment of Assistive Technology led, India 2021; Was given an interview BBC, UK interviewed on digital technology for the blind on its digital planet imitative; Member of expert Review Committee WHO-SEARO for Procurement of Assistive technology in South East Asia.

**Dr Vivek Gupta** is Jt. Organizing Secretary, 54th RPC Foundation Day Congress 2021; Assisting Faculty, Computer Facility, AIIMS, New Delhi; Member of MoH&FW Committee to Review the EHR Standards of India. Vide T-21016/250/2020-eHealth dated 30 December 2020; Member of MoH&FW Sub-Committee on legal and policy frameworks for the utilization of artificial intelligence in public health in India; Developed the RPC SOPs during COVID with Prof. Tanuj Dada & Dr.Rohan Chawla under guidance of Chief, RPC; Developed the <http://meet.aiims.edu> video conferencing platform; Coordinated COVID training of over 2907 residents and staff nurses of AIIMS using the SARAL Learning Management System of AIIMS across 36 courses.

**Professor Sanjay Sharma** received AIIMS Excellence Research Award (for the year 2018-19), 3 Prize. Awarded on the Annual Institute Day Celebrations, on 25 September 2020; External examiner for PDCC HPB Interventional Radiology at ILBS, N Delhi, 13 December 2020; External examiner for Fellowship (Interventional Radiology) at PGIMER, Chandigarh, 9 June 2020; Member of the Price Negotiation Committee of the purchase of various machinery and equipment, Store purchase committee, Main technical specifications and evaluation committee Subject expert, in the interview for faculty selection in the specialty of Radiodiagnosis at the Super Specialty Cancer Institute & Hospital, Lucknow, 21 November 2020 (Online); Thesis examiner for MD University of Delhi, PGIMER Chandigarh, NEGRIHMS Shillong, AIIMS Jodhpur; Reviewer for JCIR, J Clin Imaging Sciences, Acta Radiologica, AM J Roetgenol, IJMR Internal examiner MD Radiodiagnosis (AIIMS) December 2020; Editorial board member: IRIA, JCIR, IJU, JCOR; Arjun Netaji, Korean award and also Karkarla Subarao Gold medal 3 best paper by PG at NIZAM 26 December 2020.

## 10.5. Jai Prakash Narayan Apex Trauma Centre

### Chief

Rajesh Malhotra

### Additional Medical Superintendent

Nirupam Madaan (June 2020 - till Date), Amit Lathwal (till June 2020)

### Professors

#### Anaesthesiology

Babita Gupta  
Chhavi Sawhney

#### Laboratory Medicine

S Arulsevi  
Purva Mathur

#### Radio-Diagnosis

Shivanand G.  
Atin Kumar

#### Critical Care

Kapil Dev Soni  
Richa Aggarwal

#### Obstetrics & Gynaecology

Garima Kachawa

#### Division of Trauma Surgery & Critical Care

Pratyusha Priyadarshini  
Abhinav Kumar  
Narendra Choudhary  
Dinesh Kumar Bagaria  
Junaid Alam

#### Neurosurgery

Kokkula Praneeth

#### Hospital Administration

Anant Gupta (contract)

#### Emergency Medicine

Sanjeev K. Bhoi

#### Neurosurgery

Deepak Agrawal  
Deepak K. Gupta  
GD Satyarthee

#### Division of Trauma Surgery &

#### Critical Care

Sushma Sagar  
Subodh Kumar  
Amit Gupta  
Biplab Mishra

#### Additional Professors

#### Nephrology

Soumita S. Bagchi

#### Neuroanesthesia

Keshav Goyal  
Navdeep Sokhal  
Ashish Bindra  
Gyanendra Pal Singh  
Dr. Niraj Kumar

#### Associate Professors

#### Emergency Medicine

Tej Prakash Sinha

#### Assistant Professors

#### Transfusion Medicine

Rahul Chaurasia

#### Anaesthesiology

Yudhyavir Singh  
Abhishek Singh (Contract)

#### Radio-Diagnosis

Richa Yadav (contract)

#### Urology

Siddharth Jain

#### Division of Forensic Pathology and Molecular Dna Fp

Sanjeev Lalwani  
Adarsh Kumar

#### Orthopaedics

Kamran Farooque  
Vijay Sharma  
Buddhadev Chowdhry  
Vivek Trikha

#### Burns and Plastic Surgery

Maneesh Singhal

#### Neurosurgery

Pankaj K. Singh

#### Paediatric Surgery

Shilpa Sharma

#### Orthopedics

Samarth Mittal  
Hemant Bansal (contract)  
Nishank Mehta (contract)

#### Cardiology

Nirmal Ghati (Contract)

#### Division of Forensic Pathology and Molecular Dna Fp

Anupuma Raina (Scientist)



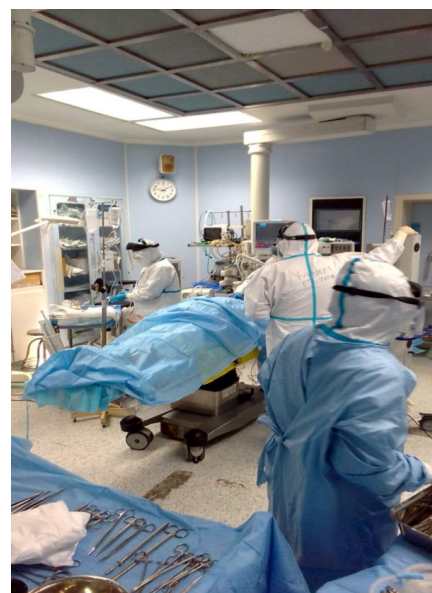
## HIGHLIGHTS

The JPNA Trauma Center was converted to a specialized Covid Care Center for moderate-to-severe Covid patients. The first COVID patient was admitted to the JPNA Trauma Center on 3 April 2020. This rapid transition was in itself a remarkable feat, highlighting the multi-disciplinary team-approach. The center rapidly developed special areas for donning and doffing with high quality PPE. A newly commissioned 20-bedded ICU was opened for COVID patients on the Ground Floor. This is a fully equipped and functional ICUs with dialysis facility. The COVID center has three ICUs, one HDU and four wards. Unique corridors were made for movement of health care workers, patients, laundry and biomedical waste. Intensive trainings were conducted for all cadres of health care staff on infection control, donning and doffing. More than 1000 staff were trained in the first five months of the pandemic, with multiple refresher trainings. Engineering modifications were done to install UVGI in AHUs, cordoning off areas, making new wash rooms etc. Private wards with oxygen points were newly commissioned. Facilities were made for patients' attendants to e-visit their patients through special tele-conversation areas. A new oxygen supply plant was installed. OTs for COVID patients were made fully functional and a number of caesarian sections and other procedures were conducted.

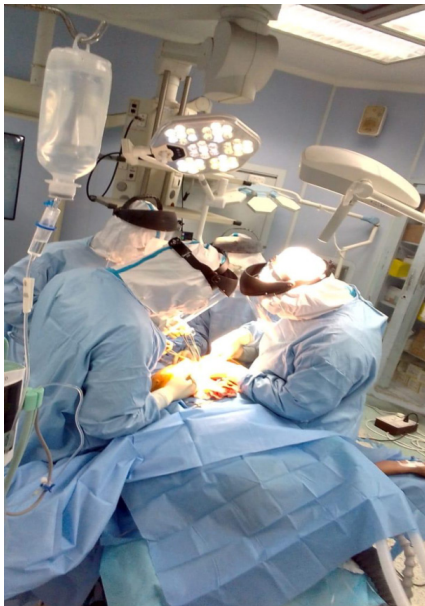
From 3 April 2020 to 31 March 2021 a total of 5,902 admissions occurred in the Trauma Center COVID facility.

At the same time, the entire Trauma Care was shifted to the main hospital. This challenging task was completed in one week. High quality trauma care continued to be provided to patients in the new areas, with trauma OTs being fully functional during the entire COVID period. Trauma triage areas were rapidly made functional as an exact replica of the JPNA Trauma Center. All Trauma patients received immediate and highest quality patient care during this time.

All the Faculty members continued to participate in various academic and teaching activities. The Trauma Center was awarded a Center for Advanced Research from ICMR for Infection Prevention and Control. Trauma center is also maintaining a special herbal Garden through the Ministry of Ayush's support.









Visit of Hon'ble Health Minister, with the Director, AIIMS and Chief of JPNA Trauma

## EDUCATION

### Training

#### Rajesh Malhotra

1. Live TV Show on "COVID-19- Strategies to Tackle" on India TV at 5-6 PM on 12 April 2020
2. Live Phone in Special Program on "COVID-19- Lockdown 2.0" on DD National at 7-8 PM on 15 April 2020
3. Live TV Show on "COVID-19- Strategies to Tackle" on NDTV at 9-10 PM on 15 April 2020
4. "While You are Housebound" telecasted on NDTV 24x7, NDTV India and NDTV Profit at 5:30 PM on Saturday 18 April 2020
5. "While You are Housebound" telecasted on NDTV 24x7, NDTV India and NDTV Profit at 12:30 PM, 10:30 AM, 10:00 AM & 9:30 PM respectively on Sunday 19 April 2020
6. Live Phone in TV Show Aaroyga Bharat on "Updates of #COVID-19" on DD National at 7-8 PM on 2 May 2020
7. An Expert for the T.V. Programme on "Plasma Therapy "No Magic Bullet" against COVID-19" telecasted on NDTV India at 7:30 PM on 4 May 2020
8. Live TV Show on "COVID-19" on NDTV 24x7 at 9-10 PM on 7 May 2020
9. Live TV Show on "COVID-19" on NDTV 24x7 at 9-10 PM on 10 May 2020
10. Live Phone in TV Show on "Doctors on Call –Special program on COVID-19" on NDTV at 11:30 AM on 14 May 2020
11. TV Show on "COVID-19" on Lok Sabha Channel on 15 May 2020 at 5:00- 6.00 PM
12. Swasth Bharat TV Show on "Corona and Mental Health" telecasted on Lok Sabha Channel on 25 May 2020 at 6.00 PM and 10 PM
13. Live Phone in TV Show on "Doctors on Call –Special program on COVID-19" on NDTV at 09:30 PM on 7 June 2020
14. Live Phone in TV Show on "Doctors on Call –Special program on New Containment Zones in Delhi" on NDTV at 09:30 PM on 23 June 2020
15. Live TV Show on "On rising number of COVID cases in Delhi" on NDTV at 07:00 PM on 24 June 2020
16. Live TV Show on "Fighting with CORONA" on NDTV India at 9:30 PM on 18 July 2020
17. Live TV Show on "Fighting with CORONA" on NDTV 24x7 at 10:00 PM on 18 July 2020
18. Live TV Show on "Left Right and Centre" on NDTV 24x7 at 9:00 PM on 2 August 2020
19. Live TV Show on "CORONA" on Lok Sabha Channel at 1.30 PM on 7 August 2020
20. Live TV Show on "Opening of Schools in Delhi NCR" on NDTV at 1:00 PM on 11 August 2020



21. Live TV Show on “India Crosses 3 million COVID-19 Cases-Are We Doing Enough?” on NDTV at 9.30 PM to 10 PM in NDTV 24x7 and 10 PM to 10.30 PM in NDTV India on 22 August 2020
22. Live TV Show on “COVID-19” on DD Total Health at 03.30 PM on 27 August 2020
23. Live TV Show on “Question Answers on COVID-19” on Doordarshan at 03.30 PM on 28 August 2020
24. Live TV Show on “Coronavirus- Facts and Myths (Sach aur Afwaah) on ICMR Plasma Therapy Trial” on NDTV India at 1:00 PM on 9 September 2020
25. Live TV Show on “Coronavirus- Facts and Myths on Discontinuation of Oxford Vaccine Trial” on NDTV 24x7 at 1:30 PM on 9 September 2020
26. Live TV Show on “Doctor Speak: on testing and vaccine for corona virus” on DD Total at 3:30 PM on 16 September 2020
27. Live TV Show on “Doctor Speak: Patient and Healthcare Worker Safety” on DD News at 2:00 PM on 20 September 2020
28. Live TV Show on “Interview and replies to COVID related queries” on NDTV 24X7 at 2:00 PM on 30 September 2020
29. Live TV Show on “COVID: Facts and Myths Unlock 5.0” on NDTV India at 2:30 pm on 30 September 2020
30. Live TV Show on “Doctor Speak: Live interactive program on COVID-19” on DD Total at 3:30 PM on 5 October 2020
31. Live TV Show on “COVID: Sach ya Afwah” on NDTV India at 12:30 PM on 13 October 2020
32. Live TV Show on “Coronavirus- Facts and Myths” on NDTV 24x7 at 1:30 PM on 15 October 2020
33. Live TV Show on “World Osteoporosis Day: Care of Bones” on DD News at 09:30-10:00 AM on 20 October 2020
34. Live TV Show on “Doctor Speak: Panel of Doctors answers yours queries and bust all the myths and doubts: Osteoporosis” on DD News at 03:30 PM on 20 October 2020
35. Live TV Show on “Pollution and Recent Spike in COVID Cases in Delhi in festive Season” on NDTV 24x7 at 9:00 AM on 25 October 2020
36. Live TV Show on “Doctor Speak: Bone Health and COVID-19” on DD News at 2:00 PM on 8 November 2020
37. Live TV Show on “Third Peak in Delhi” on NDTV 24x7 at 1:30 PM on 16 November 2020
38. Live TV Show on “Increasing number of Corona virus” on Aaj Tak at 8:00 PM on Friday 20 November 2020
39. Live TV Show on “COVID-Third Peak in Delhi” on NDTV Channel at 12:30 PM on 1 December 2020
40. Live COVID Special Show India Fights Back on “COVID-19 Challenges for Disabled Person” on Rajya Sabha Channel at 03:00-03:30 PM on 3 December 2020
41. Live TV Program Public Forum on “COVID Vaccine” on Lok Sabha Channel at 03:30-04:00 PM on 3 December 2020
42. Live Phone in Interactive Program on “Corona Patients crosses one crore: How is the preparation?” on BBC News Hindi at 7:30 PM-08:00 PM on 19 December 2020
43. Live TV Program on “COVID Mutation and Vaccine Related Issues” on Zee News on 20 December 2020
44. Live TV Show on “New Strain of COVID-19- Afwah ya Haqeeqat” on NDTV at 12:30-01:00 PM on 22 December 2020
45. Ayshman Bhava Show on “Impact of COVID on Bones and Joints” on Rajya Sabha Channel on 26 December 2020 at 11:00 AM
46. Live TV Show on “New Mutant strain of COVID” on India TV at 1 PM on 30 December 2020
47. Live TV Show on “New Mutant strain of COVID” on NDTV at 12:30 PM on 31 December 2020
48. Live TV Show on “Mutant strain of COVID-Afwah Banaam Haqeeqat” on NDTV India at 1:30 PM on 31 December 2020
49. Live TV Show Lok Munch on “Final Fight against COVID” on Lok Sabha TV at 6:00-7:00 PM on 1 January 2021
50. Live TV Show on “Final Fight against COVID” on DD news at 8:00-8:30 PM on 1 January 2021
51. Live TV Show on “DGCI approves Covishield and Covaxin Vaccines for COVID” on NDTV 24x 7 at 11:00 AM on 3 January 2021
52. Live TV Show on “COVID Vaccination” on India News Today at 2:00-3:00 PM on 15 January 2021
53. Live TV Show on “COVID-19- Afwaah Banaam Haqeeqat” on NDTV at 12:30 PM on 21 January 2021
54. Live TV Show on “COVID Vaccine Safety and Efficacy” on DD News at 08:00-08:30 PM on 21 January 2021
55. Live TV Show on “SERO Survey in Delhi” on NDTV at 01:30 PM on 27 January 2021
56. Live TV Show on “SERO Survey and Sputnik Vaccine” on NDTV at 01:30 PM on 3 February 2021

57. Live TV Show on “COVID-19- Afwaah Banaam Haqeeqat” on NDTV at 12:30 PM on 4 February 2021
58. Live TV Show on “COVID-19- Vaccine Assistancy” on NDTV at 12:30 PM on 23 February,2021
59. Live TV Show on “Next Phase of Vaccination for elderly and people with comorbidities” on DD News at 08:00-08:30 PM on 2 March 2021
60. Live TV Program Desh Ki Baat on “Increase in Case in Maharashtra” on Aaj Tak Tez at 07:00 PM on 4 March 2021
61. Live TV Show Ayushman Bhava on “COVID-19 and Surgery” on Sansad TV at 03:30 PM on 12 March 2021
62. Live TV Show on “COVID Vaccination Strategy and Pace in India” on India TV at 7:00-8:00 PM on 23 March 2021
63. Live TV Show on “COVID-19- Afwah Banaam Haqeeqat” on NDTV TV at 12:30-1:00 PM on 25 March 2021
64. Live Phone in program on “Increasing Cases of Corona and Holi with Mr Manohar Lal Sharma” on BBC at 07:00-08:00 PM on 27 March 2021

#### **Gyaninder Pal Singh**

1. Postgraduates (DM Neuroanaesthesiology Teaching of AHA Basic and Advanced cardiac life support to medical students
2. Teaching of CRTP (Cardiac Resuscitation Training Program) for the Nursing staff
3. Teaching of clinical skills to undergraduates and interns through e-learning skill modules at SET facility
4. Teaching of postgraduates (MD Anaesthesiology students)
5. Teaching of students

#### **Kokkula Praneeth**

1. Monitored and moderated seminars and case presentations of Neurosurgery post-graduate students on weekly basis

#### **Navdeep Sokhal**

1. Teaching of Academic and non-academic Senior Residents in the Department
2. Conducted whole academic schedule online including seminars, Journal clubs and case presentations for students on Microsoft team

#### **Niraj Kumar**

1. Teaching Doctors, Nurses, and Paramedical staff about basic emergency life care at AIIMS
2. Involved in teaching postgraduate, DM and senior residents of the department and also participated in preparation and conduction of seminars, journal clubs, and case presentations
3. Started seminars for OT -Technicians also
4. Conducted online Ultrasound series of education (Classroom - ISNACC society initiative) as course director

### **TEACHING**

#### **Educational Activities/ Lectures Delivered**

<b>Rajesh Malhotra: 37</b>	<b>Nirupam Madaan: 07</b>	<b>Abhinav Kumar: 03</b>
<b>Pratyusha Priyadarshini: 03</b>	<b>Adarsh Kumar: 08</b>	<b>Purva Mathur: 12</b>
<b>Anupama Raina: 16</b>	<b>Richa Aggarwal: 07</b>	<b>Amit Gupta: 21</b>
<b>Sanjeev Lalwani: 17</b>	<b>Ashish Bindra: 05</b>	<b>Shilpa Sharma: 07</b>
<b>Babita Gupta: 02</b>	<b>Subodh Kumar: 12</b>	<b>Chhavi Sawhney: 02</b>
<b>Tej Prakash Sinha: 09</b>	<b>Dinesh K Bagadia: 04</b>	<b>Vijay Sharma: 03</b>
<b>Garima Kachhava: 03</b>	<b>Vivek Trikha: 05</b>	<b>Gyaninder P. Singh: 02</b>
<b>Yudhyavir Singh: 01</b>	<b>Kamran Farooque: 10</b>	<b>Kapil Dev Soni: 14</b>
<b>Keshav Goyal: 09</b>	<b>Narender Chaudhary: 03</b>	<b>Niraj Kumar: 06</b>

#### **CMEs/Workshops/Symposia/National and International Conferences**

##### **Adarsh Kumar**

1. Organizing Committee Member as Overseas Coordinator for 42nd Annual National Conference of Indian Academy of Forensic Medicine-“FORENSIC MEDICON-2021” held on 22-24 Jan 2021 at SCB Medical College, Cuttack, Odisha



2. Organizer/Moderator of An Online International Weblogue on “COVID-19 pandemic vis-à-vis Current Forensic Medicine practice” organised by Indian Association of Medicolegal Experts (IAMLE) in collaboration with Indonesian Association of Forensic Medicine on 25 July 2020

### **Anupuma Raina**

1. Raina A, Prakash A. Key Note Speaker for “International Conference on Forensic Research and Toxicology” on 25 November 2020 at Singapore City (Online) Chimeric Status: Sex mismatch for Forensic Analysis using Y-STR DNA markers
2. Served as a Chair Person at the International Webinar on Forensic Research and Toxicology” during 25-27 November 2020 at Singapore City (Online)
3. Prakash A, Pandya P, Raina A (February 2021) Chimerism Analysis based on Y-STRs in Novel Forensic Situations, ICBSN 2021, International Conference Org by Biotechnology Society of Nepal 12-14 February 2021 (Online)
4. Prakash A, Pandya P, Raina A (January 2021) Forensic Medicon 2021, 42nd Annual National Conference of The Indian Academy of Forensic Medicine, organised by Dept. of Forensic Medicine & Toxicology, SCB Medical College, Cuttack 22-14 January 2021 Chimerism based on Y-STRs in sex mismatch HSCT (Online)

### **Amit Gupta**

1. ISTAC Webinar cum Panel Discussion: Trauma Care in the COVID Times: Reflections and the Way Forward, 26 June 2020, Online: Org by Indian Society for Trauma and Acute Care
2. Live e-CME on Management of Abdominal Trauma – II, 1 August 2020, Online: Indian Association for Trauma and Critical Care
3. 2nd Contact Program of P.G. Diploma in Management (Executive) Hospital Management, 5-7 August 2020, Online: National Institute of Health and Family Welfare
4. Live e-CME on Management of Abdominal Trauma – III, 8 August 2020, Online: Indian Association for Trauma and Critical Care and Indian Society for Trauma and Acute Care
5. Webinar on Management of Thoracic Trauma – I, 14 August 2020, Online: Indian Association for Trauma and Critical Care and Indian Society for Trauma and Acute Care
6. Webinar on Management of Thoracic Trauma – II, 20 August 2020, Online: Indian Association for Trauma and Critical Care and Indian Society for Trauma and Acute Care
7. Webinar on Post Graduate Training in Trauma Care in India: Trauma and Acute Care Surgeon- A career Pathway, 6 September 2020, Online: Indian Society for Trauma and Acute Care
8. 79th Annual Conference of the American Association for Surgery of Trauma (AAST), 14 September 2020, Online: American Association for Surgery of Trauma (USA)
9. VAIBHAV: Vaishvik Bharatiya Vaigyanik Summit, 3-20 October 2020, Online: Coordinating Institution - AIIMS, Rishikesh
10. First Foundation Training Programme on General and Hospital Administration for Deputy Directors (Administration) of New AIIMS, 7 October 2020, National Institute of Health and Family Welfare, New Delhi
11. Road safety Auditors certification course, 24 October 2020, Online: Sardar Vallabhbhai National Institute of Technology, Surat
12. Virtual All Level Trauma International Conference (ALTC)–2020, 7-8 November 2020, Online: UAE Academy of Science and Emirates Society of Emergency Medicine. Kingdom of Saudi Arabia
13. Skill Development Program on “Road Safety Audit and Other Road Safety related Aspects”, 10 November 2020, Online: CSIR - Central Road Research Institute
14. CME and Training for Trauma Nurse Coordinators from CG Hospitals, MoH&FW, 13-21 January 2021, JPN Apex Trauma Centre, AIIMS, New Delhi
15. 96th Training Course on “Hospital Administration for Senior Hospital Administrators”, 10 February 2021, Online: National Institute of Health and Family Welfare
16. 5th World Trauma Congress (WTC) – 2021, 14 February, Online: American Association for Surgery of Trauma (AAST) and World Coalition for Surgery of Trauma (WCTC), USA
17. National Training of Trainers Program in Emergency Care Services for Medical Officers, 22-25 March 2021, Online: NHSRC, Govt. of India
18. Convener: ISTAC Webinar cum Panel Discussion on “Trauma Care in the COVID Times: Reflections and the Way Forward, 26 June 2020, Online Platform
19. Co-Organizing Secretary: Trauma 2020-Virtual Conference –Ninth Annual conference of Indian society for Trauma & Acute Care (ISTAC), 3-5 December 2020, Online Platform

### **Deepak Agarwal**

1. Micro neurosurgery Workshop- March, 2021

### **Junaid Alam**

1. Participated in web panel discussion on “Postgraduate training in trauma care in India: Trauma and Acute Care Surgeon-A Carrier Pathway” organized by division of trauma surgery and critical care, AIIMS, New Delhi
2. Participated as faculty and chair the session in 13th SELSICON AND 12th IHSCON, 30-31 October 2020
3. Participated as faculty and chair the session in SURGICON 2020, 6-8 November 2020 at AIIMS, New Delhi
4. Participated as faculty and chair the session in TRAUMA 2020 (Virtual) 3-5 December 2020

### **Kamran Farooque**

1. Convener of DOA’ Basic Spine’ Online Webinar on 30 August 2020

### **S Arulsevi**

1. Blood Safety, National training academy, Dwarka conducted training for Doctors, Lab Technicians and Lab Assistants, 8 September, Video Conference Training

### **Sanjeev Bhoi**

1. Tactical combat for CRPF on 28 January-08 February 2021 at seminar room JPNATC, AIIMS
2. Tactical combat for CRPF on 10, 20 March 2021 at Seminar Room, JPNATC, AIIMS
3. Tactical combat for CRPF on 13-23 April 2021 at Seminar Room, JPNATC, AIIMS
4. Comprehensive Life Support Course for (BRO) on 1-15 April 2021 at Seminar Room JPNATC, AIIMS

### **Subodh Kumar**

1. ISTAC Webinar cum Panel Discussion on “Trauma Care in the COVID Times: Reflections and the Way Forward” on 26 June 2020 on a virtual platform
2. Annual conference of Indian society for Trauma & Acute Care (ISTAC) “Trauma 2020 Virtual Conference” on 3-5 December 2020 on a virtual platform

### **Vijay Sharma**

1. DOA PG Class: - Radiology and classification of fracture Acetabulum on 6 June 2020
2. Convenor of DOA MIDCON 2020 on 12 July 2020 and 19 July, 2020
3. Expert Panelist Webinar on inter-trochanteric fractures Ortho Excellence Series on Ortho TV on 1 September 2020
4. International Paper Competition Free Papers DOACON 2020 on 28 November 2020
5. Co-Moderator in session of Periprosthetic Fractures in Current Concepts of Arthroplasty CCA 2020 on 31 October 2020

### **Lecture delivered:**

**Rajesh Malhotra: 37**

**Anupama Raina: 16**

**Babita Gupta: 2**

**Dinesh Kumar Bagaria: 4**

**Kamran Farooque: 10**

**Narender Chaudhary: 3**

**Pratyusha Priyadarshini: 3**

**Samarth Mittal: 8**

**Subodh Kumar: 12**

**Vijay Sharma: 3**

**Abhinav Kumar: 3**

**Amit Gupta: 21**

**Biplav Mishra: 3**

**Garima Kachhawa: 3**

**Keshav Goyal: 9**

**Niraj Kumar: 6**

**Purva Mathur: 12**

**Sanjeev Lalwani: 17**

**Sushma Sagar: 11**

**Vivek Trikha: 5**

**Adarsh Kumar: 8**

**Ashish Bindra: 5**

**Chhavi Sawhney: 2**

**Gyaninder Pal Singh: 2**

**Kapil Dev Soni: 14**

**Nirupam Madaan: 7**

**Richa Aggarwal: 7**

**Shilpa Sharma: 7**

**Tej Prakash Sinha: 9**

**Yudhyavir Singh: 1**

### **Rajesh Malhotra**

1. Shifting Focus is Need of the Hour-Challenges of converting a Level 1 Trauma Centre to COVID-19 Hospital, Web CME, 4 April 2019
2. Challenges of Converting A Premium Trauma Center in The National Capital to Be An Exclusive COVID-19 Hospital, Webinar on Novel Challenges of Novel COVID-19 Impacting Orthopedic Practice in India, 6 April 2021

3. Evaluation and Management of Tubercular Hip & Evaluation and Management of a case of Non Union Fracture Neck Femur in an Elderly Webinar of DOA PG Teaching Program, 15 April 2020
4. Approach to the Knee for the TKR... What do and How Does It Matter? OrthoTV Original Webinar Series, 22 April 2021
5. Total Knee Arthroplasty with implant in Situ: Tips and Tricks, OrthoTV Original Webinar Series, 25 April 2021
6. Demystifying Periprosthetic Joint Infections, Demystifying Periprosthetic Joint Infections-Master Class Webinar, 27 April 2020
7. Intercondylar Humerus Fractures, Best of Orthopaedic Techniques Web Academy, 28 April 2020
8. Cup Position-Tips and Tricks, Basics of Primary THA Webinar, 29 April 2020
9. Implant Selection in Total Knee Arthroplasty, OrthoTV Original Webinar Series, 6 May 2020
10. Primary Arthroplasty with Fragility Fracture, ROSA Webinar, 9 May 2020
11. Neurovascular Complications in Orthopaedics, PG Webinar, 14 May 2020
12. Evolving Global Orthopedic Practices with COVID-19 Pandemic & Beyond, Webinar organized by Geriatric Orthopedic Association of India, 16 May 2020
13. Total Knee Replacement: the Unhappy Knee, PG Webinar on Arthroplasty Series, 20 May 2020
14. Peri-Prosthetic Fractures & Osteoporosis, 4th Webinar Doctors Evening Teatime {IST} CME, 22 May 2020
15. Healthy Bones, WEP Cares Webinar, 4 June 2020
16. Total Hip Arthroplasty, Get It Right First Time (GIRFT) in Total Hip Arthroplasty organized by the People's University & Faculty of International Hip Surgeons, 28 June 2020
17. Basics of Hip Arthroplasty, DOA Online PG Class- Learn from the Masters, 8 August 2020
18. How to Decipher Acetabular Fractures: Making Sense of Imaging, Webinar OTA - Best of Orthopaedic Techniques 2020, 8-9 August 2020
19. Osteoporosis a silent epidemic, Webinar: Osteoporosis- How to become Atma-nirbhar organized by the Human Biological Institute (A division of Indian Immunologicals Limited), 14 August 2020
20. Dialog: "COVID-19 Prevention is Cure", The Second Dialog Series on COVID-19, 24 August 2020
21. Bone Donation (अस्थि दान), celebration of Dadhichi's Jayanti organised by Dadhichi Deh Daan Samiti, 26 August 2020
22. Complex Primary Total Hip Arthroplasty, PG Webinar series on OrthoTV, 8 September 2020
23. Femoral Fractures in Porotic Extremity-Challenges and Strategies, AAOS-IOA Trauma Conclave, 12-13 September 2020
24. Acetabular Reconstruction in Revision Hip Arthroplasty, PG Webinar Series on OrthoTV, 6 October 2020
25. Geriatric/Fragility Fractures: Challenges & Solutions Ahead, GOAI Series of Interactive Evening {IST} Orthopedic Educational CME, 17 October 2020
26. Osteoporosis: What Every Orthopedic Surgeon Should Know!, Webinar on Fragility Fractures organized by AIIMS, Bhopal, 20 October 2020
27. Osteoporosis and COVID-19, Medtalks with Dr KK Aggarwal COVID edition, 22 October 2020.
28. Role of Short stems & tapered wedge stems with Direct Anterior Approach, Current Concepts in Arthroplasty, 2020 (Virtual Conference), 31 October-01 November 2020
29. Fracture Care in the elderly - Does one shoe fit all?, APOA/APTS Trauma Congress 2020, 7 November 2020
30. Restarting Elective Surgeries: How to handle Backlogs and Ensure optimum care, DOACON 2020, 28-29 November 2020
31. Pelvic Discontinuity: Internal Fixation? Distraction? Rings? Cup cage? 16th Latin American Meeting of Hip and Knee Surgeons, 2-5 December 2020
32. THA in healed disease & managing reactivation, ISHKS 2020, 12 December 2020
33. Denosumab in Osteoporosis, IFFN Webinar on Osteoporosis, 19 December 2020
34. Alternating layers of morcellised allograft and injectable ceramic bone graft substitute in acetabular reconstruction – a novel 'sandwich' technique, 19th Winter Meeting of the Ranawat Orthopaedic Conference (ROC) Virtual, 7-9 January 2021
35. Femoral neck fractures: indications and technique for fixation, SICOT-FFN Hip Webinar: Femoral Neck Fracture, 29 January 2021
36. Anaerobes in Bone and Joint Infections, AIIMS-ASM WEBINAR 2021 -Anaerobes: Microbes of the millennium, 5 March 2021
37. Total knee arthroplasty for post traumatic arthritis with hardware around knee - Tips and tricks to overcome challenges, IOA-AAOS Session - Mini-IOACON, Jaipur, 5 March 2021

### **Abhinav Kumar**

1. Do's and Don'ts of surgical aspects in COVID, Webinar on Surgery during COVID times American college of surgeons, May 2020, New Delhi/Online
2. Hemostatic intervention-ICD in time saves nine, Tenth Annual Conference "TRAUMA 2020 VIRTUAL" organised by Indian Society for Trauma and Acute Care, 5 December 2020, New Delhi/Online
3. Thoracotomy: how I do it, Annual conference of the Gurukkul of Surgical Disciplines: GURUKKUL CON-2020 American college of Surgeons India Chapter, December 2021, New Delhi/Online

### **Adarsh Kumar**

1. Changing paradigm of Forensic Medicine practice during COVID-19 times- An update, 42nd Annual National Conference of Indian Academy of Forensic Medicine-"FORENSIC MEDICON-2021", 22-24 January 2021, SCB Medical College, Cuttack, Odisha
2. Current Status of Body Donation in India, CME on Medicolegal issues in Dead Body Donation, 13 February 2021, Department of Forensic Medicine, AIIMS, Bhatinda, Online
3. Custodial death investigations in India an update, 2nd Police Science Congress, 22-23 October 2020, Kerala Police Academy (Online)
4. Future Frontiers in Forensics Practice, International Conference of Forensics- Middle East & Africa, 12-14 October 2020, Arab Union of Forensics and Toxicology, Online, Egypt
5. Role of Forensic Medicine in Social Justice, 18th Annual Conference of Punjab Academy of Forensic Medicine & Toxicology-"PAFMATCON-2020, 10 October 2020, Department of Forensic Medicine, Govt Medical College, Online, Amritsar Punjab
6. Disaster Victim Identification-Need for collaboration between Forensic Medicine & Forensic Science, 3rd INFOMECON-2020-International Conference on Forensic science, Forensic Medicine & Criminology, 15-16 September 2020, Management & Science University, Kuala Lumpur (Online)
7. Drunk/Drunken Driving *vis a vis* Disability and Death (From Forensic perspective), Mahatma Gandhi's Principles: in the Perspective of Alcoholism and The Road Crashes, 29 August 2020, IIT Kanpur India and La Trobe University Australia
8. Changing paradigm of Forensic Medicine practice in aftermath of COVID-19 global pandemic - An experience from India, 1st International Virtual Congress of Forensic Medicine with joint collaboration of International committee of Red Cross, 19-20 June 2020, Moroccan Society of Forensic Medicine, Online Morocco

### **Anupama Raina**

1. Delivered on line lecture organized by CDTI, Ghaziabad, UP on 21 July 2020
2. Attended as one of the member of the panel for International E-Conference on "Solution for COVID-19 Pandemic with Yoga"
3. Delivered on line lecture organized by CDTI, Ghaziabad, UP on 1 September 2020, online class
4. Delivered on line lecture organized by CDTI, Ghaziabad, UP on 15 September 2020, online class
5. Delivered on line lecture organized by CDTI, Ghaziabad, UP, on 26 March 2021
6. Delivered on line lecture organized by CDTI, Ghaziabad, UP, on 11 March 2021
7. Delivered on line lecture organized by Police Training School Pachmarhi, M.P on 25 February 2021
8. Delivered on line lecture organized by Police Training School Pachmarhi, M.P on 18 February 2021
9. Delivered on line lecture organized by CDTI, Ghaziabad, UP, on 24 February 2021
10. Delivered on line lecture organized by CDTI, Ghaziabad, UP, on 16 February 2021
11. Delivered on line lecture organized by CDTI, Chandigarh, on 17 February 2021
12. Delivered on line lecture organized by CDTI, Ghaziabad, UP, on 9 February 2021
13. Delivered on line lecture organized by CDTI, Ghaziabad, UP, on 3 February 2021
14. Delivered on line lecture organized by CDTI, Ghaziabad, UP, on 2 February 2021
15. Delivered on line lecture organized by CBI Academy, Ghaziabad, UP, on 31 December 2020
16. Delivered on line lecture organized by CDTI, Ghaziabad, UP, on 29 December 2020

## **Amit Gupta**

1. Introduction and Overview of Trauma volumes and mechanisms during COVID Lockdown in Delhi. Discussion Moderator, ISTAC Webinar cum Panel Discussion: Trauma Care in the COVID Times: Reflections and the Way Forward, 26 June 2020, Online Platform
2. Non-Operative Management of Abdominal Injuries, Live e-CME on Management of Abdominal Trauma – II, 1 August 2020, Online Platform.
3. Organization of Accident and Emergency Services, 2nd Contact Program of P.G. Diploma in Management (Executive) Hospital Management, 5-7 August 2020, Online Platform
4. Organization of Accident and Emergency Services, 2nd Contact Program of P.G. Diploma in Management (Executive) Hospital Management, 10-11 August 2020, Online Platform.
5. Panel Discussant, Live e-CME on Management of Abdominal Trauma–III, 8 August 2020, Online Platform
6. Panel Discussant, Webinar on Management of Thoracic Trauma–I, 14 August 2020, Online Platform
7. Webinar Moderator , Webinar on Management of Thoracic Trauma– II, 20 August 2020, Online Platform
8. Current Status of Post Graduate Training in Trauma in India, Webinar on Post Graduate Training in Trauma Care in India: Trauma and Acute Care Surgeon- A career Pathway, Online Platform
9. Telemedicine in India: Implications on Trauma Care, 79th Annual Conference of the American Association for Surgery of Trauma (AAST), 14 September 2020, Online Platform
10. Organization of Emergency and Trauma Service, First Foundation Training Programme on General and Hospital Administration for Deputy Directors (Administration) of New AIIMS, 7 October 2020, NIHFWS, New Delhi
11. Trauma Quality Improvement: Should we bother about it? VAIBHAV: Vaishvik Bharatiya Vaigyanik Summit, 13 October 2020, Online Platform coordinated by AIIMS, Rishikesh.
12. Non-Engineering Measures: Emergency Medical Systems and Trauma Care, Road safety Auditors certification course, 24 October 2020, Online Platform
13. Challenges of Developing Trauma Care Systems in a Developing Economy–India, Virtual All Level Trauma International Conference (ALTC)– 2020, 7-8 November 2020, Online Platform
14. Extended First Aid in Trauma Care: Empowering the bystanders in handling and transfer of Road Crash Victims, Skill Development Program on “Road Safety Audit and Other Road Safety related Aspects” 10 November 2020, Online Platform
15. Management of Trauma Shock, CME and Training for Trauma Nurse Coordinators from CG Hospitals, MoH&FW, 13 January 2021, JPNATC, AIIMS, New Delhi.
16. Communication Skills in Emergency Department, CME and Training for Trauma Nurse Coordinators from CG Hospitals, MoH&FW, 20 January 2021, JPNATC, AIIMS, New Delhi
17. Non- Engineering Measures: Emergency Medical Systems and Trauma Care, 2nd Road safety Auditors certification course, 1 February 2021 Online Platform
18. Planning for Emergency department, Mass gathering care and mass fatality management in hospital, 96th Training Course on “Hospital Administration for Senior Hospital Administrators” 10 February 2021, Online Platform
19. Challenges in Implementing Trauma Quality Improvements in India, 5th World Trauma Congress (WTC) – 2021, 14 February 2021, Online Platform
20. Management of Trauma Shock, CME and Training for Trauma Nurse Coordinators from CG Hospitals, MoH&FW, 18 February 2021, JPNATC, AIIMS, New Delhi
21. Emergency Trauma Care: Patient Assessment and Stabilization with Case Scenarios, National Training of Trainers Program in Emergency Care Services for Medical Officers, 22-25 March 2021, Online Platform

## **Ashish Bindra**

1. ANC lecture on Status epilepticus, Neurocritical care society of India, 03 October 2020, Online
2. Moderator for panel discussion: Practical points about antiepileptics, Neurocritical care society of India, 3 October 2020, Online
3. Effect of inhalational anesthetics on cerebral physiology, Update on inhalational anesthetics, organized by Indian college of anaesthesiologists (ICA) and American Society of Anaesthesiologists (ASA), 16 October 2020, Online
4. Moderator Panel: Neuroanaesthesia Practice : Road map ahead, COVID talks by Indian Society of Neuroanaesthesiology and Critical Care and NCSI, 26 April 2020, Online
5. Anesthesia for Patient with epilepsy for non-epilepsy surgery, PG refresher series, 12 March 2021, Sharda University, Greater Noida



**Babita Gupta**

1. Thyroid Disorders and Anesthesia: Never ending challenges, Indian College of Anesthesiologists, 24 March 2021, Online
2. Basic Mechanical Ventilation for Surgeons, Indian Society for Trauma and Acute Care, 5 December 2020, Online

**Biplav Mishra**

1. Initial assessment and management, Advanced Trauma Life Support, 25 February 21, Rishikesh
2. Transfer to definitive care, Advanced Trauma Life Support, 25 February 21, Rishikesh
3. Triage, Advanced Trauma Life Support, 25 February 21, Rishikesh

**Chhavi Sawhney**

1. Use of ultrasound and C-arm for localization of missed sharp notorious soft tissue foreign bodies, National conference of Paediatric surgery, 16-18 October 2020
2. Evidence based updates of anaesthesia for elderly hip fracture 2020, Indian College of anaesthesiologists webinar, 20 January 2021

**Dinesh Kumar Bagaria**

1. Primary Imaging in Thoracic Injuries, virtual seminar of Indian Association of Traumatology & Critical Care (IATCC) & Indian Society for Trauma and Acute Care (ISTAC), 14 August 2020, Virtual
2. Preperitoneal Pelvic Packing, Trauma 2020 VIRTUAL, 3 December, 2020
3. Road Safety, Sadak Suraksha Jeevvan Raksha at CISF Campus, 25 January 2021, New Delhi
4. Management of trauma and emergency victims during COVID times, Review meeting of Trauma Programme in various states by Directorate General of Health Services, 25 September 2020, Virtual

**Garima Kachhawa**

1. Evaluation of oxidative stress markers and endothelial function assessment during pregnancy and correlate with development of hypertension in pregnancy: A prospective cohort study, 42nd Annual Virtual AOGD Conference 2020, (oral), 28 October 2020, Virtual Conference
2. Optimizing antenatal care during COVID-19 pandemic (Panel), Webinar organized by WHO and AIIMS, ND, 8.4.2020, Panelist at Webinar
3. Role of Cabergoline in Endometriosis, Online CME of Ludhiana Obstetrics & Gynecological of Society, 25 August 2020, Ludhiana (Virtual)

**Gyaninder Pal Singh**

1. Cervical Spine Injury, 1st Annual Conference of Neurocritical Care Society of India, 2-4 October, 2020, Gurugram
2. Refining Neurointensive care protocolized therapies in TBI, 3rd Annual conference of Society of Neurocritical Care (SNCC- Virtual), 27-29 November 2020, Gurugram

**Kamran Farooque**

1. Faculty Lecture on 'History taking of patient having Spine Problems', DOA postgraduates teaching program webinar on Spine, 22 April, 2020, online
2. Faculty Lecture on 'Maximizing Outcome in Geriatric Spine Fractures', DOA MIDCON Webinar, 19 July 2020, Online
3. Faculty Lecture on 'Thoracic Pedicle Screws', DOA Basic Spine Webinar, 30 August 2020, Online Webinar
4. Faculty for ASSI Webinar, ASSI Webinar on 'Thoraco-Lumbar Trauma', 25 October, 2020, Online
5. Faculty Lecture on 'Anterior Surgery in Burst Fractures' in ASSI Webinar, ASSI Webinar on 'Thoraco- Lumbar Trauma', 25 October 2020, Online Webinar
6. Faculty Lecture on 'Spine Trauma Surgery in COVID Times', 'DOACON 2020', 29 November, 2020, Online Webinar Online Webinar
7. Faculty Lecture on 'Initial Assessment Management of Trauma Patient', DGHS TNC Training Program for Nurses, 13 January 2021, JPNATC, AIIMS, New Delhi
8. Faculty Lecture on 'Spine and Spinal Cord Injury', DGHS TNC System Training Program for Nurses, 18 January, 2021, JPNATC, AIIMS, New Delhi
9. Faculty Lecture on 'Radiology in Spine Trauma', 'Basic Spine Workshop' in online 'Mini IOACON 2021', 27 February, 2021, Online Webinar Online Webinar
10. Faculty Lecture on 'Spine Trauma in ED', DGHS TNC System Training Program for Nurses, 1st March, 2021, JPNATC, AIIMS, New Delhi

### **Keshav Goyal**

1. Approach to Non-COVID Emergencies #ER# OT# ICU#Cath, ISNACC and NCSI Webinar, 3 April 2020, Virtual, New Delhi
2. Traumatic Brain Injury: Recent in management and diagnosis, ISNACC Webinar, 14 June 2020, Virtual, New Delhi
3. Traumatic Brain Injury: Acute Emergency Management\*Course National coordinator, Acute Neuro Care (ANC) Course 1st conference of Neurocritical Care Society of India (NCSI), 2-4 October 2020, Artemis Hospital, Gurgaon, Virtual
4. Multi-modality Neuromonitoring in Neuro-ICU, International Conference on Critical Care and Pain by Bangladesh Society of Anaesthesiologists, 17-18 October 2020, Dhaka Online, Bangladesh
5. How I Manage Intracranial Hypertension with Multimodal Neuromonitoring? 37th annual academic congress 2021 College of anaesthesiologist and intensivists of Srilanka 2021, 23-24 January 2021, Colombo
6. Practical aspects of Neuromonitoring in Neurocritical care- Panel discussion, 22nd Annual Conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC 2021), 24- 26 January 2021, Online, Chennai
7. Dealing with Neurological emergencies-A neuro-anaesthetist perspective, 23rd Annual Conference of Delhi Neurological Association” (VIRTUAL DNACON), 5-7 February 2021, Delhi Online
8. Multimodal Neuromonitoring, 1st International and 30th National Conference of Research Society of Anaesthesiology Clinical Pharmacology (RSACPCON 2021), 6-7 March 2021, Delhi Online
9. Correlation of near infra-red spectroscopy with intraoperative transfusion trigger in pediatric posterior fossa neurosurgical procedures, Delhi Neurological Association (DNA) monthly meet, March 2021, Delhi (Online)

### **Kapil Dev Soni**

1. Lung Ultrasonography, ISNAAC, 25 May 2020, Online
2. P values and Confidence Interval, Symposium on clinical research methodology, 29 May 2020, Online
3. COVID-19: Role of Adjuvant Therapies, ISCCM, Delhi branch (Panel Discussion), 4 June 2020, Online
4. Critical Care in COVID – Guidelines and protocols, Indian Medical Association, Banaras Branch, 25 July 2020, Online
5. Oxygen therapy in COVID-19, National grand round, AIIMS, New Delhi, 5 August 2020, Online
6. Critical Care in COVID, Virtual meeting for NTPC, 29 August 2020, Online
7. Trauma – A case based Discussion, ISCCM, 17 September 2020, Online
8. Basics of Mechanical Ventilation for surgeons, TRAUMA 2020 Virtual Conference, 5 December 2020, Online
9. Lung Ultrasonography in ICU, 75th National Conference of Tuberculosis and Chest Diseases” (NATCON 2020 VIRTUAL CONFERENCE), 19 December 2020, Online
10. Post Viral Encephalopathy, Mini Accordion 2021, 9 January 2021, Online
11. Modes of Ventilation, APICON 2021, 23 January 2021, Online
12. ATLS guidelines - An update, CRITICARE 2021, 27 February 2021, Online
13. Life threatening hemorrhage, acute coagulopathy of trauma and massive transfusion in icu, 9th Annual Critical Care Refresher Course, 11 March 2021, Online
14. oxygenation and ventilation strategies in severe COVID-19, covid centres of excellence programme, webinar series by AIIMS New Delhi, 27 March 2021, Online

### **Narender Chaudhary**

1. First aid care, Trauma Care Centre and Emergency related to Road Safety, Road Safety Audit training program to be conducted by CSIR-CRRI, New Delhi, 30 October 2020, New Delhi/Online
2. Hemostatic intervention - Preperitoneal pelvic packing, Tenth Annual Conference “TRAUMA 2020 VIRTUAL” organised by Indian Society for Trauma and Acute Care, 5 December 2020, New Delhi/Online
3. Non engineering measures – Trauma Care, Road safety auditors certificate course, organised by SVNIT, Surat in collaboration with Ministry of Road, Transport and Highways, Govt. of India, 1 February 2021, Surat/Online

### **Niraj Kumar**

1. Basic principle of ultrasound and knob logy, Classroom - ISNACC society initiative, 15 May 2020, Online
2. Lung ultrasound, Classroom - ISNACC society initiative, 28 May 2020, Online
3. Basic echo, IVC and FAST, Classroom - ISNACC society initiative, 19 July 2020, Online
4. AIRWAY USG, Classroom - ISNACC society initiative, 19 July 2020, Online
5. Traumatic Cervical spine Injury (TSI), ANCU 2020, 3 October 2020, Online
6. Critical appraisal of A literature, ISNACC2021, 25 January 2021, Online

### **Nirupam Madaan**

1. Quality Indicators, Quality Management and Accreditation of Healthcare Organizations, 9 July 2020
2. Total Quality Management, Quality Management and Accreditation of Healthcare Organizations, 9 July 2020
3. Research Methodology & Project writing, Quality Management and Accreditation of Healthcare Organizations, 12 July 2020
4. Condemnation and writing off procedures for drugs, linen, equipment, Administrative workshop for Medical Superintendents of ESICNTA Hospitals, 22 September 2020
5. Overview of disasters and their management principles, Disaster Preparedness & Management and Hospital Administration for Doctors & Nurses of Tripura, 18 February 2021
6. Seismic disasters and their prevention, Disaster Preparedness & Management and Hospital Administration for Doctors & Nurses of Tripura, 18 February 2021
7. Fire preparedness in a hospital, Disaster Preparedness & Management and Hospital Administration for Doctors & Nurses of Tripura, 19 February 2021

### **Pratyusha Priyadarshini**

1. Trauma in pregnancy, CME for Trauma Nurse Coordinators by MoH&FW, 15 January 2021, JPNATC New Delhi
2. Live workshop trauma radiology conference, Trauma 2020 Virtual Conference, 5 December 2020, New Delhi/online
3. Trauma in pregnancy, CME for Trauma Nurse Coordinators by MoH&FW, 22 February 2021, JPNATC New Delhi

### **Purva Mathur**

1. **IPC for COVID-19**—standard/additional precautions, risk assessment, optimal use of PPE, triage/source control and additional control measures, environmental cleaning and disinfection, bio-medical waste management, preventing **COVID-19 in essential services**--labour room and dialysis, risk communication and IEC for COVID, Strengthening Infection Prevention and Control for COVID-19 in Healthcare Facilities-Focus on private sector, 4 May 2020, Webinar 1- IPC practices Video conference
2. Infection Control Measures, COVID-19 for SAARC Counties, 6 May 2020, 1ST Video-Conference II, AIIMS, New Delhi
3. Triage of COVID-19 Patients: Operational Considerations and Practical Examples, IPC Global Webinar Series: Practical IPC Considerations in the Flight Against COVID-19, 14 May 2020, Echo.zoom.us/webinar
4. Triage/Screening of Patients, Infection Prevention and Management of COVID patients, 4 July 2020, ASM Webinar on COVID-19
5. Rapid antigen for handling COVID patients in Punjab, Dayanand Medical College & Hospital Unit-Hero DMC Heart Institute: Ludhiana, 18 July 2020, E-Portal
6. Clinical Guidance on COVID-19 Case Management (Documented clinical concerns, Infection Control measures in hospital, Biomedical Waste Management), Clinical Excellence Program Webinar II- Infection Prevention and Control, 23 July 2020, Interactive Webinar Series
7. Managing Healthcare in the Post COVID Era-Leadership Perspective, CII (Confederation of Indian Industry) NABH (National Accreditation Board of Hospitals) Workshop on Preventing Hospital Acquired Infections-Frontline to Leadership perspectives, 28 September 2020, Panel discussion, webinar
8. Indian practices of hand hygiene at Health care settings; gaps & challenges so in the best interest of community, Evolution of Hand Hygiene Practice in COVID era, 06 October 2020, Prof. Didier Pittet International Webinar
9. Infection Control Aspects in COVID-19 Era, Importance of Antimicrobial Stewardship in COVID-19 Era, 19 November, 2020, webinar
10. Update on COVID-19 tests and their clinical implication: Recent update on Antibody testing, 14th COVID-19 National Grand Round on COVID-19 (Case discussion and Summary topic), 4 November, 2020, AIIMS
11. Infection Control Symposium: What to learn in current scenario, IAMM First Virtual Annual Congress of E-MICROCON 2020 (Surging Ahead With Clinical Microbiology in Current Challenging Scenario) 08-11 December 2020, 10 December, 2020 (2:00-3:00pm), Virtual Conference
12. Sweden-India Health Talks on Infection Control, Health Talks-Annual Conference of the India Sweden Healthcare Innovation Centre (Virtual discussion 2-15 December 2020), 10 December, 2020 (3:00-4:30pm) Virtual Events

### **Richa Aggarwal**

1. Panel discussion- Critical care in COVID-19- Guidelines and protocols, online webinar conducted by IMA – BANARAS, 25 July 2020, Online, New Delhi

2. Case presentation of COVID, Online – case presentation on COVID in ministry of health and welfare, 29 July 20, Online, AIIMS, New Delhi
3. Case presentation of COVID, Online – case presentation on COVID in ministry of health and welfare, 20 August 2020, Online, AIIMS, New Delhi
4. ICU management of COVID –ARDS, National CGR, 30 September 2020, AIIMS, New Delhi
5. Management of COVID –ARDS without updated therapies, National CGR, 21 October 2020, AIIMS, New Delhi
6. Arterial blood gas analysis, Trauma 2020 virtual conference – 10th annual conference of ISTACC, 5 December 2020, AIIMS, New Delhi
7. Abdominal compartment syndrome, Medical education by young intensivist group, 28 February 2021, AIIMS, New Delhi

### **Samarth Mittal**

1. Presented Talk on Subtrochanteric fractures in poliottic limbs with case discussion in the 2nd Quarterly Delhi Orthopaedic association meet held on Pertrochanteric fractures on 25 April 2021
2. Presented talk on Tips and tricks in reduction and nailing of Intertrochanteric and Subtrochanteric fractures in the 6th Annual Jammu Trauma & Orthopaedic Meet 2021 held on 10-11 April 2021
3. Presented talk on Case discussion on anteromedial tibial plateau fractures in the Delhi Orthopaedic association fracture CME module 2 grand round on tibial plateau fractures held on 28 February 2021
4. Presented talk on Intertrochanteric & Subtrochanteric fractures- Tips and tricks in fixation in the Meta physical mini IOACON 2020 held in Jaipur from 5-7 March, 2021
5. Presented talk on “Iliosacral and Transsacral screw fixation technique” in the second congress of APOA young surgeon’s forum India chapter held on 13-14 March 2021
6. Presented talk on Intertrochanteric Fractures in the Foundation of orthopaedic Universe Meet held on 12 December 2020
7. Presented talk on Fixation of medial malleolar fractures in the Master class by Delhi Orthopaedic association on Bone Screw held on 27 December 2020
8. Attended and completed AO Trauma Masters Hybrid Course—Fracture around the Knee As national faculty on 31 October 2020, India

### **Sanjeev Lalwani**

1. Invited Speaker: Govt Notifications on COVID-19 a capsule in webinar on ‘Forensic Science in COVID-19 pandemic’ organized by SJH and VMMC Delhi. 31 July 2020. (Online)
2. Guest Lecture: Handling Unclaimed COVID Death Cases. in CME during conference Forensic Medicon-2021 organized by SCB Medical college Cuttack, Odhisha. 22 January 2021 (Online)
3. Resource Faculty: Academic Session of Foundation Course for MBBS Students at AIIMS Bibi Nagar Hyderabad Telangana. 23 December 2020. (Online)
4. Resource Faculty: Talk on Teaching and Learning Methods-Faculty Development Program organized by AIIMS Bibi Nagar Hyderabad Telangana. 4 February 2021
5. Resource Faculty: Facilities and Entitlement for AIIMS Faculty-Faculty Development Program organized by AIIMS Bibi Nagar Hyderabad Telangana. 4 February 2021
6. Guest lecture:- “To understand the value of AIIMS” delivered a talk in the CME on AIIMS- An institute Par Excellence: Challenges on the Way forward Organized by AIIMS Deoghar. 13 March 2021. (Online)
7. Guest Lecture, in online webinar organized by PTS Pachmarhi MP on Importance of Medico-legal and Scientific evidence. 17 February 2021 (online)
8. Guest Lecture, in online webinar Organized by PTS Pachmarhi MP on Death and its medico-legal aspects. 17 February 2021 (online)
9. Guest Lecture, in online webinar organized by PTS Pachmarhi MP Death and its medico-legal aspects. 25 February 2021 (online)
10. Invited Speaker for talk on “Forensic Investigation of RTA: Integrated Approach” in Teaching and Learning Methods-Faculty Development Program and Multidimensionality in Forensic science education at Amity school of applies Sciences, Amity University Gurugram Haryana. 26 December 2020 (Online)
11. Guest Faculty delivered talk on Forensic Toxicology and its use in Investigation in DSI course on advanced technology in forensic science organized by CDTI Chandigarh (MHA, GOI) 16 February 2021
12. Guest Faculty: Delivered talk on Medico-legal investigation in RTA and Life saving Response from first respondent, in 11th online course on investigation of RTA organized by LNJNNICFS, MHA GOI, Delhi. 18 November 2021



13. Guest Faculty: participated in Group Discussion on cohesive approach in solving RTA cases- Case studies, in 11th online course on investigation of RTA organized by LNJJNICFS, MHA GOI, Delhi. 18 November 2021
14. Guest Faculty: Delivered talk on Medico-legal Examination of Sexual Assault Victim in 11th online course on CS Evidence organized by LNJJNICFS, MHA GOI, Delhi. 5 September 2020
15. 15 Guest Faculty: Delivered talk on Injuries: their interpretation and Medicolegal Relevance in course on Forensic Medicine and Forensic Science organized by LNJJNICFS, MHA GOI, Delhi. Online, 19 January 2021
16. Meenakshi Sharma, Naren Hemachandran†, Arulselvi Subramanian#, Kangana Sengar#, Shivanand Gamanagatti†, Vaishali Suriφ, Deepak Agrawal©, Sanjeev Lalwani\* Study of Traumatic brain injury induced Diffuse Axonal Injury (DAI): Histopathology and radiological correlation in a tertiary trauma care centre in Northern India. Trauma-2020. 10th Annual Conference of ISTAC, 3-5 December 2020
17. Invited Expert in Workshop Organized by NBE for Q Bank- at Delhi on 10 March 2021

### **Shilpa Sharma**

1. Ethics in Disorders of Sexual differentiation, Error traps in Disorders of Sexual differentiation, 7 November 2020, MAMC, New Delhi
2. Impact of Advancing Translational Medicine on Innovation, Biotechnology Impacts on Human Health in 21st Century, 2 January 2021, New Delhi. Online
3. Ethical challenges in ambiguous genitalia, National Seminar on Medical Ethics, 16 January, 2021, New Delhi. Online
4. Blood Products and Regenerative Medicine, 4th Biennial International ISCSGCON 2021 Indian Stem Cell Study Group Association, 13-14 February 2021, AIIMS, Raipur, Online
5. Opportunities with Regenerative therapy in Neurological deficit Lower limb, 4th Biennial International ISCSGCON 2021 Indian Stem Cell Study Group Association, 13-14 February 2021, AIIMS, Raipur, Online
6. Long term outcome after repair of Abdominal wall malformations and bowel atresias Fetal medicine CME -Providing quality care in abdominal malformations: Before, during and after birth, 6 March 2021, LHMC, New Delhi
7. Malignant Germ Cell tumors, 13th Pediatric Surgery Update 2021, 11-14 March 2021, MAMC, New Delhi. Online

### **Subodh Kumar**

1. Trauma care in COVID times, ISTAC Webinar cum Panel Discussion: Trauma Care in the COVID Times: Reflections and the Way Forward, 26 June, 2020, Online
2. Initial Assessment of Abdominal Trauma, IATCC Webinar on Abdominal Trauma, 24 July 2020, Online platform
3. Ethical issues in Medical practice, Delhi Chapter of Association of Surgery, 30 August 2020, Online Platform
4. Trauma & Acute Care Surgeon – A Career Pathway, ISTAC & IATCC Webinar on Post graduate training in trauma care in India, 6 September 2020, Online Platform
5. Hemostatic Interventions in Trauma, Trauma 2020 Virtual Conference, 3-5 December 2020, Online
6. Management of Thoracic Trauma in ED, CME for Trauma Nurse Coordinators by MoH&FW, 15 January 2021, JPNATC, AIIMS, New Delhi
7. Transfer of a Trauma patient for definitive care, CME for Trauma Nurse Coordinators by MoH&FW, 18 January 2021, JPNATC, AIIMS, New Delhi
8. Blunt Abdominal Trauma, Virtual PG Master Class in Surgery 2021, 06 February 2021, Online Platform
9. Capacity building in Trauma care: A decade of action in India, 5th World Trauma Congress of World Coalition for Trauma Care, 15 February 2021, USA, Online
10. Management of Thoracic Trauma in ED, CME for Trauma Nurse Coordinators by MoH&FW, 22 February 2021, JPNATC, AIIMS, New Delhi
11. Protocols Up & Above ATLS, 22nd Annual National Conference of the Society for Emergency Medicine, 12 March 2021, Online Platform
12. Trauma Management- What next? Annual Conference of the American College of Surgeons-India Chapter, 22-25 March 2021, Online

### **Sushma Sagar**

1. Urban Health Hazard and Preparedness in Global Pandemic COVID-19, National Webinar on Urban Health Hazard and Preparedness in Global Pandemic COVID-19, 29 April 2020, Shaheed Bhagat Singh College, University of Delhi, New Delhi
2. Urban Health Hazard and Preparedness in Global Pandemic COVID-19, National Webinar on Urban Health Hazard and Preparedness in Global Pandemic COVID-19, 2 May 2020, Shaheed Bhagat Singh College, University of Delhi, New Delhi



3. Journey to Road Safety, Journey to Road Safety Webinar Series by IRSC (Indian Road Safety Campaign), 7 June 2020, Online Platform, Delhi
4. Trauma Care in COVID Times, ISTAC Webinar cum Panel discussion: Trauma Care in COVID Times, 26 June 2020, Online Platform
5. Post graduate training in trauma care in India: Trauma & Acute Care Surgeon–A Career Pathway, Webinar – A Career Pathway: ISTAC & IATCC initiative, 6 September 2020, Online Platform
6. “Physical Health of Communities during Pandemics: Impact and Management”, Community Based Disaster Risk Management (CBDRM) for Northern States (Part I), 29 September 2020, Online Platform
7. “Physical Health of Communities during Pandemics: Impact and Management”, Community Based Disaster Risk Management (CBDRM) for Northern States (Part II), 21 October 2020, Online Platform
8. Case Presentations: our experience with IDRT, Advances in Burn & Reconstruction Management: APSI Webinar, 31 October 2020, Online Platform
9. Panel discussion: PG training in Trauma, Trauma Virtual Conference 2020, 3 December 2020, Online Platform
10. Paediatric Trauma, Nurses Training Talk (MOHFW initiative), 15 January 2021 & 22 February 2021, JPNATC, AIIMS
11. Assets of the Surgical Eco System, Fourth Annual CUGH Global Surgery Satellite Session 2021, 4 March 2021, Online Platform

### **Tej Prakash Sinha**

1. Tactical combat for CRPF on 28 January-8 February 2021 at seminar room JPNATC, AIIMS
2. Tactical combat for CRPF on 10-20 March, 2021 at seminar room JPNATC, AIIMS
3. Tactical combat for CRPF on 13-23 April 2021 at seminar room JPNATC, AIIMS
4. Comprehensive Life Support Course for (BRO) on 1-15 April, 2021 at seminar room JPNATC, AIIMS
5. Expert group consultation for training guidelines for emergency care - 8 March 2021, online meeting organized by NHSRC, MOHFW, GOI
6. National Trainer for rolling out of “Operational Guidelines on Management of Common Emergencies, Burns and Trauma at Primary Care Level” organized by NHSRC, MOHFW, GOI
7. Master trainer & facilitator for the National ToT training in Emergency care in expanded packages of services, March 2021, organized by NHSRC, MOHFW, GOI
8. Expert Group meetings to finalize regional strategy document “Strategic directions to integrate emergency care services into primary health care in the South-East Asia Region” in the light of the COVID-19 pandemic, held on 7 May 2020 and 27 May 2020
9. Meeting as expert member for Pre – Hospital Emergency Life Support Course module for Para – medics and Emergency Medical Technicians, 9 February 2021, online, by EMR division of MOHFW, GOI

### **Vijay Sharma**

1. Faculty Lecture on Anterior Pelvic Ring:Definitive Fixation, DOA Webinar Unstable Pelvic Fractures, 15 May 2020, Online Webinar
2. Faculty Lecture on Management of Acetabular Fractures in Elderly, DOA MIDCON 2020. THEME: Fragility Fractures, 19 July 2020, Online Webinar
3. Faculty Lecture on Musculoskeletal Trauma, ATLS Course (ACS), 25-27 February 2021, AIIMS Rishikesh

### **Vivek Trikha**

1. Posterior Tibial Condyle Fractures, ROSACON MIDCON, 12 July 2020, Online
2. Pelvic Injuries : Indian Scenario, OTA Best of Orthopaedic Techniques 2020, 8 August 2020
3. Complex Acetabular Case, OTA Best of Orthopaedic Techniques 2020, 8 August 2020
4. Neck Femur Fractures, AO Trauma World Meeting, 6-9 September 2020, Online
5. Subtrochanteric Fracture Failures: how to manage, AO Trauma World Meeting, 6-9 September 2020, Online

### **Yudhyavir Singh**

1. Monitoring of COVID-19 patients at home, Step One (projectstepone.org) Delhi government, 9 August 2020, Delhi

## List of oral papers/posters presented: 84

### Rajesh Malhotra

1. Manhas V, Malhotra R, Gupta S, Gupta V, Short Stem Total Hip Arthroplasty for Osteonecrosis of the Femoral Head in Young: Minimum 5 years Follow Up, Virtual EFORT Congress, 28-30 October 2020

### Amit Gupta

1. Dar P, Gupta P, Pathak R, Kumar S, Gupta A, Mishra B, et al. Holistic approach in Maxillofacial Trauma : A decade's experience. Trauma 2020 Virtual Conference. 3-5 December 2020
2. Ghoshal S, Gupta A, Choudhary N, Soni K, Sagar S, Kumar S, et al, Outcome Correlation of Initial Arterial Blood Gas Analysis in Isolated Thoracic Trauma. Trauma 2020 Virtual Conference. 3-5 December 2020. Online Platform
3. James J, Banerjee N, P Vijayan, Kaur S, K Vivek, Gupta A, Kumar S, et al. Comparison of Trauma Systems following relocation of a Level 1 trauma center during the COVID pandemic. Trauma 2020 Virtual Conference. 3-5 December 2020
4. Kaul R, Sagar S, Kumar S, Bhutia O, Singhal M, Gupta A, et al. 3D Technology assisted workflow to strengthen the Rehabilitation limb of Trauma Care. Trauma 2020 Virtual Conference. 3-5 December 2020
5. Kaur S, Agarwal H, Bagaria D, Joshi M, Kumar A, Chaudhary N, Priyadarshini P, Alam J, Gupta A, Mishra B, Kumar S, et al. Thermal Injury Abdomen Post Metallurgy Industry Accident: A Rare Survivor. Trauma 2020 Virtual Conference. 3-5 December 2020, Online Platform
6. Kumar V, Bagaria D, Kumar S, Sagar S, Gupta A, Mishra B, et al. A prospective study to determine the correlation between clinical parameters and intra-abdominal pressure and their effect on the non-operative management of patients with blunt abdominal trauma at Level I trauma centre. Trauma 2020 Virtual Conference. 3-5 December 2020
7. Rani P, Bagaria D, Kumar A, Choudhary N, Priyadarshini P, Alam J, Gupta A, Mishra B, Kumar S, et al. Ventral Hernia Post Laparostoma in A Trauma Setting- 5yrs Experience of A Level I Trauma Centre. Trauma 2020 Virtual Conference. 3-5 December 2020
8. Sharma A, Gupta A, Sagar S, Kumar S, to test the Feasibility of trauma registry in different levels of healthcare setting in a low middle income country – a prospective study from India. Trauma 2020 Virtual Conference. 3-5 December 2020, Online Platform
9. Vaidyanathan R, Kumar A, Kumar S, Sagar S, Gupta A, Mishra B, et al. Emergency Thoracotomy from an Indian perspective-A retrospective observational study. Trauma 2020 Virtual Conference. 3-5 December 2020
10. Vijayan P, Alam J, Sagar S, Singhal M, Kumar S, Gupta A. Soft tissue management at a level I trauma centre in Urban India -A 5 years' experience. Trauma 2020 Virtual Conference. 3-5 December 2020. Online Platform

### Ashish Bindra

1. Gupta DS, Bindra A, Kapoor I. A prospective randomized controlled trial to study the effect of two different tidal volumes (6-8mL/kg vs 12-15mL/kg) on the time to wean from the ventilator in patients with an acute traumatic cervical spine injury. Neurocritical care society of India. 26 September 2021. Online
2. Gupta DS, Bindra A, Kapoor I. A prospective randomized controlled trial to study the effect of two different tidal volumes (6-8mL/kg vs 12-15mL/kg) on the time to wean from the ventilator in patients with an acute traumatic cervical spine injury. Indian Society of Neuroanaesthesia and Critical Care. 26 January 2021. Online
3. Gupta DS, Bindra A, Kapoor I. A prospective randomized controlled trial to study the effect of two different tidal volumes (6-8mL/kg vs 12-15mL/kg) on the time to wean from the ventilator in patients with an acute traumatic cervical spine injury. DNACON 5 February 2020. Online

### Atin Kumar

1. Gabra P, Kesav RP, Gupta AK, Sharma R, Kumar A, Gupta N, Kabra M, Jana M, Normal Imaging appearances in perinatal post-mortem magnetic resonance imaging, Indian Society of Paediatric Radiology 2019, 6 September 2019, New Delhi

### Dinesh Kumar Bagaria

1. Bagaria D, Anwer M, Gupta A, Mishra B, Sagar S, Kumar S. Revisiting Role of Bilateral Internal Iliac Arteries Ligation and Packing for Hemorrhage Control in Pelvic Injury Patients in Resource Constraint Settings, Virtual Clinical Congress of American College of Surgeons, 4 October 2020, Virtual

### **Garima Kachhawa**

1. Balani S, to evaluate the efficacy of Myoinositol in treatment of Gestational Diabetes Mellitus in Asian Indian women- a pilot study, 42nd Annual Virtual AOGD Conference 2020, 30 October 2020, Virtual Conference, New Delhi
2. Gupta T, Differential expression of sflt1 and plgf levels in during pregnancy: a prospective cohort study, 42nd Annual Virtual AOGD Conference 2020, (oral), 30 October 2020
3. Jaiswal P, Glanzmann thrombasthenia in pregnancy: every obstetrician's Nightmare, 42nd Annual Virtual AOGD Conference 2020, 30 October 2020, Virtual Conference, New Delhi
4. Kachhawa G, Evaluation of oxidative stress markers and endothelial function assessment during pregnancy and correlate with development of hypertension in pregnancy: a prospective cohort study, 42nd Annual Virtual AOGD Conference 2020, 30 October 2020, Virtual Conference, New Delhi
5. Kousar S, Can teleconsultation in Obstetrics overcome deficiency due to decreased physical visit in terms of maternal and fetal outcome, 42nd Annual Virtual AOGD Conference 2020, 30 October 2020, Virtual Conference, New Delhi
6. Krithika V S, Myo-Inositol and D-Chiro-Inositol combination on Menstrual cycle Regulation in young girls with PCOS, 42nd Annual Virtual AOGD Conference 2020, 30 October 2020, Virtual Conference, New Delhi
7. Sahoo I, Evaluating the effects of COVID-19 screening questionnaire on Labour room and ward admissions in the pandemic era, 42nd Annual Virtual AOGD Conference 2020, 30 October 2020, Virtual Conference, New Delhi
8. Sharma S, Comparison of warm versus room temperature normal saline as distension medium for pain relief in office hysteroscopy: A randomised controlled trial, 42nd Annual Virtual AOGD Conference 2020, 30 October 2020, Virtual Conference, New Delhi
9. Singh A, Distinct pro-inflammatory markers in gestational hypertension and preeclampsia: A Prospective Study, 42nd Annual Virtual AOGD Conference 2020, (oral), 30 October 2020, Delhi
10. Soma S, Systemic Pro-inflammatory Markers in Hypertensive Disorders of Pregnancy, PG online Web Conference of FOGSI'S pg Forum Webinar, 5 October 2020
11. Varun N, An Observational study of Caesarean delivery on maternal request in urban settings, 42nd Annual Virtual AOGD Conference 2020, 30 October 2020, Virtual Conference, New Delhi

### **Gyaninder Pal Singh**

1. Prasad C, Singh GP, Pandia MP, Khandelwal A, Bithal P. to compare the effect of goal directed fluid therapy versus standard fluid therapy on the cuff leak gradient in patients undergoing spine surgery in prone position, 3rd Annual conference of Society of Neurocritical, 27-29 November 2020, Gurugram
2. Prasad C, Singh GP, Pandia MP, Khandelwal A, Bithal P. to compare the effect of goal directed fluid therapy versus standard fluid therapy on the cuff leak gradient in patients undergoing spine surgery in prone position, 22nd Annual conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC2021- Virtual). 24-26 January 2021, Chennai

### **Keshav Goyal**

1. Shukla R, Mahajan C, Goyal K, Chaturvedi A. Serum Lactate, Base deficit and glucose levels as prognostic markers in Severe Traumatic Brain Injury. 1st conference of Neurocritical Care Society of India (NCSI). 2-4 October 2020, Gurgaon Virtual
2. Vatipalli S, Goyal K, Chaturvedi A. Correlation of near infra-red spectroscopy with intraoperative transfusion trigger in pediatric posterior fossa neurosurgical procedures. 22nd Annual Conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC 2021). 24-26 January 2021, Online, Chennai
3. Vatipalli S, Goyal K, Chaturvedi A. Correlation of near infra-red spectroscopy with intraoperative transfusion trigger in pediatric posterior fossa neurosurgical procedures. 1st conference of Neurocritical Care Society of India (NCSI). 2-4 October 2020, Gurgaon Virtual

### **Kapil Dev Soni**

1. Ghoshal S, Gupta A, Soni KD, Choudhary N. Outcome correlation of Initial Arterial Blood Gas Analysis in Isolated Thoracic Trauma, TRAUMA 2020 Virtual Conference, 5 December 2020, Delhi

### **Niraj Kumar**

1. Mahapatra R, Kumar N, Singh GP. to evaluate the effect of change in end tidal carbon dioxide on optic nerve sheath diameter under general anaesthesia: A prospective study. ISNACC 21. 24-26 January 2021, Online

### **Nirupam Madaan**

1. Madaan N. Structural changes for physical safety in an OPD, Patient Safety – A universal call! Workshop on Patient Safety, 16 March 2021, New Delhi

### **Purva Mathur**

1. Katoch O, Srivastav S, Mathur P. Microbial profile and antimicrobial susceptibility testing pattern in patients with hepato-biliary tract infections. 2nd Virtual IAMM Delhi Chapter Meet. 12 September 2020, Webinar, Zoom Meeting
2. Singh P, Mathur P. Candida auris associated candidemia in trauma patients at a tertiary care centre in Northern India. The First Virtual Annual Congress of Indian Association of Medical Microbiologists E-Microcon 2020 (Surging Ahead with Clinical Microbiology in Current Challenging Scenario). 9-11 December 2020, Virtual
3. VijayetaKiro V, Singh P, Sharad N, Khurana S, Mathur P. Evaluation of COVID-19 Antigen FIA for Rapid detection of SARS-COV-2. 2nd Virtual IAMM Delhi Chapter Meet/ 12 September 2020. Webinar, Zoom Meeting
4. VijayetaKiro V. Bacteriological profile and Antibiotic Susceptibility pattern of Infections related to Orthopaedic Trauma in a tertiary care centre: A study of 8 years. The First Virtual Annual Congress of Indian Association of Medical Microbiologists E-Microcon 2020 (Surging Ahead with Clinical Microbiology in Current Challenging Scenario). 8-11 December 2020, Virtual

### **Rahul Chaurasia**

1. Chaurasia R, Akhtar N, Arya V, Karjee S, Subramanian A, Revisiting the definition for massive transfusion in trauma patients presenting with hemorrhagic shock, 36th International Congress of the ISBT 2020, 12-16 December 2020, virtual
2. Chippy C, Pandey H, Mahapatra M, Chaurasia R, Patidar G, Coshic P, Thapliyal R, Sharma V, Prospective observational study to find the prevalence & to serologically characterize autoimmune hemolytic anemia (AIHA) patients in a tertiary care teaching centre, 36th International Congress of the ISBT 2020, 12-16 December 2020, Virtual
3. Krishna A, Chaurasia R, Subramanian A, Meher R, One year experience with massive hemorrhagic protocol at an urban level 1 trauma centre in India, 36th International Congress of the ISBT 2020, 12-16 December 2020, Virtual

### **S Arulsevi**

1. Acharya S, Ningombam A, Sarkar A, Brijwal M, Dar L, Arulsevi S, Association of high fluorescence lymphocyte cell percentage of Sysmex XN analyser with Dengue serology status, ISLH 2020, (International society for laboratory hematology) XXXIII International Symposium on Technical Innovations in Laboratory Hematology, June 22 - September 25, 2020, Virtual
2. Mukhopadhyay T, Subramanian A, Madan N, Trikha A, Malhotra R, Comparison of sample rejection rate due to pre-analytical errors before and during COVID-19 pandemic in a clinical laboratory
3. Mukhopadhyay TP, Patidar BS, Senger K, Gupta S, Subramanian A, Pathak R, Soni KD, Trikha A, Malhotra R, Elderly and COVID-19, "DIAGNOSTIC WEEK" - National Conference 2020, September 21-27 2020, Virtual
4. Mukhopadhyay TP, Subramanian A, Pati HP, Kumar A, Arya V, Karjee S, Albert V, Platelet function analysis of stored platelet concentrate and freshly prepared platelet rich, 61st Annual Conference of the Indian Society of Hematology & Blood Transfusion, 20-22 November 2020, HAEMATOCAN Virtual 2020
5. Patidar BS, Mukhopadhyay T, Aggarwal R, Soni KD, Nischal N, Pandey RM, Wig N, Malhotra R, Trikha A, Subramanian A, Impact of Diabetes Mellitus on patients with COVID-19, Clinical Laboratories in the COVID-19 Pandemic IFCC (International federation of clinical chemistry and laboratory medicine), February 15-17 2021, Virtual

### **Shilpa Sharma**

1. Devadasan HK, Sharma S, Kumar A, Gopal G, Bajpai M. Sensitivity And Specificity of Focussed Assessment With Sonography for Trauma (Fast) in Determining Pediatric Solid Organ Injury Following Blunt Trauma Abdomen, e-IAPSCON 2020, 16-18 October 2020, Online
2. Devadasan HK, Sharma S, Yadav R, Yadav DK, Bajpai M. Immunohistochemistry staining by anti-telomerase reverse transcriptase antibody (tert) as a marker for recurrence in hepatoblastoma: a pilot study, Congress of the International Society of Paediatric Oncology (SIOP 2020): The International Society of Paediatric Surgical Oncology (IPSO), 14-17 October 2020, Online
3. Devadasan HK, Sharma S, Yadav R, Yadav DK, Bajpai M. Immunohistochemistry Staining By Anti-Telomerase Reverse Transcriptase Antibody(Tert) As A Marker for Recurrence in Hepatoblastoma: A Pilot Study, e-IAPSCON 2020, 16-18 October 2020, Online



4. Keerthika M, Sharma S, Kumar V, Paras Choudhary P, Kashyap L, Bajpai M. Thoracoscopic Excision of a Cervicomediastinal Hourglass Ganglioneuroma, 16th Annual Conference Paediatric Endoscopic Surgeons of India PESICON 2021, 19-21 March 2021, AIIMS, New Delhi
5. Krishnan N, Sharma S, Garg P, Kumar A, Bajpai M. Conservative management in high grade pediatric pancreatic trauma: a case series, World Trauma Conference. American Association for the surgery of trauma, 14-18 February 2021, Online
6. Krishnan N, Sharma S, Garg P, Kumar A, Bajpai M. Non-Operative management in high grade pediatric pancreatic trauma: A report of 4 cases, e-IAPSCON 2020, 16-18 October 2020, Online
7. Sharma K, Sharma S, Gupta DK. Erudition from ten-years follow-up after Neonatal Gastric Transposition for Esophageal atresia, e-IAPSCON 2020, 16-18 October 2020, Online
8. Sharma K, Sharma S, Gupta DK. Progressive pseudo-obstruction of intestine: a fatal entity, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
9. Sharma K, Sharma S. Histopathology of pouch colon: a systematic review, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
10. Sharma K, Tomar S, Sharma S, Bajpai M. Autoamputation of Appendix: A secondary insult in post-trauma post-operated pediatric blunt abdominal trauma, Trauma 2020, 3-5 December 2020, Online
11. Sharma S, Goel T, Singh GP, Sawhney C, Bhoi S. Water Bath Technique of Ultrasound in Localization of Missed Sharp Notorious Soft Tissue Foreign Bodies, e-IAPSCON 2020, 16-18 October 2020, Online
12. Sharma S, Gupta DK, Diverse Presentations of Rectal Duplications: Be Wary of The Unknown Territory, e-IAPSCON 2020, 16-18 October 2020, Online
13. Sharma S, Gupta DK. Martins Modification of Boley Scot Pull Through for Pediatric Colorectal Polypoid Diseases, e-IAPSCON 2020, 16-18 October 2020, Online
14. Sharma S, Gupta DK. Gynaecological turmoils in adulthood with uterus didelphys in anorectal malformation, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
15. Sharma S, Gupta DK. Ksharsutra (ayurvedic seton tie) for repair of pediatric fistula in ano, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
16. Sharma S, Gupta DK. Posterior Ectopic Anus- A Curious Complex Congenital Anorectal Anomaly, e-IAPSCON 2020, 16-18 October 2020, Online
17. Sharma S, Mansour SM, Tsang TT, A Modified Technique Using A Spatulated Umbilical Cord Flap Containing Whartons Jelly Stem Cells for Primary Repair of Gastroschisis, A Multicenter Experience, Sharma S, VM Antony VM, Gurung N, A Satapathy, Asit R. Mridha, VK Iyer, Ruma Ray, Adarsh Barwad, Nutan Agarwal, VK Paul, M Bajpai, DK Gupta. Surgicopathological Autopsy of Thoraco-Omphalopagus Conjoint Twins, e-IAPSCON 2020, 16-18 October 2020, Online
18. Sharma S, Sharma K, Gupta DK. Varied parameters and utility of the anal position index: a systematic review, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi
19. Sharma S. Caudal duplication syndrome with duplicated cloacal malformation, 27th Meeting of the International Pediatric Colorectal Club (PCC-2020), 12-13 December 2020, New Delhi

#### **Siddharth Jain**

1. An Update on Renal cell Carcinoma, MAMC Surgery Update 2020, 4 February 2021, New Delhi
2. Moderator: muscle invasive bladder cancer, Uro oncology update: bladder cancer, 19 September 2020, New Delhi

#### **Subodh Kumar**

1. Dar P, Gupta P, Pathak R, Kumar S, Gupta A, Mishra B, et al. Holistic approach in Maxillofacial Trauma: A decade's experience, Trauma 2020, Virtual Conference, 3-5 December 2020, Online
2. Dar P, Priyadarshini P, Alam J, Kumar A, Bagaria D, Choudhary N, Kumar S, et al. Traumatic chylothorax: A dilemma to surgeons and interventionists, Trauma 2020, Virtual Conference, 3-5 December 2020, Online
3. Ghoshal S, Gupta A, Choudhary N, Soni K, Sagar S, Kumar S, et al. Outcome Correlation of Initial Arterial Blood Gas Analysis in Isolated Thoracic Trauma, Trauma 2020, Virtual Conference, 3-5 December, 2020, Online Platform
4. Gora D, Choudhary N, Bagaria D, Kumar A, Sagar S, Kumar S, et al. Managing Critical Injuries: one at a time, Trauma 2020, Virtual Conference, 3-5 December 2020, Online
5. Gupta S, Dar P, Alam J, Choudhary N, Bagaria D, Kumar A, Priyadarshini P, Kumar S, et al. Clinical significance of grass green urine due to Propofol infusion, Trauma 2020, Virtual Conference, 3-5 December 2020, Online



6. James J, Banerjee N, P Vijayan, Kaur S, K Vivek, Gupta A, Kumar S, et al. Comparison of Trauma Systems following relocation of a Level 1 trauma center during the COVID pandemic, Trauma 2020, Virtual Conference, 3-5 December 2020
7. Jogendra B, Dar P, Priyadarshini P, Kumar A, Choudhary N, Bagaria D, Alam J, Mishra B, Kumar S, et al. Pattern management and outcome of traumatic neck injuries: Experience at a level I trauma centre, Trauma 2020, Virtual Conference, 3-5 December, 2020, Online
8. Kaul R, Sagar S, Kumar S, Bhutia O, Singhal M, Gupta A, et al. 3D Technology assisted workflow to strengthen the Rehabilitation limb of Trauma Care, Trauma 2020, Virtual Conference, 3-5 December 2020, Online
9. Kaur S, Agarwal H, Bagaria D, Joshi M, Kumar A, Chaudhary N, Priyadarshini P, Alam J, Gupta A, Mishra B, Kumar S, et al. Thermal Injury Abdomen Post Metallurgy Industry Accident: A Rare Survivor, Trauma 2020, Virtual Conference, 3-5 December, 2020, Online
10. Kaur S, Banerjee N, James J, Ghoshal S, Kumar A, Bagaria D, Chaudhary N, Kumar S, et al. Hundred days of pandemic -a level I trauma center experience, Trauma 2020, Virtual Conference, 3-5 December 2020, Online
11. Kumar V, Bagaria D, Kumar S, Sagar S, Gupta A, Mishra B, et al. A prospective study to determine the correlation between clinical parameters and intra-abdominal pressure and their effect on the non-operative management of patients with blunt abdominal trauma at Level I trauma centre, Trauma 2020, Virtual Conference, 3-5 December 2020, Online
12. Manwatkar S, Priyadarshini P, Kumar A, Bagaria D, Chaudhary N, Alam J, Kumar S, et al. Case Series of 10 Impalement Injuries, Trauma 2020, Virtual Conference, 3-5 December, 2020, Online
13. Rani P, Bagaria D, Kumar A, Choudhary N, Priyadarshini P, Alam J, Gupta A, Mishra B, Kumar S, et al. Ventral Hernia Post Laparostoma in A Trauma Setting-5yrs Experience of A Level I Trauma Centre, Trauma 2020, Virtual Conference, 3-5 December 2020, Online
14. Sharma A, Gupta A, Sagar S, Kumar S. to test the Feasibility of trauma registry in different levels of healthcare setting in a low middle income country—a prospective study from India, Trauma 2020, Virtual Conference, 3-5 December 2020, Online
15. Vaidyanathan R, Kumar A, Kumar S, Sagar S, Gupta A, Mishra B, et al. Emergency Thoracotomy from an Indian perspective-A retrospective observational study, Trauma 2020, Virtual Conference, 3-5 December 2020, Online
16. Vijayan P, Alam J, Sagar S, Singhal M, Kumar S, Gupta A. Soft tissue management at a level I trauma center in Urban India -A 5 years' experience, Trauma 2020 Virtual Conference, 3-5 December 2020, Online

## RESEARCH

### Funded projects

#### *Ongoing*

1. Comparative Evaluation of Genetic and Biochemical profile in postmenopausal osteoporotic and age matched healthy women, Prof Rajesh Malhotra, ICMR, 3 years, 2019-2022, Rs. 1,39,03,260
2. A prospective randomized study to compare the systemic emboli in computer assisted navigation Vs conventional surgical technique of knee replacement, Prof Rajesh Malhotra, ICMR, 3 years, 2018- 2021, Rs. 50 lakhs
3. Prospective, Multi-centre Outcomes Study of Persona Knee System in Total Knee Arthroplasty. Study Protocol # CSA2014-02K, Prof Rajesh Malhotra, Zimmer, 7 years, 2015- 2022, Rs. 24 lakhs
4. Biomechanical Design Evaluation of Knee Implants for Indian Population, Prof Rajesh Malhotra, IIT, 2 years, 2020-2022, Rs. 5 lakhs
5. To study efficacy of amniotic membrane as an alternative wound dressing in patients with post traumatic raw area admitted in trauma surgery unit, Dr Abhinav Kumar, Intramural Grant, AIIMS ND, 2021
6. Metabolomic Profiling and Serial Changes in Patients with Isolated Blunt Chest Trauma –A Prospective, cohort, feasible and exploratory study, Dr Abhinav Kumar, Intra Mural grant, AIIMS ND, 2 years, 2019-2021, Rs. 5 lakhs
7. An interventional study of developing robust trauma care systems in India, Dr. Amit Gupta, ICMR (Rs. 53 lakhs), 3 years, 2019–2022
8. Enhancing the success and safety of endotracheal intubation by development of an innovative intubation system: A Pilot Project, Babita Gupta, ICMR, 2 years, 2020-2022, Rs. 55 lakhs
9. Paroxysmal Sympathetic Activity and its role in severe TBI, Prof. Deepak Agrawal, AIIMS, 2 years, 2018-2021, Rs. 10,00,000
10. ADAPT, Dr. Deepak Gupta, National Institute of Health, 5 years, 2019-2025, Rs. 63,49,336
11. CENTER-TBI, Dr. Deepak Gupta, Universitair Ziekenhuis Antwerpen (UZA), Belgium, 2 years, 2016-2021, Rs. 3,75,000

12. RESCUE ASDH, Dr. Deepak Gupta, Cambridge University, 3years, 2017-2021, Rs. 9,52,000
13. Synapse-ICU Study, Dr Deepak Gupta, Italy, 2 years, 2019-2021, Non funded
14. “To evaluate combination of biochemical endothelial markers and arterial stiffness in prediction of preeclampsia”, Dr. Garima Kachhawa, ICMR (DHR), 3 years.,2018-2022, Rs. 83,89,861
15. “Role of Endocrine Disrupting Chemicals (EDC’S) in Maternal and Child Health”, Dr. Garima Kachhawa, ICMR, 3 years, 2018-2021, Rs. 35,72,010
16. A prospective, open- label, single – center, single arm, post-marketing study to evaluate the efficacy and safety of D- chiro inositol and myo- inositol combination on ovarian function and metabolic factors in women with polycystic ovarian syndrome (PCOS), Dr. Garima Kachhawa, Ambrosia Life Science Pvt. Ltd, 2 years, 2019-2021, Rs.12,96,900
17. Non convulsive status epilepticus in severe TBI patients at level-1 trauma center in India: Incidence and prognosis correlation.(DHR-GIA Proposal) IEC-928-4/09/2020, Dr Keshav Goyal, AIIMS, 2 years, 2020-2022, 25 lakhs
18. Role of Biomarkers in Predicting Evolution of Cerebral Edema following Traumatic Brain Injury, Dr Kokkula Praneeth, AIIMS, 1 year, 2020-2021, Rs. 4,51,000/
19. Evaluation of Parathyroid hormone as endpoint of resuscitation in trauma hemorrhagic shock patients, Dr. Dinesh Bagaria, AIIMS, Intramural research fund, 1 year, 2020-2021, Rs. 5 lakhs
20. Impact of yoga intervention on functionnal assessment and quality of life in pelvic injury patients at level-I trauma centre-A randomized control trial, Dr. Dinesh Bagaria, Department of Science and Technology, 3 years, 2021-2024, Rs. 37.24 lakhs
21. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, Dr. Niraj Kumar, AIIMS + IIT Delhi, 2 years, 2019-2021, Rs. 20,00,000
22. Comparative analysis of different methods of disinfection of medical records, Dr Nirupam Madaan, Research Section, AIIMS, N.D., 1year 6 months, 2020-2021, Rs. 4.82 lakhs
23. Comparative analysis of the impact of in-hospital confinement indifferent in patient settings on the psychology of corona patients, Dr Nirupam Madaan, 1 year, 2020-2021
24. Capacity Building and Strengthening of Hospital Infection Control to detect and prevent antimicrobial resistance in India, Dr. Purva Mathur, Centers for Disease Control and Prevention, 6 years, 2015-2021, Rs. 3,59,66,27,128
25. Centre for advanced Research (CAR) in Hospital Acquired Infections-Prevention and Control, Dr. Purva Mathur, ICMR, 5 years, 15 Oct 2020-14 Oct 2025, Rs. 7,53,35,152
26. Infection Prevention and Control (IPC)-Capacity Building-Orientation Training for COVID-19 Preparedness and IPC for Healthcare Facilites, Dr. Purva Mathur, Bill and Melinda Gates Foundation, 2 years, 2020-2022, Rs. 2,56,37,106
27. Expansion of antimicrobial stewardship (AMSP) and infection control program (ICP) of ICMR in secondary care hospitals, Dr. Purva Mathur, ICMR, 2 years, 2020-2022, Rs. 31,36,390
28. Prevalence of multi-drug resistant organisms in the healthy gut flora of individuals residing in rural and urban community setting, Dr. Purva Mathur, Intramural, 2 years, 2020-2022, Rs. 10 lakhs
29. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients, Rahul Chaurasia, AIIMS, 2 years, 2019-2021, Rs. 10 lakhs
30. Epidemiology of SARS-CoV-2 antibodies in healthy blood donors and its implication in transfusion safety, Rahul Chaurasia, AIIMS, 1 year, 2020, Rs. 10 lakhs
31. Evaluation of cytokines IL17 and IL 22 in polytrauma patients with ventilator associated pneumonia admitted in Trauma ICU, Richa Aggarwal, AIIMS, 2 years, 2019-2021, Rs. 9 lakhs
32. Translational application of novel clinically accessible biological predictors to improved identification of mild and moderate Traumatic Brain Injury (TBI) induced neuro psychological impairment, Dr S Arulselvi, ICMR, 2 years, 2019-2021, Rs. 42,23,108.4
33. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation, Dr S Arulselvi, ICMR, 3 years, 2020-2023, Rs. 50,64,318
34. Correlation between preoperative CSF melatonin levels and post- perative delirium in geriatric hip fractures, Samarth Mittal, Intramural, 2 years, 2018-2020, Rs. 5 lakhs
35. Incidence of Heterotropic Ossification in Pelvi -Acetabular fractures – Can It be predicted and prevented? A prospective, clinical research, Samarth Mittal, AO Trauma, 2 years, 2018-2020, CHF8000 (About Rs. 6.38 lakhs)
36. To study the positivity of SARS COV-2 virus on confirmed COVID-19 cases in deceased persons, Dr. Sanjeev Lalwani, Intramural Research Grant, 2020-2022, Rs. 10 lakhs

37. A Randomized Control Trial to Study the effect of immediate versus Delayed Application of Prosthesis in below knee Amputation patient in relation to Balance and Quality of life, Dr.Junaid Alam, Aiiims, intramural, 2 years, 2020-2022, Rs. 4,94,475/year
38. Establishing Guidelines for Fetal Counseling for Surgical Congenital Anomalies [BT/PR9572/MED/97/210/2013], Shilpa Sharma, Department of Biotechnology, 4.5 years, 2014-2020, Rs. 48,36,678
39. Electromotive administration of Intravesical Botulinum Toxin A in Pediatric Neurogenic Bladder, Shilpa Sharma, AIIMS Institute Research Grant, 2 years, 2019-2021, Rs. 5 lakhs
40. Biocompatible dressing for Paediatric hypospadias Repair, Shilpa Sharma, AIIMS-IIT Delhi, 2 years, 2019-2021, Rs. 10 lakhs
41. To evaluate the role of seminal miRNA's and inflammatory markers in cases of suspected prostate cancer and correlate with mpMRI and Biopsy findings, Siddharth Jain, Intramural, 2 years, 2019-2021, Rs. 5 lakhs
42. The association of HLA antigens with primary IgA nephropathy in Indian patients, Soumita Bagchi, Intramural grant, 1 year, 2019-2020, Rs. 9,70,000
43. An adaptive seamless randomized, double blind, placebo-controlled, dose ranging study to investigate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis Ltd, 2 years, 2019-2021, Rs. 1,98,000 per patient
44. A randomized, treatment open-label, dose-blinded parallel group, three arm, proof-of-concept clinical trial to investigate the efficacy and safety of LNP023 compared with rituximab in the treatment of subjects with idiopathic membranous nephropathy, Soumita Bagchi, Novartis Ltd, 3 years, 2019-2022, Rs. 2 lakhs per patient
45. Role of neutrophils and new immune cells in the outcome of Chest trauma patients, Dr. Subodh Kumar, ICMR, 3 years, 2019-2022, Rs. 36 lakhs
46. Predictive detection of osteoporotic fractures in Indian population based on Artificial Intelligence Implementation. Funded by DBT, Grant No. BT/PR38731/AI/133/28/2020, Rs. 47,12,380
47. A pilot parallel arm Randomized Control Trial evaluating the impact of Yoga intervention in treating post traumatic limb fractures which develop Complex Regional Pain Syndrome (CRPS I) and assessment of their quality of life. Funded by ICMR, File No. 5/4-5/3/4/Trauma/GIA/2020-NCD-I dated 12 March 2021, Rs. 64,71,108
48. Role of Yoga in Secondary prevention of Hip Fractures in the Elderly Funded by ICMR, Rs. 6 lakhs
49. Comparison of laparoscopic feeding gastrostomy versus Percutaneous endoscopic gastrostomy for long term assisted enteral feed in trauma patients – A randomized pilot study, Narendra Choudhary, Intramural Research Project (AIIMS, New Delhi), 2 years, 2019–2021, Rs. 4.75 lakhs
50. A Randomized Control Trial to study the impact of Yoga Intervention in lower limb amputees following trauma in relation to postsurgical outcome, behavior and quality of life at Level – I Trauma Center, Sushma Sagar, DST, 3 years, 2017-2021, Rs. 54 lakhs

### **Completed**

1. A system biology approach using Proteomic, metabolomics and metagenomics of saliva of oral cancer patients for identification of potential biomarkers, Dr Abhinav kumar, ICGEB core Fund, 3 years, 2015-2018, Rs. 25 lakhs
2. Evaluation of novel Forensic exhibits and STR informatively of Y-STR markers in chimerism situations (Intramural-approved for funding by AIIMS, New Delhi)
3. “VEGF: as a potential systemic marker of local angiogenic activity and response to gamma knife surgery” for your consideration, Prof. Deepak Agrawal, AIIMS, 1 year, 2016-2017, Rs. 5 lakhs
4. Early versus Delayed Decompression for Traumatic high Cervical Spinal Cord Injury in Acute Spinal Cord Injury Study, Prof.Deepak Agrawal, DST, 4 years, 2014-2018, Rs. 24,52 800
5. “Determination of the reference range for the elevated PT/INR with normal coagulation factor level and its association with plasma transfusion therapy in head injury patients, Prof Deepak Agrawal, ICMR, 2 years, 2015-2017, Rs. 25,00,000
6. “Monitoring cognition of healthcare workers in emergency and intensive care setting and its relation to medical errors”, Prof. Deepak Agrawal, DST, 4 years, 2012-2016, Rs. 59,86,400
7. “Automated assessment of hand hygiene complication in healthcare settings using Kinect Camera”, Prof. Deepak Agrawal, DBT, 3 years, 2013-2016, Rs. 24,00,000
8. “Economic & Social burden of Managing Traumatic brain injuries (TBI) in adult aged 18-50 years in India”, Prof. Deepak Agrawal, DHR, 1 year, 2014-2015, Rs. 8,00,000
9. “Thromboelastometry (TEG): Utility and Cost-effectiveness in diagnosing of infection in Neurosurgery Intensive care unit (ICU) as compared to established biomarkers”, Prof. Deepak Agrawal, Institute, 1 year, 2014, Rs. 10 lakhs

10. "Matrix Metalloproteinase (MMPS) (MMPS) as biomarkers for fusion following spinal instrumentation, Prof. Deepak Agrawal, AOSPINE, 1 year, 2014, 5500CHF, about 4.38 lakhs
11. Acute thalamic involvement in severe head injury-An autopsy study with histopathological correlation", Prof. Deepak Agrawal, Institute, Rs. 1,00,000
12. A Registry for Comparing Catheter-Related Infection Rates Among Various Shunt Systems in the Treatment of Hydrocephalus, Prof. Deepak Agrawal, Codmon Corporation, USA, Rs. 10 lakhs
13. "Optic Nerve Ultrasound in Severe Traumatic Brain Injury", Prof. Deepak Agrawal, DBT, 3 years, 2015-2017, Rs. 36,07,380
14. A Double-blind, Randomized, Adaptive Design, Controlled Clinical Trial to Evaluate the Efficacy and Safety of Saroglitazar 2 mg and 4 mg Tablets Versus Placebo for Treating Women with Polycystic Ovary Syndrome (PCOS), Dr. Garima Kachhawa, Cadila Health Care Ltd., 1.5 years, 2019–2021, Rs. 1 lakh
15. Prognostic value of serially estimated serum procalcitonin in multiple trauma victims with and without head injury, Dr Keshav Goyal, Completed, Published
16. Awake Craniotomy propofol vs Dexmedetomidine, Completed, Manuscript preparation
17. Assessment of Cerebral Autoregulation using NIRS in severe traumatic brain injury patients, Dr Keshav Goyal, AIIMS, 2 years, 2016-2018, Rs. 5 lakhs+ 5 lakhs
18. Development and Validation of an Electronic Surveillance System for Surgical Site Infections Developing During Hospital Stay and After Discharge: A Multi-Centric Study, Dr. Purva Mathur, ICMR, 3 years, 2017-2020, Rs. 1,31,58,789
19. Role of Post-Trauma Lymphocyte - Monocyte Response and Programmed Death- 1 Levels in Early Diagnosis of Sepsis and Prognosticating Outcome in Trauma Patients, Dr. Purva Mathur, ICMR, 3 years, 2018-2021, Rs. 45,10,800
20. Evaluation of Urinary Biomarkers TIMP-2 and IGFBP7 for early prediction of acute kidney injury after traumatic crush injuries, Richa Aggarwal, AIIMS, 2 years, 2017-2019, Rs 3.5 lakhs
21. Role of Bone marrow mononuclear cells and Renal Stem cells in renal preservation in Obstructive Renopathy – An Experimental study in mice, Shilpa Sharma, AIIMS Institute Research Grant, 2 years, 2013-2015, Rs. 5 lakhs
22. Effect of Curcumin and its combination with Piperine in experimentally induced Liver fibrosis in rats: A comparative analysis, Shilpa Sharma. AIIMS Institute Research Grant, 2 years, 2016-2018, 5 lakhs
23. Prospective monitoring of BK virus replication in the first year following renal transplantation in Indian patients, Soumita Bagchi, Intramural grant, 2 years, 2014-2016, Rs. 6,20,000/-
24. Prevalence and significance of serum galactose deficient IgA1 in Indian patients with IgA nephropathy: a case control study, Soumita Bagchi, Intramural grant, 1 year, 2017-2018, Rs 500000/-
25. To study the impact of Yoga on Pulmonary Functions, Immune Response & Quality of Life in Chest trauma patients at Level-1 Trauma Center, Dr. Subodh Kumar, DST, 3 years, 2016-2019, Rs. 40 lakhs

## **Departmental projects**

### ***Ongoing***

1. Prospective Observational study of Transfusion Practices in Severely injured Trauma Patients in Emergency department at Level 1 Trauma Centre
2. Delay in Surgery after Hip Fracture: Reasons and Impacts on Outcomes
3. Biomechanical Modelling of Knee Replacement
4. Musculoskeletal Modelling of Spino-Pelvic Deformity
5. A study comparing contrast enhanced computed tomography abdomen versus diagnostic laparoscopy in patients with penetrating abdominal trauma: A randomized controlled trial
6. Epidemiology and analysis of predictors of mortality in trauma patients at a level I trauma centre
7. Impact of enhanced recovery after emergency surgery - A study comparing enhanced recovery protocol versus standard care in patients undergoing laparotomy following trauma
8. A Randomized Pilot study comparing surgical stabilization of Rib Fractures with standard non-operative management among mechanically ventilated patients with severe rib fractures
9. To study the effect of external pelvic fixation on the outcome of patients with pelvic fractures undergoing damage control surgery
10. An Ambispective observational study to evaluate the outcomes of management of traumatic pancreatic injuries at a level I trauma center
11. To Study the Role of Prophylactic Antibiotics in patients with chest trauma at a level 1 Trauma Centre: A Pilot Randomized trial



12. Study of the parameters, intervention and outcome in cases of Genito-Urinary Injuries at a level 1 Trauma Center
13. Effects of Severity of injury on the Dynamics of Immune Effector Cells (Th1, Th2, Th9, Th7, Th22) and neutrophils and their Correlation with Outcome in Patients with Blunt Thoracic Trauma
14. To evaluate the outcome of patients and anatomical status of pancreas after non operative management of grade III and IV pancreatic trauma at a level I trauma centre
15. Biochemical analysis of wound exudate in Negative pressure wound therapy Vs conventional dressing
16. To compare outcome of early VATS versus alternative approach for evacuation of traumatic haemothorax – A randomized pilot study at Level I trauma centre
17. Prospective Randomised control trial to assess the feasibility and safety of trophic feed in patients with haemorrhagic shock admitted in Trauma Care ICU
18. Prevalence of ionized hypocalcaemia in trauma patients and its role in predicting mortality at a Level I Trauma Center- A prospective observation study
19. A study of abbreviated discharge protocol in patients with blunt liver and/or splenic injury
20. Determining the potential of different components of trauma triad of death on outcome
21. A Randomised Control Trial to Compare the Impact of Low pressure negative pleural suction with Under water seal drainage alone in Patients of Thoracic trauma
22. A Randomized Control Trial to see the effect of post-operative Systemic Anticoagulation in patients Undergoing Post Traumatic Medium Sized Vessel Repair
23. Documentation and Validation of Patient Specific Implants for mid face defects using 3D Printing Technology: An Exploratory Study
24. Feasibility and Implementation of Hospital Based Trauma Registry for Road Traffic Injuries at Different Levels of Healthcare Settings and Its Effect on Quality of Trauma Care
25. Comparison of Conventional, Vitek And Maldi-Tof for Identification of Candida
26. Randomized Control Trial: Comparative analysis of orbital volume in 3D-model assisted mesh adaptation versus conventional technique in reconstruction of orbital floor fracture
27. Evaluation of diagnostic characteristics of point of care ultrasound in identification of Maxillofacial fractures as compared to CT scan
28. To assess the impact of early cryoprecipitate administration on blood component usage in trauma patients presenting with class III haemorrhagic shock or more
29. Effect of phrenic nerve stimulation on diaphragm strength and thickness : A Randomized controlled trial
30. Analysis of patterns of neck trauma and its outcome at level 1 trauma center An ambispective observational study
31. Surgical audit of Renal transplantation data of a single surgical unit over the last decade
32. To study etiology, clinical presentation and outcome of patients with gastroduodenal perforations
33. Comparison of ketofol and propofol for sedation in severe traumatic brain injury patients: a randomized comparative pilot study
34. Effects of regional anesthesia on perioperative inflammatory cytokines alteration and clinical complications
35. Bilateral Ultrasound guided erector spinae plane block for postoperative pain relief in traumatic spine surgery: A randomised controlled trial
36. Focused airway sonography for evaluation of laryngeal mask airway placement: an observational study
37. Effect of different dose regimens of Tranexamic acid on blood loss in pelviacetabular surgery: a randomized clinical trial
38. Gamma-Knife for giant intracranial (>20cc) lesions
39. Role of Gamma Knife in Craniopharyngiomas
40. Role of Bevacizumab in NF2 for tumor control
41. Management of traumatic cranio-vertebral junction injury associated with posterior fossa injury
42. Incidence management and outcome of traumatic posterior fossa pathology
43. Intracranial intra-ventricular tumors of lateral and third ventricle neoplasm –incidence, outcome and prognostic factors
44. Post-traumatic hydrocephalus : incidence, outcome and management
45. Evaluation of Hormonal and Metabolic Parameters in Adolescent and Young Indian Girls with Menstrual dysfunction
46. Evaluation of renal function parameters during pregnancy and its correlation with maternal and fetal outcome



47. Comparing different types of laryngoscopes for endotracheal intubation in various Difficult airway scenarios simulated using a high-fidelity airway mannequin model– an observational study
48. Intraoperative somatic site near infrared spectroscopy changes in supratentorial craniotomy: A prospective study
49. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study
50. Evaluating the effects of Dexmedetomidine loading dose on cerebral hemodynamic of patients with temporal/parietal glioma via Transcranial Doppler – A Prospective single arm trial
51. Role of lung ultrasound in estimating extravascular lungwater as an early predictor of sepsis in neurotrauma patients– An observational study
52. Detection of saline filled cuff by Ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study
53. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in Covid ICU: A pilot study
54. Prevalence of augmented renal clearance in Pediatric traumatic brain injury patients
55. Effect of Neuroradiologic interventions on regional cerebral oxygenation in patients with anterior circulation aneurysms: An observational Study
56. Serum lactate, base deficit and glucose levels as prognostic markers of severe traumatic brain injury
57. Correlation of NIRS With Intraoperative Transfusion Trigger in Pediatric Patients Posted for Posterior Fossa Tumour Excision
58. Cardiovascular complications after traumatic spinal cord injury
59. To study the risk factors and causes of extubation failure in head injury patients
60. Effect of decompressive craniectomy on jugular venous oximetry (SJVO<sub>2</sub>) in patients with severe Traumatic brain injury (TBI)- Funded by AIIMS, Rs. 5 lakhs
61. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study
62. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study
63. Assessment of cerebral autoregulation by near infrared spectroscopy (NIRS) in patients with Severe TBI
64. To establish correlation between inferior vena cava collapsibility index and carotid doppler flow time with cardiac output in patients undergoing intracranial tumor surgeries
65. Study to assess the correlation between comorbidities and COVID-19 at a tertiary care hospital
66. Assessment of Splenic Function in patients with Blunt Splenic Injury:A Prospective Observational Study
67. Biochemical analysis of Wound Exudate in patients requiring Negative Pressure Wound Therapy versus Conventional dressings for Traumatic Wounds
68. Incidence of vertical transmission of COVID-19 infection in a tertiary hospital in India-A prospective study
69. Study of Oligodendroglial Linage, Myelination and remyelination in brain tissue in head injury cases
70. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients
71. Evaluation of effect of early use of Cryoprecipitate on blood components usage in severely bleeding trauma patients
72. One year experience with massive hemorrhage protocol at an urban level-1 trauma center
73. Epidemiology of SARS-CoV-2 antibodies in healthy blood donors and its implication in transfusion safety
74. Retrospective review of the transfusion practices in hospitalized COVID-19 patients
75. Randomized controlled trial to determine the effectiveness of acute normovolemic hemodilution (ANH) for peri-operative blood management in patients undergoing scoliosis surgery
76. Analysis of quality parameters prepared from whole blood stored overnight at ambient temperature
77. Epigenetic regulation of pro-inflammatory and anti-inflammatory cytokine gene in posttraumatic sepsis and septic shock-defined by sepsis-3 classification : A exploratory study in major trauma patients
78. Correlation of sf and pf ratio in patients with COVID
79. Evaluation of biomarkers for COVID-19 severity
80. Clinical characteristics and outcome of COVID-19 patients
81. Evaluation of transfusion practices and outcome of patients receiving transfusion in patients of COVID-19
82. Prolonged outcome in COVID patients

83. Altered microRNA expression in peripheral blood and brain following severe traumatic brain injury
84. Study of role of biochemical parameters to determine outcome in elderly hip fracture patients
85. Analysis of cost-per test during corona pandemic
86. Analysis and comparison of serum complement levels (c3 and c4) in hospital admitted covid-19 patients on the day of admission and after 72 hours
87. Analysis and comparison of serum complement levels (c3 and c4) in Lower Limb Fracture patients undergoing implant surgery
88. Point-of-care ultrasound in identifying the prandial status of patients undergoing Endotracheal intubation in emergency department
89. Assessment of Internal Jugular Vein And Femoral Vein Collapsibility in The Determination of Intravascular Volume Status As Compared to Inferior Vena Cava Collapsibility
90. To study clinico-epidemiological profile of patients presenting to the emergency department with acute abdominal pain
91. Does POCUS guided acute abdomen algorithm improves early diagnosis and critical management decision in adults patients with undifferentiated acute abdominal pain presenting to emergency department
92. Evaluation of diagnostic characteristics of point-of-care ultrasound in identification of maxillofacial fractures as compared to CT scan
93. Feasibility of USG Guided Objective Initial Assessment of Pupillary Size & Pupillary Reflexes Vs Clinical Examination in Patients With Altered Mental Status
94. To study the role of point of care ultrasound for carotid pulsecheck in cardiac arrest patients
95. Diagnostic Accuracy of Tran cranial ultrasound to detect clinically significant conditions in post-craniotomy patients
96. Evaluation of Myelin Loss and Oligodendrocyte Pathology in Severe Traumatic Brain Injury
97. Comparing post operative APRI as a marker of Hepatic fibrosis following kasai with and without Partial liver resection in biliary atresia
98. Assessment of renal function in children with unilateral non-syndromic Wilms' tumor: An ambispective control study.
99. Hypospadias Outcomes Long-Term Database (HOLD): A Prospective Cohort Study
100. Longterm outcome of PSARP in Anorectal malformation
101. Retrospective study of the factors that affect the long-term outcome of operated cases of hypospadias
102. A prospective study of the short term outcomes of operated cases of distal penile hypospadias in terms of immediate and early complications
103. Supportive management of IgA nephropathy-a prospective study
104. Characterization of Chronic Kidney Disease of Unknown Origin in Patients attending Nephrology OPD of AIIMS, New Delhi-A cross-sectional study
105. To Study the Role of Prophylactic Antibiotics in patients with chest trauma at a level 1 Trauma Centre: A Pilot Randomized trial
106. Effects of Severity of injury on the Dynamics of Immune Effector Cells (Th1, Th2, Th9, Th7, Th22) and neutrophils and their Correlation with Outcome in Patients with Blunt Thoracic Trauma
107. A Randomised Control Trial to Compare the Impact of Lowpressure negative pleural suction with Under water seal drainagealone in Patients of Thoracic trauma
108. A study to evaluate the predictors of outcome in patients with blunt liver trauma
109. Impact of enhanced recovery after emergency surgery-A study comparing enhanced recovery protocol versus standard care in patients undergoing laparotomy following trauma
110. A Randomized Pilot study comparing surgical stabilization of Rib Fractures with standard non-operative management among mechanically ventilated patients with severe rib fractures
111. To study the effect of external pelvic fixation on the outcome of patients with pelvic fractures undergoing damage control surgery
112. An ambispective observational study to evaluate the outcomes of management of traumatic pancreatic injuries at a level I trauma center
113. Epidemiology and analysis of predictors of mortality in trauma patients at a level I trauma center
114. Study of the parameters, intervention and outcome in cases of Genito-Urinary Injuries at a level 1 Trauma Center
115. To evaluate the outcome of patients and anatomical status of pancreas after nonoperative management of grade III and IV pancreatic trauma at a level I trauma center
116. Biochemical analysis of wound exudate in Negative pressure woundtherapy Vs conventional dressing

117. To compare outcome of early VATS versus alternative approach for evacuation of traumatic haemothorax – A randomized pilot study at Level I trauma center
118. Prospective Randomised control trail to assess the feasibility and safety of trophic feed in patients with haemorrhagic shock admitted in Trauma Care ICU
119. Prevalence of ionized hypocalcaemia in trauma patients and its role in predicting mortality at a Level I Trauma Center- A prospective observation study
120. A study of abbreviated discharge protocol in patients with blunt liver and/or splenic injury
121. Determining the potential of different components of trauma triad of death on outcome
122. A Randomized Control Trial to see the effect of post-operative Systemic Anticoagulation in patients Undergoing Post Traumatic Medium Sized Vessel Repair
123. Comparison of Early outcomes of Interrupted Double ‘X’ suture vs Continuous Near Far far near method for closure of abdominal wall incisions: A Double blinded randomised control trial
124. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG
125. To study the correlation between pre-operative pain thresholds measured using Quantitative Sensory Testing with post-operative pain scores using Visual Analogue Score in patients with laparoscopic groin hernia repair – A case control study
126. Documentation and Validation of Patient Specific Implants for mid face defects using 3D Printing Technology: An Exploratory Study
127. Feasibility and Implementation of Hospital Based Trauma Registry for Road Traffic Injuries at Different Levels of Healthcare Settings and Its Effect on Quality of Trauma Care
128. Study to develop an objective scoring system to grade the difficulty of laparoscopic cholecystectomy
129. Surgical audit of Renal transplantation data of a single surgical unit over the last decade
130. To study etiology, clinical presentation and outcome of patients with gastroduodenal perforations
131. Multi-parametric approach to identify the predictive Biomarkers of sepsis and septic shock patients
132. Impact of alcohol on dysregulation of inflammation and recovery of trauma haemorrhagic shock patients
133. titled “Utility of telemedicine to combat COVID-19 pandemic at the emergency response centre in a tertiary care hospital”
134. Point-of-care ultrasound in identifying the prandial status of patients undergoing Endotracheal intubation in emergency department
135. Assessment of Internal Jugular Vein And Femoral Vein Collapsibility in The Determination of Intravascular Volume Status As Compared to Inferior Vena Cava Collapsibility
136. To study clinico-epidemiological profile of patients presenting to the emergency department with acute abdominal pain
137. Does POCUS guided acute abdomen algorithm improves early diagnosis and critical management decision in adults patients with undifferentiated acute abdominal pain presenting to emergency department
138. Evaluation of diagnostic characteristics of point-of-care ultrasound in identification of maxillofacial fractures as compared to CT scan
139. Feasibility of USG Guided Objective Initial Assessment of Pupillary Size & Pupillary Reflexes Vs Clinical Examination in Patients With Altered Mental Status
140. To study the role of point of care ultrasound for carotid pulse check in cardiac arrest patients
141. Diagnostic Accuracy of Tran cranial ultrasound to detect clinically significant conditions in post-craniotomy patients
142. Anterior Minimal Invasive Plating Using Reverse PHILOS versus Posterior Open Reduction and Internal Fixation (ORIF) with Extra- Articular Locking Compression Plate (EALCP) in the management of distal third Humeral Diaphyseal/Metaphyseal Fractures- A Randomized Controlled Trial. Name of candidate
143. Delay in Surgery after Hip Fractures: Reasons and Impact on Outcomes
144. Randomized Control Trial comparing Radiological, Clinical and Functional Outcomes following Uniaxial vs Polyaxial Plating in Management of Tibial Plateau Fractures and CT Guided Mapping of Proximal Tibial Fractures in Indian Population
145. Incidence of acute kidney injury in hospitalized patients with COVID-19 from a tertiary care hospital
146. Association Between Perioperative Hypertension, Length of Hospital Stay And Perioperative Cardiovascular Complications: A Prospective Observational Study from Tertiary Care Centre

147. Predicting increased length of stay and adverse outcome in Indian Geriatric patients coming for surgery: A prospective case control study
148. Frailty as a predictor of adverse discharge outcomes in geriatric trauma patients undergoing surgery: A prospective Case Control Study
149. Postural Impact on Gastric Ultrasound assessment in pregnancy: An observational study
150. Frailty as a predictor of clinical severity in geriatric COVID-19 patients: A prospective observational study
151. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock
152. Efficacy of hydroxyethyl-starch with bupivacaine in prolongation of duration of caudal blocks in Paediatric infraumbilical surgeries
153. Evaluation of effect of ketofol and ketodex on duration of seizure activity, hemodynamic profile, recovery times and cortical activity(using fnirs) in patients undergoing electroconvulsive therapy for depression
154. Comparison of the effect of ketofol and ketodex as procedural sedation and analgesia for oocyte retrieval during in vitro fertilization procedures- a randomized controlled trial
155. A Randomized Controlled Trial to Study The Clinical And Radiological Outcomes of Single Lag Screw Versus Helical Blade Cephalomedullary Nailing in The Treatment of Intertrochanteric Femur Fractures (Commenced in January 2019)
156. Randomized Control Trial comparing Radiological, Clinical and Functional Outcomes following Uniaxial vs Polyaxial Plating in Management of Tibial Plateau Fractures and CT Guided Mapping of Proximal Tibial Fractures in Indian Population

### ***Completed***

1. Disability Outcomes after Total Knee Arthroplasty for Degenerative Osteoarthritis
2. Study of Complement levels in Hospital Admitted COVID-19 Patients and its association on Coagulopathy and survival
3. Epidemiology and analysis of predictors of mortality in trauma patients at a level I Trauma Centre
4. Chief Guide in A prospective randomized clinical trial to compare clinical, Gait Analysis and radiological outcome between Fixed bearing and mobile bearing UKA
5. A study comparing contrast enhanced computed tomography abdomen versus diagnostic laparoscopy in patients with penetrating abdominal trauma: A randomized controlled trial
6. A study to Evaluate Utility of Routine use of contrast enhanced computed tomography scan torso in patients presenting with dangerous mechanism of injury in level I trauma centre
7. A pilot study to evaluate the need of post-operative systemic anticoagulation in patient with post traumatic medium size peripheral artery repair: a randomised control trial
8. Assessment of splenic function in blunt splenic injury: prospective observational study
9. Effect of phrenic nerve stimulation on diaphragm strength and thickness: A Randomized controlled trial
10. Effect of Virtual Reality Therapy (VRT) in improving Balance and Quality of life among the lower limb amputees- A Randomized Control Trial
11. Comparison of Conventional, Vitek and Maldi-Tof for Identification of Candida
12. Comparison of eTEP vs IPOM for Management of Primary and Incisional Hernia in Terms of Early Outcomes and Cost Effectiveness - A Randomized Controlled Trial
13. A prospective randomized trial comparing laparoscopic versus endoscopic drainage for walled off necrosis following acute pancreatitis
14. A study to find minimum effective volume of 0.5% ropivacaine for ultrasound guided costoclavicular block
15. Effect of different dose regimens of Tranexamic acid in pelviacetabular fracture surgery: randomized clinical trial
16. To compare the efficacy of Air- Q versus proseal in children (1-18 years) undergoing elective ophthalmic procedures – a randomized clinical trial
17. To evaluate the role of age-adjusted Charlson Comorbidity index in predicting 30 day postoperative outcome in patients undergoing surgery under general and regional anaesthesia
18. Role of Microdialysis in accurate and early detection of a compromised free flap
19. “Therapeutic Application of Bone Marrow Derived Stem Cell in Complete Spinal Cord Injury”
20. Study of Traumatic brain injury induced secondary gastrointestinal changes
21. Pituitary dysfunction following stereotactic radiosurgery for secretory pituitary adenomas

22. Primary Gamma-Knife with concurrent Temozolomide for GBM
23. Primary calvarial lesion and management
24. Primary extradural spinal lesions
25. Prognostic factor affecting outcome of traumatic spinal injury
26. To evaluate exhaled air carbon monoxide level in pregnancy and correlate with maternal and fetal outcome: A Pilot Study
27. Correlation between invasive and non-invasive technique of intracranial pressure measurement in children with traumatic brain injury: an observational study
28. To compare the effect of goal directed fluid therapy versus standard fluid regimen on the cuff leak volume in patients undergoing spine surgery
29. To evaluate the effect of change in end tidal carbon dioxide on optic nerve sheath diameter under general anaesthesia
30. Comparison of ultrasound guided cannulation of subclavian vein (supraclavicular approach) versus internal jugular vein in neuro-intensive care patients on mechanical ventilation. A randomized study
31. Comparison of propofol and ketofol on transcranial motor evoked potentials in patients undergoing thoracolumbar spine surgery
32. Incidence and risk factors of deep vein thrombosis in patients undergoing intracranial tumor surgeries – a prospective study
33. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study
34. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study
35. To evaluate the effect of change in end-tidal carbon dioxide on optic nerve sheath diameter under general anesthesia”
36. Effect of ketamine infusion as neuro protective agent on neurological outcome in patients with severe traumatic brain injury: a randomized controlled pilot study
37. A study of the leadership profile of departmental heads and its impact on the work performance and well-being of fellow doctors at AIIMS
38. Process flow of MLCs in AIIMS/JPNATC for systemic improvement
39. To Study the Role of T helper-17, T helper-22 and T-Regulatory Lymphocytes in Post-Trauma Immunopathogenesis and Outcome
40. Assessment of Post-Trauma Cytokine Producing Potential of Monocytes for Early Diagnosis of Organ Dysfunction and Sepsis
41. Isolation of Characterization of Leishmania or Leishmania like parasite(s) from seropositive goat (printed but not submitted/viva cond)
42. To see the prevalence of microsporidia in stool samples of HIV sero negative adults, pediatric patient with diarrhoea May 2018 submitted
43. Raising mono & polyclonal antibodies against novel antigens of Mycobacterium tuberculosis and their diagnostic value in clinical samples 1st draft submitted
44. Prevalence of Beijing & Non-Beijing genotypes of Mycobacterium tuberculosis isolated from different human body sites submitted but defence is pending
45. A prospective randomized controlled trial to study the effect of two different tidal volumes (6-8mL/kg versus 12-15mL/kg) on the time to wean from the ventilator in patients with an acute traumatic cervical spine injury
46. Reappraisal of the concept of massive transfusion in trauma patients presenting with hemorrhagic shock
47. QI project – to improve the CLABSI rate in ICU
48. Clinical characteristics and mortality analysis of patients died in COVID-19
49. Clinical characteristics and outcome of COVID-19 obese patients
50. Clinical characteristics and outcome of COVID-19 patients with TB
51. Role of convalescent plasma therapy in COVID patients
52. N/L ratio in COVID 19 patients
53. Risk factors for poor outcome in covid ICU patients
54. A Quality Improvement Initiative to Reduce Fibrin Clot Formation in Blood Collection Tubes Received in the Clinical Laboratory
55. Assessment of physician satisfaction for the laboratory services in JPNATC, AIIMS, New Delhi
56. Cellular prion protein as a potential bio-marker of traumatic brain injury and its co-relation with the severity of traumatic brain injury



57. Common Sources of Diagnostic Errors in(classic) Thromboelastography Interpretation in the Clinical Laboratory
58. Impact of alcohol on dysregulation of inflammation and recovery of trauma hemorrhagic shock patients
59. Multi-parametric approach to identify the predictive Biomarkers of sepsis and septic shock patients
60. “Utility of telemedicine to combat COVID-19 pandemic at the emergency response centre in a tertiary care hospital
61. To study the role of gene expression, activation of cellular signaling pathway and its correlation with clinical outcome among trauma hemorrhagic shock T/HS (NCD/Adhoc/2/2018-19 dt 5/6/18)
62. To study the pattern of hematopoietic progenitor cells and Granulocyte colony stimulating factor among trauma hemorrhagic shock” (3/1/2/4 / Trauma/2018-NCD-I)
63. To study the role of iPSC (induced pluripotent stem cells) derived hematopoietic progenitor cells (HPC) for hematopoietic failure among trauma hemorrhagic shock using animal model
64. To study the role of cell free-DNA among trauma hemorrhagic shock patients and its correlation with clinical outcome and severity of injury
65. To study the pattern of mesenchymal stromal, hematopoietic stem and progenitor cells in peripheral blood of trauma hemorrhagic shock patients
66. To study the patterns of lung ultrasound findings in COVID-19 patients presenting to the emergency department
67. COVID Surg Collaboration: Global Collaboration
68. Correlation of serum Immunoglobulin A/complement factor 3(IgA/C3) with the clinical and histologic severity in patients with IgA nephropathy
69. Electrolyte and acid base disturbances in post renal transplant patients: prospective study
70. To study the role of Vitamin D levels on disease severity and outcome in Indian patients with primary IgA nephropathy
71. A study comparing contrast enhanced computed tomography abdomen versus diagnostic laparoscopy in patients with penetrating abdominal trauma: A randomized controlled trial
72. A study to Evaluate Utility of Routine use of contrast enhanced computed tomography scan torso in patients presenting with dangerous mechanism of injury in level I trauma centre
73. A pilot study to evaluate the need of post-operative systemic anticoagulation in patient with post traumatic medium size peripheral artery repair: a randomised control trial
74. Assessment of splenic function in blunt splenic injury: prospective observational study. Effect of phrenic nerve stimulation on diaphragm strength and thickness: A Randomized controlled trial
75. Effect of Virtual Reality Therapy (VRT) in improving Balance and Quality of life among the lower limb amputees- A Randomized Control Trial
76. Comparison of Conventional, Vitek and Maldi-Tof for Identification of Candida
77. Comparison of eTEP vs IPOM for Management of Primary and Incisional Hernia in Terms of Early Outcomes and Cost Effectiveness - A Randomized Controlled Trial.
78. A prospective randomized trial comparing laparoscopic versus endoscopic drainage for walled off necrosis following acute pancreatitis
79. A Randomized Controlled Trial to Study the Clinical And Radiological Outcomes of Single Lag Screw Versus Helical Blade Cephalomedullary Nailing in The Treatment of Intertrochanteric Femur Fractures (Completed in February 2021)
80. The Study of Feasibility of Ultrasound Guided Catheterization of Right Brachiocephalic Vein in Adult Patients
81. Effect of Different Dose Regimens of Tranexamic Acid on blood loss in Pelviacetabular Fracture Surgery: A Randomized Clinical Trial
82. Neutrophil-lymphocyte ratio and Platelet to lymphocyte ratio as markers for predicting the severity in COVID-19 patients: A Prospective Observational study
83. Knowledge, Attitude and Practices (KAP) Regarding the Use of Mask among HealthCare Workers during COVID-19 pandemic - A Questionnaire-Based Survey
84. Coping Strategies among Healthcare Providers directly Involved in COVID-19 care: A Cross-sectional study
85. Functional and radiological outcomes following plating for displaced fractures of patella
86. Clinico-radiological assessment of arthroscopic repair for recurrent anterior shoulder instability – A pilot study

## Collaborative projects

### Ongoing

1. Understanding Differences in the Patterns of Osteoarthritis in Indian And Western Population: Impact on Symptoms, Treatment Options and Their Outcome, UKIERI-DST
2. Morphometric and Morphoscopic Study of Ear & Nose in Brahmin & Rajput population of Mandi, Himachal Pradesh- A Forensic Anthropological Investigation, Department of Anthropology, Panjab University, Chandigarh
3. To study the extent of variation in ridge characteristics and determining gender among twins using their fingerprint characteristics, Dept. of Forensic Medicine & Toxicology, KMC, Manipal
4. To evaluate combination of biochemical and biophysical marker in prediction of preeclampsia Department of Gynecology & Department of Physiology
5. Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, randomized control trial, Department of Anaesthesiology, Health Sciences Centre, University of Manitoba, Winnipeg, Canada
6. Prospective study on the effectiveness of chlorhexidine gluconate impregnated patch (BIOPATCH R) in reducing the incidence of central line associated blood stream infection (CLABSI), Department of Microbiology, JPNATC, AIIMS
7. Surveillance of blood stream infections (BSI) at a referral Indian hospital Surveillance of blood stream infections (BSI) at a referral Indian hospital, Department of Microbiology, JPNTC, AIIMS
8. Comparing safety and efficacy of indigenous goggles with fan versus standard goggles in health care worker in COVID ICU, Anesthesiology and Critical Care, Lab Medicine Hospital Administration
9. Effect of decompressive craniectomy on jugular venous oximetry in patients with severe TBI, Neurosurgery, JPNATC, AIIMS
10. Assessment of cerebral autoregulation by near infrared spectroscopy (NIRS) in patients with Severe TBI, Neurosurgery, JPNATC, AIIMS
11. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, AIIMS+ IIT Delhi
12. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study, Neuroanesthesiology and critical care
13. Detection of the saline-filled cuff by ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study, Neuroanesthesiology and critical care
14. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study, Neuroanesthesiology and critical care
15. Determinants of mortality due to COVID in India, CCM
16. Clinical Characteristics of critically ill older adults with COVID-19, Geriatric Medicine
17. Study of aetiologic profile of brought dead patients and comparison of deaths due to COVID-19, Emergency Medicine
18. High frequency panel for real time insights into COVID-19 in India, Geriatric Medicine
19. Saliva as an alternate specimen source for detection of SARS-CoV-2 in symptomatic patients using cepheid expert express SARS Co V-2 in an outpatient setting, Lab Medicine
20. Evaluation of CD4 T-cell function among pulmonary tuberculosis (PTB) patients with or without Type 2 diabetes mellitus and its correlation with anti-tubercular therapy (ATT) response: a prospective blinded study
21. Triacetylfulvarinine C (TAFC) in urine/serum as a potential biomarker for early diagnosis of invasive pulmonary aspergillosis in patients with hematological malignancies
22. Maternal and fetal Outcomes after exposure to COVID-19 at various stages in pregnancy pregnancy: A Longitudinal assessment for seroconversion and its correclation to outcomes
23. SCOPE-Surveillance of COVID in Pregnancy-Standardizing data collection and protocol for improving the Quality of evidence on clinical characteristics and outcomes of COVID-19 and Pregnancy
24. Saliva as an Alternate Specimen Source for Detection of SARS-CoV-2 in Symptomatic Patients Using Cepheid Xpert Xpress SARS CoV-2 in an outpatient setting
25. Seroprevalence of Dengue and outcome among COVID-19 patients
26. Predictive detection of Osteoporotic fractures in Indian population based on Artificial Intelligence Implementation
27. An international randomized trial of additional treatments for COVID-19 in hospitalized patients who are receiving the local standard of care

28. Evaluation of novel technologies and biomarkers for diagnosis and prognosis of SARS-CoV-2 (COVID-19) in leftover samples
29. A randomized control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients, Critical and intensive Care, JPNATC, Anesthesiology, Pain Medicine and Critical Care, AIIMS, Laboratory Medicine, JPNATC, Emergency Medicine, JPNATC, Surgery, JPNATC
30. Evaluation of effect of early use of Cryoprecipitate on blood components usage in severely bleeding trauma patients, Laboratory Medicine, JPNATC, Emergency Medicine, JPNATC, Surgery, JPNATC
31. Randomized controlled trial to determine the effectiveness of acute normovolemic hemodilution (ANH) for peri-operative blood management in patients undergoing scoliosis surgery, Anesthesiology, Pain Medicine and Critical Care, AIIMS, Laboratory Medicine, JPNATC, Orthopaedics, AIIMS
32. Retrospective review of the transfusion practices in hospitalized COVID-19 patients, Critical and intensive Care, JPNATC, Laboratory Medicine, JPNATC
33. One year experience with massive hemorrhage protocol at an urban level-1 trauma center, Surgery, JPNATC, Critical and intensive Care, JPNATC, Emergency Medicine, JPNATC, Laboratory Medicine, JPNATC
34. Evaluation of different therapies for COVID-19, Medicine
35. Troponin in COVID patients, Medicine
36. Liver function tests in COVID-19, Lab Medicine
37. Inflammatory Cytokine profiling and serial changes in Patients with Blunt Torso Trauma –,A Prospective, observational study, Surgery, JPNATC
38. Examination of myelination and oligodendrocyte pathology following severe post traumatic brain injury (TBI), Forensic and molecular dept, JPNATC, AIIMS
39. Biochemical analysis of wound exudate in patients requiring NPWT versus conventional dressing in traumatic wounds, Surgery, JPNATC
40. Role of Biomarkers in predicting evolution of cerebral oedema following Traumatic Brain Injury, Neurosurgery, JPNATC
41. Serial Evaluation and follow-up of Biochemical, Hormonal, Inflammatory and Hematological parameters in COVID-19 positive cases for correlation with immediate and long-term outcome, Anesthesia and critical care, Medicine, AIIMS
42. Next Gen sequencing-based evaluation of the functional implication of angiotensin converting enzyme (ACE2) gene polymorphisms in India population and their role in the outcome of SARS COV2 Infection in Indian COVID-19 Patients: a pilot study, Anesthesia and critical care; Medicine, AIIMS
43. Effect of Blood Group on the COVID-19 related morbidity and mortality. A prospective observational study, Anesthesia and critical care; Medicine, AIIMS
44. Convalescent Plasma to Limit COVID-19 Associated Complications: A Prospective, Single Center, Randomized Controlled Feasibility Study, Medicine, AIIMS
45. Assessment of DIC profile, thromboelastography and anti-coagulant proteins as prognostic markers in COVID-19 patients with DIC; a longitudinal observational study, Hematology, AIIMS; Anesthesia and critical care; Medicine, AIIMS
46. A prospective observational study on the role of blood coagulation and fibrinolysis in the emergence of ARDS in patients with New Coronavirus pneumonia (COVID-19), Hematology, AIIMS; Anesthesia and critical care, Medicine, AIIMS
47. Post-mortem minimally invasive tissue sampling in patients of COVID-19 with histopathologic examination, Medicine, AIIMS; Pathology, AIIMS
48. Dissecting the molecular pathogenetic mechanisms of covid-19 by RNA-sequencing of lung tissue from deceased patients, Medicine, AIIMS; Pathology, AIIMS
49. Cardiac manifestation in hospitalized patients with COVID-19, Medicine, AIIMS
50. Guidelines for post-mortem minimally invasive tissue biopsies in COVID-19 patients, Pathology, AIIMS; Medicine, AIIMS
51. Comparison of Two Protocols of Carbon Tetrachloride-Induced Cirrhosis in Rats – Improving Yield and Reproducibility, Pediatric surgery, AIIMS
52. To study the mesenchymal stromal, hematopoietic cells in peripheral blood of THS patients, Pediatric Surgery, AIIMS
53. Development of structured module of echocardiography training for non-cardiology physicians, Deptt. of cardiology
54. Comparison of the injectate spread between two techniques of US guided erector Spinae Block: A Cadaveric Study, Onco-anaesthesia

55. Designing of patient specific total elbow replacement prosthesis for Indian Population, Orthopaedics
56. Altered micro-RNA expression in peripheral blood and brain tissue following severe TBI, Lab Medicine
57. Investigation of Role of mass spectrometric Lipid Profiles of Brain Tissues Resected from Patient as with Focal Cortical Dysplasia in defining the epileptic Zone, Neurology/Neurosurgery
58. Morphological study of the Human Temporo Mandibular Joint, Anatomy
59. Characterization of Human Body Organs under impact and blast loading, Neurosurgery, Orthopaedics and IIT Delhi
60. Abdomen / Thorax model building / validation, Neurosurgery, Orthopaedics and IIT Delhi
61. COVID Surg Collaboration, World wide collaboration – UK based
62. Understanding the therapeutic role of adult stem cell derived exosome in combating virus induced neurodegenerative disease, Stem Cell Facility, Department of CTVS
63. Hepatic regenerative potential of exosomes derived from human Mesenchymal Stem Cells in liver injury model, Stem Cell Facility, Department of CTVS
64. Rare disease modelling using induced Pluripotent Stem Cell, Stem Cell Facility, Department of CTVS
65. Biofabrication of Skin Graft Substitutes using Functionalised Materials for Tissue Regeneration, Stem Cell Facility, Department of CTVS
66. To validate the fast score as a CT decision tool in pediatric blunt abdominal trauma, Emergency Medicine
67. To evaluate the outcome of patients and anatomical status of pancreas after nonoperative management of grade III and IV pancreatic trauma at a level I trauma centre, Trauma Surgery
68. Application of Human Amniotic membrane & Silk based 3D printed Scaffolds for Stem cells and Regenerative medicine, Stem Cell Facility, Department of CTVS
69. Elucidating the Regenerative Capabilities of Exosomes derived from Tissue specific Mesenchymal Stem Cells in Skin Injury model, Stem Cell Facility, Department of CTVS
70. Capacity building and strengthening of Hospital Infection Control to detect and prevent antimicrobial resistance in India (CDC), Department of Microbiology, JPNATC
71. Prospective observational study of transfusion practices in severely injured trauma patients in Emergency Department at level 1 Trauma Center, Deptt. of Lab Medicine
72. A Study to assess the Effectiveness of Virtual Simulation with regard to Knowledge retention and Skill development among Nursing students on ATLS Guidelines, College of Nursing

### **Collaborative projects**

#### ***Completed***

1. Histology of Lumbar Inter Vertebral Disc in Degenerative Disc Disease and its Correlation with Clinical and Radiological Findings, Orthopedics, AIIMS
2. Age Estimation Between Age 1-18 years by Radiological Study of Epiphyseal Union Around the Elbow and Wrist Joints, Department of Forensic Medicine
3. Utility on novel Coated Platelets as a marker for early prognostication of neurocognitive impairment following traumatic injury, Neurosurgery, Neuropsychology, Psychiatry departments
4. Prognostic Significance of Cytokines and Biomarkers in Patients with Traumatic Lung Injuries, Lab. Medicine
5. Primary versus delayed primary closure in patients undergoing lower limb amputation following trauma, a randomized controlled trial, Division of trauma surgery and critical care
6. Membranous nephropathy: a study of immune fluorescence, electron microscopy and PLA2R profile with clinical correlation, Pathology
7. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study, Lab Medicine Biotechnology
8. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study, Lab Medicine, JPNATC, AIIMS
9. Comparison of methods of assigning cause of death through verbal autopsy, ICMR
10. Clinical profile and secondary infections in COVID-19, Lab Medicine
11. Clinical profile and outcome in patients with CKD, Nephrology
12. Covid in neurology patients, Nephrology
13. Molecular expression of tight junction and disruption of mucosal epithelial cell polarity in progression of gastric cancer, GI medicine, AIIMS

14. Development of multiple real time PCR (QPCR) assay for simultaneous detection of hepatitis viruses (A-G) in serum, GI medicine
15. Exploratory study to evaluate surgical outcome and financial burden in patients treated with 3D printing technology assisted surgery versus conventional surgery for facial fractures at level I trauma centre, AIIMS, New Delhi, Surgery & Plastic Surgery, AIIMS
16. Proposal for the microstructural analysis of soft tissue (Human heart and lung) after dynamic compression. Characterization of human heart and lung under impact, Forensic and molecular dept, JPNATC, AIIMS; IIT Delhi Biochemical analysis of wound exudate in patients requiring NPWT versus conventional dressing in traumatic wounds, Surgery, JPNATC
17. TEG in aspirin resistant cardiac patients, Neurology, AIIMS
18. Preoperative CSF Melatonin Concentrations and the Occurrence of Delirium in Older Hip Fracture Patients: A Preliminary Study, Orthopaedics, JPNATC
19. Effects of regional anaesthesia on perioperative inflammatory cytokines alteration and clinical complications in orthopaedic trauma surgery, Anaesthesia , JPNATC
20. Ligature and compressing material fibres detection, collection, identification and comparison in asphyxia deaths, Forensic Medicine
21. Development and Validation of an Electronic Surveillance System for Surgical Site Infections Developing During Hospital Stay and After Discharge: A Multi-Centric Study

## PUBLICATIONS

**Journals: 273**

**Abstracts: 12**

**Chapters in books: 14**

## PATIENT CARE

I. A.	Total Bed Strength of facility:	
	Ward beds	: 145 (Allocated from Main AIIMS)
	Ortho Bed (Main Hospital)	: 38#
	TSCC Bed	: 36#
	PRS Bed	: 05#
	NS bed (NSC)	: 26*
	Private Bed	: 22#
	EM Deptt. (RAK)	: 18
	(Triage)	
B.	Total Admission beds	: 127
	Ward Beds	: 105
	Private Beds	: 22
II	Statistics at a Glance	
	Total No. of E.D. Attendance	: 49041 pt.
	Average per day	: 134 pt.
	Total No. of Admissions	: 8348 pt.
	Average admissions per day	: 23 pt.
	Average Length of Stay (ALS)	: 09 days
	Total No. of Follow-up OPD Cases	: 000 pt. Facility closed due to COVID w.e.f. 23 March 2020
	Ave. follow up OPD attend per day	: 000 pt. Facility closed due to COVID w.e.f. 23 March 2020
III	Total No. of Cases in E.D.	: 49041
	Males	: 32695
	Females	: 11553
	Male Child	: 3168
	Female Child	: 1607
	Other	: 18
	MLC	: 232000
	NMLC	: 25841



	Triage Category			
	Green	: 23436		
	Yellow	: 13877		
	Red	: 3446		
	Black	: 106		
	OPD	: 8176		
	Radiology	: 00		
IV	Total No. of Follow-up OPD Cases	: 0000	Facility closed due to COVID w.e.f. 23/03/2020	
	New	: 0000		
	Old (Re-visit)	: 0000		
	Male	: 0000		
	Female	: 0000		
	Male Child	: 0000		
	Female Child	: 0000		
	Specialty-wise break-up			
	Ortho	: 0000		
	Surgery	: 0000		
	Neuro- Surgery	: 0000		
	Em. Medicine	: 0000		
	Urology	: 0000		
	PRS	: 0000		
	BPI	: 0000		
	ENT	: 0000		
V	Total No. of Admissions	: 8348		
	Regular	: 8343	Short	- 05
	MLC	: 3670		- 01
	NMLC	: 4673		- 04
	Male	: 5426		- 02
	Female	: 2358		- 02
	Male Child	: 371		- 00
	Female Child	: 186		- 01
	TG/Others	: 2		- 00
	Specialty- wise break-up			
	Orthopedics	: 1604		- 03
	Surgery	: 1011		- 01
	Neuro- Surgery	: 0581		- 00
	Em. Medicine	: 0		- 00
	Pain Clinic	: 0		- 00
	PRS	: 216		- 00
	ENT	: 01		- 00
	PEAD	: 43		- 01
	Anes & CC	: 1100		- 00
	Pul Med	: 3787		
VI	Total No. of Operations performed	: 3919		
	Major	: 3643		
	Minor	: 276		
	Male	: 2929		
	Female	: 0741		
	Male Child	: 173		
	Female Child	: 075		
	TG/ORS	: 001		
	Specialty-wise break-up			
	Orthopedics	: 2335		
	Surgery	: 1037		

	Neuro-Surgery	: 0486
	Urology	: 00
	PRS	: 0003
	ENT	: 0025
	Gyne	: 0017
	Anesth.	: 0011
	Opth.	: 0005
VII	Total Discharges	: 3312+(4887 Covid pt. were given TC NO.)
	MLC	: 2225
	NMLC	: 1087
	Male	: 2539
	Female	: 0547
	Male Child	: 138
	Female Child	: 088
	Others	: 000
	Department wise Distribution	
	Ortho	: 1570
	Surgery	: 0958
	Neuro Surgery	: 0531
	PRS	: 214
	ENT	: 00
	Pead.	: 034
	Pul. Med.	: 005
VIII	Days of Care	: 31151
	Ortho	: 8491
	Surgery	: 11281
	Neuro Surgery	: 8461
	PRS	: 2509
	ENT	: 0000
	Pead.	: 0259
	Pul. Med.	: 0150
	Total Deaths Registered	: 704
	Brought Dead Cases	: 302
	Total Death occurred at TC (Death Registered – Brought Dead)	: 402 (704 – 302)
	Deaths Under 48 Hours	: 114
	Deaths Over 48 Hours	: 288
	Gross Death Rate	: 12 %
	Net Death Rate	: 09 %
	Bed Occupancy Rate	: 67%
	Average length of Stay	: 09 days
	Bed Turnover rate	: 02 pt./bed

Besides, Medical Record Section-TC performs below-mentioned services also.

1.	Total Court Summons Received	=	160
2.	Attended by Doctors + Staff	=	105
3.	Attended by MRS Staff	=	055
4.	Court Summons Attended within Delhi	=	123
5.	Court Summons Attended outside Delhi	=	037
6.	Total Patients Name Correction	=	553
7.	Death Reports to NDMC	=	1561
8.	LIC / Insurance cases Disposal	=	044
9.	RTI Reply	=	125

10. X-Ray Issued	=	703
11. Disposal of Police Requests	=	788
12. Medical Record files issued for Research Purpose	=	801
13. Reply to applicants in (Hindi)	=	235

#### Division Of Forensic Pathology And Molecular Dna Laboratory (Jpnatc)

##### A. Emergency Services:

Division of Forensic Pathology and Molecular DNA Laboratory at JPNATC is providing round-the-clock medico-legal services like in cases of injury, sexual offences etc. reported to Emergency Services of JPNATC.

##### B. Mortuary Services/Autopsy Services/Toxicology- The JPNATC has been designated as COVID Care Centre

A total of 1540 COVID Death cases were handled and disposed through mortuary of JPNAT. Including cases from JPNATC/Main Hospital and NCI Jhajjar.

##### C. Clinical Forensic Medicine (April 2020 to March 2021)

Subsequent opinions in complicated cases including reference from Casualty etc were **328** cases at JPNATC.

##### D. Summons

Doctors of the Division attended court of law in cases from Delhi and other states.

##### E. Forensic Pathology in collaboration with Department of Laboratory Medicine

Total samples of **27** cases were processed and reported during this period.

##### F. Community Services

The Division continues to participate in training program for CBI officials, police officers and public prosecutors from all over the country.

##### G. Whole Body Donation

The Division of JPNATC facilitated whole body donation for teaching and research in 10 cases.

##### H. DNA Laboratory

The division is in process of Establishing Molecular DNA Laboratory at JPNATC as a part of Disaster Victim Identification

#### Tests Conducted In Laboratory Medicine, JPNATC, AIIMS

Total Tests Conducted in Laboratory medicine w.e.f. 1st April, 2020 to 31st March, 2021:- 7,88,839

##### I. Biochemistry:-

S. No.	TEST	Total
1	SUGAR	630
2	UREA	28710
3	CREATININE	28710
4	CALCIUM	28706
5	PHOSPHATE	28700
6	URIC ACID	28689
7	SODIUM	28700
8	POTASSIUM	28688
9	T. BILIRUBIN	28541
10	D BILIRUBIN	28535
11	T.PROTEIN	28500
12	ALBUMIN	28500
13	AST	28497
14	ALT	28497
15	ALP	28494
16	CHOLESTEROL	3105
17	AMYLASE	2947
18	HDLD	437

S. No.	TEST	Total
19	LDLD	440
20	TG	771
21	VLDL	716
22	CK	8
23	M-TP	21
24	CRP	7604
25	URINARY SODIUM	158
26	Mg	2398
27	LIPASE	6
28	CK-MB	6
29	CSF SUGAR	90
30	CSF M-TP	220
31	Peritoneal Fluid	21
32	Peritoneal Fluid amylase	14
33	Drain Fluid	7
34	Drain Fluid Urea	0
35	Drain Fluid Creatinine	0
36	PLUERAL FLUID AMYLASE	52
37	ASCITIC FLUID PROTEIN	86
38	ASCITIC FLUID SUGAR	18
39	ASCITIC FLUID AMYLASE	20
40	URINE NA	10
41	URINE CREAT	15
42	URINE CALCIUM	11
43	24 hr URINE SUGAR	6
44	24 hr URINE PROTEIN	0
45	S. OSMOLAITY	12
46	U. OSMOLAITY	8
47	CHLORIDE	0
48	LACTATE	568
49	S.PHENYTOIN	51
50	LDH	4112
<b>Total</b>		<b>427018</b>

**ABG:-**

1	PO2	2000
2	PCO2	2000
3	pH	2000
4	H+	2000
5	K+	2000
6	Na+	2000
7	Ca++	2000
8	Cl	2000
<b>Total</b>		<b>16000</b>

**Total Tests Conducted In Biochemistry Section = 443018**

## II. Hematology:-

S. No	Tests	Total
1	Haemoglobin	28208
2	HCT	28208
3	RBC	28208
4	PLT	28208
5	TLC	28208
6	MCV	28208
7	MCH	28208
8	MCHC	28208
9	RDW	28208
10	RETIC	00
11	PS/MP	3278
12	ESR	1111

## Coagulation tests

1	PT	17226
2	APTT	17226
3	D-dimer	3763
<b>Total</b>		<b>38215</b>

1	Urine and Routine Microscopy	901
2	Urine Myoglobin	18
3	CSF/Fluid Microscopy	369
<b>Total</b>		<b>1288</b>
<b>Grand Total</b>		<b>325972</b>

Total Tests Conducted In Haematology Section = 325972

## III. Immunology:-

S. No.	Test	Total
1	IL6	6999
2	FERRITIN	6859
3	PCT	3588
4	TROPONIN-I	165
<b>Total</b>		<b>17611</b>

Total Tests Conducted In Immunology Section= 17611

## IV. Histopathology:-

### Routine and Forensic Histopathological Sample

S. No.	Test	Total
1	Specimens	144
2	Blocks	347
3	Total no of Slides (H&E, Special stain)	391
<b>Total</b>		<b>882</b>



**MITC Cases**

S. No.	Test	Total
1	Specimen	100
2	Blocks	624
3	Total Slides (H&E, Special stain)	782
<b>Total</b>		<b>782</b>

**Cytopathological Samples**

S. No.	Test	Total
1	H&E	42
2	PAP	35
3	AFB	05
4	PASS	01
<b>Total</b>		<b>83</b>

**Immunohistochemistry**

S. No.	Test	Total
1	ALK-2	294
2	PDL-1	136
3	PDGFR-ALPHA	9
4	Beta-APP	52
<b>Total</b>		<b>491</b>

**Grand Total Of Histopathology =2238**

Total Tests Conducted in Biochemistry Section = 443018

Total Tests Conducted in Haematology Section = 325972

Total Tests Conducted in Immunology Section= 17611

Grand Total of Histopathology = 2238

**Net Tests Conducted in Laboratory Medicine = 7,88,839****Tests Conducted in Microbiology Laboratory, JPNA Trauma Center**

1. Culture	:	6086
2. Antibiotic Sensitivity	:	1188
3. Bacterial Identification	:	1188
4. Serology Screening	:	1554
5. Serology	:	1036
6. Procalcitonin	:	1387
7. Hospital Infection Surveillance Culture	:	316
<b>Total</b>	<b>:</b>	<b>12755</b>

**Annual Audit (Fiscal) Of Blood Bank, JPNATC, AIIMS from April 2020 To March 2021****Statistics of Blood Donation Complex**

Month	Donor screened	Donor Bled	Replacement donors			Voluntary Donors			Indoor Voluntary donor	Outdoor Voluntary donor camp
			Male donor	Female donor	Total	Male donor	Female donor	Total		
Apr 2020	7	7	0	0	0	7	0	7	7	0
May 2020	60	56	0	0	0	52	4	56	7	49
June 2020	63	58	0	0	0	57	1	58	26	32

Month	Donor screened	Donor Bled	Replacement donors			Voluntary Donors			Indoor Voluntary donor	Outdoor Voluntary donor camp
			Male donor	Female donor	Total	Male donor	Female donor	Total		
July 2020	255	233	109	0	109	111	13	124	21	103
Aug 2020	172	152	79	0	79	73	0	73	16	57
Sep 2020	256	228	46	0	46	173	9	182	19	163
Oct 2020	244	194	81	2	83	108	3	111	16	95
Nov 2020	146	115	97	0	97	18	0	18	18	0
Dec 2020	273	203	139	0	139	60	4	64	24	40
Jan 21	269	207	112	1	113	90	4	94	24	70
Feb 21	264	218	55	0	55	161	2	163	11	152
Mar 21	77	52	42	0	42	10	0	10	10	0
<b>Total</b>	<b>2086</b>	<b>1723</b>	<b>760</b>	<b>3</b>	<b>763</b>	<b>920</b>	<b>40</b>	<b>960</b>	<b>199</b>	<b>761</b>

**Blood Bank, JPNATC, AIIMS**

<b>Total no. of blood donors screened</b>	<b>2086</b>
No. of voluntary blood donation camps	15
Total no. of blood donors bled	1723
Number of replacement donors	763
Number of voluntary blood donors	960

**Statistics of Component Separation Laboratory**

**Blood Bank, JPNATC**

Month	Pack RBC Prepared	Fresh Frozen Plasma Prepared	Platelets Prepared	Cryoprecipitate prepared	Quality Control of Blood and Components
Apr 2020	7	7	7	0	1% of all units
May 2020	56	54	52	0	1% of all units
June 2020	58	58	58	0	1% of all units
July 2020	233	230	202	0	1% of all units
Aug 2020	152	151	131	0	1% of all units
Sep 2020	228	226	157	0	1% of all units
Oct 2020	194	191	147	0	1% of all units
Nov 2020	115	113	113	0	1% of all units
Dec 2020	203	181	180	6	1% of all units
Jan 21	207	153	142	27	1% of all units
Feb 21	218	187	85	98	1% of all units
Mar 21	52	52	51	0	1% of all units
<b>Total</b>	<b>1723</b>	<b>1603</b>	<b>1325</b>	<b>125</b>	

<b>Total number of Packed RBC prepared</b>	<b>1723</b>
<b>Total number of Fresh Frozen Plasma Prepared</b>	<b>1603</b>
<b>Total number of Platelets prepared</b>	<b>1325</b>
<b>Total number of Cryo prepared</b>	<b>125</b>

**Statistics of Infections Marker Laboratory and Donor Councelling  
Blood Bank, JPNATC, AIIMS**

Month	HIV		HBsAg		HCV		VDRL		MP	
	Done	reactive	done	reactive	Done	reactive	Done	reactive	done	reactive
Apr 2020	7	0	7	0	7	0	7	0	7	0
May 2020	30	0	30	0	30	0	30	0	30	0
June 2020	77	0	77	0	77	0	77	0	77	0
July 2020	229	2	229	3	229	4	229	2	229	0
Aug 2020	161	1	161	3	161	2	160	3	160	0
Sep 2020	234	0	236	1	237	2	234	2	234	0
Oct 2020	201	1	201	4	202	1	201	1	198	0
Nov 2020	124	1	121	0	122	0	121	0	122	0
Dec 2020	227	0	221	0	224	1	221	0	215	0
Jan 21	214	1	215	3	217	3	214	0	214	0
Feb 21	228	0	228	0	228	1	228	2	228	0
Mar 21	57	0	57	0	61	2	57	0	54	0
<b>Total</b>	<b>1789</b>	<b>6</b>	<b>1783</b>	<b>14</b>	<b>1795</b>	<b>16</b>	<b>1779</b>	<b>10</b>	<b>1768</b>	<b>0</b>

**Statistics of Grouping Lab**

**Blood Bank, JPNATC, AIIMS**

**Number of Donor And Patient Grouping Done**

Month	Donor grouping	Patient grouping	Total
Apr 2020	7	11	18
May 2020	56	47	103
June 2020	58	158	216
July 2020	233	214	447
Aug 2020	152	191	343
Sep 2020	228	191	419
Oct 2020	194	231	425
Nov 2020	115	217	332
Dec 2020	203	238	441
Jan 21	207	208	415
Feb 21	218	90	308
Mar 21	52	95	147
<b>Total</b>	<b>1723</b>	<b>1891</b>	<b>3614</b>

**Total no. of donor grouping done 1723**

**Total no. of patient grouping done 1891**

**Total no. of grouping done 3614**

**Blood Bank, JPNATC, AIIMS**

**Blood/Component Issued**

Month	No. of PRBC issued	FFP Issued	PRC Issued	Cryo Issued
Apr 2020	307	64	53	0
May 2020	72	78	84	0
June 2020	181	47	145	54
July 2020	175	67	134	0
Aug 2020	190	108	199	0
Sep 2020	216	684	106	0
Oct 2020	199	172	182	12

Month	No. of PRBC issued	FFP Issued	PRC Issued	Cryo Issued
Nov 2020	174	102	97	77
Dec 2020	208	168	187	2
Jan 21	201	144	205	16
Feb 21	135	410	123	0
Mar 21	212	180	120	0
<b>Total</b>	<b>2270</b>	<b>2224</b>	<b>1635</b>	<b>161</b>

### Statistics of Emergency Issue Counter

#### Blood Bank, JPNATC, AIIMS

#### Blood and Components Issued to Other Hospital Blood Banks

(Main AIIMS, CNC, GB Pant, LNH, ESI, Dr. Hedgewar)

Month	Blood		FFP		PRC		Cryo	
	Issued	Received	Issued	Received	Issued	Received	Issued	Received
Apr 2020	0	17	0	0	0	36	0	0
May 2020	0	77	0	0	0	95	0	0
June 2020	4	94	0	0	0	77	0	0
July 2020	0	27	0	0	0	34	0	0
Aug 2020	0	61	0	0	0	74	0	0
Sep 2020	45	7	40	0	0	51	0	0
Oct 2020	0	33	0	0	0	64	0	0
Nov 2020	23	26	0	0	0	33	77	0
Dec 2020	6	27	30	0	2	80	0	0
Jan 21	2	13	0	0	0	72	12	0
Feb 21	59	2	0	0	0	95	0	0
Mar 21	0	14	0	16 CCP	0	135	0	0
<b>Total</b>	<b>139</b>	<b>398</b>	<b>70</b>	<b>16 CCP</b>	<b>2</b>	<b>846</b>	<b>89</b>	<b>0</b>

**Total number of Packed RBC issued to other blood banks** 139

**Total number of FFP issued** 70

**Total number of Platelets issued** 2

### PATIENT CARE

This whole year was a year of COVID-19 pandemic and a year of unprecedented events like National lockdown, ban on travel, temporary suspension of OPD services and complete disruption of research activities apart from COVID-19.

1. As an active member of Nodal officer for Departmental COVID Task force played an instrumental role in starting COVID-19 suspect area, old Gynae OPD 3rd Floor which allowed the very first cesarean section of COVID positive pregnant women and also was Part of active team
2. Doing regularly COVID duties at Trauma Center and was a Panelist at Webinar organized by WHO and AIIMS, ND on Optimizing antenatal care during COVID-19 pandemic
3. Frontline COVID warrior
4. We run dedicated pain clinic and Pre-anesthesia Clinic apart from routine ICU and operation theatre care of patients.
5. Actively involved in care of Neurosurgery and Neurology patients in operation theatre and postoperative management in ICU at Neurosciences centre & JPNATC
6. Perioperative management of all kinds of trauma patients
7. Pain and PAC services at Neurosciences center and JPNATC
8. Perioperative (ICU + OT) management of all kinds of COVID-19 patients
9. Commissioning of the New OPD Complex with 18 departments

10. Commissioning of the renovated CSSD
11. Procurement of machinery and equipment for all COVID care areas of AIIMS, New Delhi
12. Member Secretary of the committee for the formulation of staffing guidelines for COVID care hospitals which later went on to be adopted as national guidelines for staffing of COVID care hospitals
13. Modification of the Emergency department to receive, triage and cater to COVID patients by the institution of a graded screening system, donning and doffing areas and protocols for patient reception and transfer
14. Modification of the physical infrastructure and management of the New OPD and institution of protocols for social distancing and public safety during the pandemic
15. Shifting and management of Trauma ED in the Old RAK OPD
16. Assistance to the computer facility in establishing and operationalizing teleconsultations
17. Provisioning of a new Liquid oxygen storage tank of 10 KL capacity for JPNATC, AIIMS
18. Management of the JPNATC COVID hospital as its Additional Medical Superintendent
19. Commissioning of 53 ward beds (24 in JPNATC and 29 in Burns & Plastic Surgery) and upgradation of 21 ward beds to ICU beds; upgradation of 30 ward beds into oxygen beds for COVID use
20. Provisioning of video conferencing for ICU patients in the JPNATC
21. Planned and established a new EHS consultation area and pharmacy in the New OPD
22. Assistance in setting up vaccination area in the New OPD
23. Organized a Blood donation camp targeting women donors on the International day for Women, 8 March 2021 in New RAK OPD along with the AIIMS Blood bank
24. Arranged meals for inmates of the three sadans of AIIMS during the first wave of COVID-19 from April 2020 to June 2020

Involved as a Team Member for creation of COVID Care facility and ICUs for critically ill COVID-19 patients during the beginning of the pandemic. Provided Critical Care Services to COVID-19 patients admitted in two ICUs (32 beds) during the Coronavirus pandemic for whole of the year. Involved in formulating COVID Critical Care Treatment Protocols for the COVID ICUs. Provided Dialysis facility for COVID patients within the ICU. Involved in the triaging of the patients based on severity of COVID during the admissions of COVID-19 patients within the hospital Emergency. Coordinated Dietary and Physiotherapy services for Critically ill COVID patients. Involved in communication with family members of COVID patients during the ICU stays.

#### **AWARDS, HONORS & SIGNIFICANT EVENTS**

**Professor Rajesh Malhotra** was awarded best paper award for the paper entitled: “Influence of Etiology and Onset of Deformity on 3D Gait Pattern of Patients with Complex Spinal Deformity” during the 3rd International Conference on Spine & Orthopaedic Biomechanics on 26-28 April 2019 at New Delhi. Awarded IMA Doctor’s Day Award 2019 for Most Distinguished Services during the Doctor’s Day Celebration on 1 July 2019 at IMA, New Delhi. Awarded the CME Educator Award (Individual) during CME Excellence Summit and Awards with media partner CNN News 18 at New Delhi on 7 August, 2019. Awarded First Prize in the Exhibition Category- Universal Healthcare during 64th Foundation Day Celebration at AIIMS, New Delhi on 25 September 2019. Awarded First Prize for Hindi Dictation during the Hindi Week Celebration at AIIMS, New Delhi from 2-14 September 2019

**Dr Abhinav Kumar** was nominated as the Ethical Committee member of International Center of Genetic Engineering and Biotechnology (ICGEB), New Delhi. Nominated as Member in the ICMR SNCM sub-committee on Medical Devices and Medical Disposables and Consumables, New Delhi. Faculty member for the Course development of Pre Hospital Emergency Life Support Course for Paramedics and Emergency Medical Technicians by MoHFW Govt of India. Invited as resource faculty for the Annual Conference of the Gurukul of Surgical Disciplines: GURUKKULCON -2020” 9-13 December 2020 in collaboration with the “American College of Surgeons - India chapter”. Nominated as a Co-opted member (OBC representative) of Standing Selection Committee of recruitment, AIIMS Patna, Bihar. Participated as collaborator in a multinational global study “COVID Surg Collaborative” aimed on optimal timing of elective and emergency surgery in SARS- Cov-2 infected patient.

**Dr Adarsh Kumar** was elected as Governing Council Member of Indo-pacific Association of Law Medicine & Science (INPALMS) for 2019-2021 at Dhaka, Bangladesh. Nominated Assistant Ambassador of International Academy of Legal medicine for 2018-2021. Member of Asia Pacific Medicolegal Association (APMLA) for another term of two years 2018-2020 at Japan. Medicolegal Expert to National Human Rights Commission; Medicolegal Expert to Central Bureau of Investigation; Nominated assessor by National Medical Council ( NMC); Nominated assessor by National Assessment and Accreditation Council (NAAC); Member, Editorial Board of various journals



**Dr Amit Gupta** was nominated as the Education Committee Chair of the Asian Collaboration on Trauma; Nominated as Convener of specialist Board of Trauma Care by National Board of Examination in Medical Sciences, MoH&FW, Govt. of India. Nominated as National Trainer for Emergency Care Training for Medical Officers by National Health Mission, MoH&FW, Govt. of India. Nominated as Managing Editor of Indian Journal of Surgery, a peer reviewed indexed journal by Springer and official journal of Association of Surgeons of India. Nominated as Member, Committee for modification of recruitment rules in r/o of human resources deployed in Hospitals for including life support courses in life saving skills by Dte. GHS, MoHFW, Govt. of India. Nominated as Member, to support the Program Division in the Dte.GHS to finalize the modalities for training of identified Trauma Nurse Coordinators from 3 Central Government Hospitals, by Dte. GHS, MoHFW, Govt. of India. Nominated as Member, Committee of Experts to review the existing emergency department (accident emergency department/casualty) in the all Central Government hospitals, by Dte. GHS, MoHFW, Govt. of India. Nominated as Member, Core committee on Roadmap of MSc Trauma Nursing for finalization of MSc Trauma Nursing Proposal including administrative and financial implication, Curriculum and operational guidelines. by Dte. GHS, MoHFW, Govt. of India. Member, International Relations Committee: American Association for Surgery of Trauma (AAST), American College of Surgeons – Committee on Trauma, USA 2018 – Till date. Member:Experts Group NIHFW, for the Course on Hospital preparedness for Health Emergencies for Senior Hospital Administrators. 2018 – till date. Member: Experts Group NIHFW, for the Training on Hospital preparedness for Health Emergencies for District Health Officers. 2018 – till date. Member, Medical board for Medical/Psychological Examination at AIIMS for Antarctic Expedition Team. 2016 till date.

**Dr Ashish Bindra** Thesis paper “First prize at conference of Neurocritical Care Society of India 2020. Thesis paper “Third prize at conference of Indian Society of Neuroanesthesiology and Critical Care (ISNACC) 2021.

**Dr Biplav Mishra** is Internal examiner of MCh Trauma Surgery and Critical Care; Member of core committee for development of curriculum for MCh Trauma Surgery and Critical Care at AIIMS, Rishikesh; Visiting Professor at AIIMS, Rishikesh.

**Dr Deepak Agrawal** is Editor-in Chief of Journal of Peripheral Nerve Surgery (JPNS); Editor-in Chief of Indian Journal of neurotrauma (IJNT).

**Dr Dinesh Kumar Bagaria** is Coordinator for Web Panel discussion on “Post graduate training in trauma care in India: Trauma & Acute Care Surgeon – A Career Pathway” organized by the Division of Trauma Surgery & Critical Care, AIIMS, New Delhi on 6 September 2020. Completed “Trauma Evaluation and Management (TEAM)” course in Virtual ALTC Workshop held under the auspices of Academy of Sciences on 25th, 2020. Participated as faculty in SURGICON 2020 5-7 November 2020 at AIIMS New Delhi. Participated in VIRTUAL PG MASTER CLASSES IN SURGERY organized by Department of Surgery, Institute of Medical Sciences; Banaras Hindu University as Examiner in session – “Ward Round: Blunt Trauma Abdomen” on 6 and 7 February 2021. Reviewed articles for peer reviewed indexed journal “TRAUMA”. Reviewed articles for peer reviewed indexed journal “Indian Journal of Surgery”. Part of quick reaction medical team AIIMS for cyclone Amphan hit coastal orrisa and west Bengal on 19 May 2020.

**Dr Garima Kachhawa** recieved appreciation award for the presentation based on My Intramural project titled,” Evaluation of oxidative stress markers and endothelial function assessment during pregnancy and correlate with development of hypertension in pregnancy: a prospective cohort study “. Awarded appreciation award for best paper. Her thesis candidate was Awarded Dr Suneeta Mittal’s Medal for best paper on theme topic: Benign Gynecological conditions titled Myo-Inositol and D-Chiro-Inositol combination on Menstrual cycle Regulation in young girls with PCOS - a randomized open-label study, (Krithika V S). Her clinical work was presented by resident and was appreciated titled, Glanzmann thrombasthenia in pregnancy: every obstetrician’s Nightmare. Awarded appreciation award for best paper (Jaiswal P). Evaluating the effects of COVID-19 screening questionnaire on Labour room and ward admissions in the pandemic era Awarded Mr S Bhattacharya and Ganguly Medal for best paper on theme topic: Miscellaneous Category (Dr Ipshita Sahoo).

**Dr Gyaninder Pal Singh** was awarded the “Best Researcher Award” by SF International. Research Awards on New Science Inventions (NESIN-2020) on 9 December 2020. Examiner for: MD Anaesthesiology, Delhi University; DM Neuroanaesthesiology, SCTIMST, Trivandrum; DM Neuroanaesthesiology, AIIMS Rishikesh. Evaluation of thesis: MD Anesthesiology, PGIMER, Chandigarh; DM Neuroanaesthesiology, NIMHANS, Bangalore. Chaired the scientific sessions during 22nd Annual conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC2021- Virtual) from 24-26 January 2021, Chennai. 23rd Annual Conference of Delhi Neurological Association (Virtual) from 5-7 February 2021, New Delhi.

**Dr Keshav Goyal** was appointed as External Examiner of Madhya Pradesh medical Science University, Jabalpur (MP) for MD anesthesiology. Course director cum National Coordinator of 1st Acute Neuro Care (ANC) affiliated by National society (ISNACC) and NCSI 2020 at 1ST NCSI Conference (Virtual). Member of Trainee Engagement Committee of SNACC, USA. Reviewer of International Journal of Respiratory and Pulmonary Medicine. Emergency Neurological Life Support (ENLS)- Train the trainer Course Instructor Recertification

**Dr Kapil Dev Soni** was selected as Editorial Board (Journal Scan) of Critical Care Communications (A bi-monthly newsletter of Indian Society of Critical Care Medicine) for 2020-2021. Appointed as faculty for Clinical research methodology and evidence based medicine, full time fellowship programme of All India Institute of Medical Sciences, New Delhi. Appointed as a member of Clinical Management Team of designated COVID-19 hospital (AIIMS Trauma Centre) at All India Institute of Medical Sciences, New Delhi. Appointed as member of Advisory committee on National Thermal Power Corporation (NTPC) COVID management.

**Dr Narender Chaudhary** was nominated as nodal officer at JPN Apex Trauma center for reporting and updating daily COVID-19 patients details and census at Integrated disease surveillance program (IDSP) of Govt. of India. Participated as instructor faculty at BLS & ACLS provider course of AHA from 22-24 February 2021, organised by ITC, AIIMS New Delhi. Chaired the oral paper session on 06th November 2020 at “SURGICON 2020” organised by Department of surgical discipline, AIIMS, New Delhi.

**Dr Navdeep Sokhal** introduced own indigenous fogless goggles with fan to provide clear and fog free vision for healthcare workers working in designated COVID ICUs and COVID workplace and without compromising safety.

**Dr Niraj Kumar** perusing fellowship Program: (CMETI – Part Time Clinical Research Methodology and Evidence Based Medicine) at AIIMS, New Delhi for the session January 2019. Instructor (Faculty) of –ATLS, ANC, ACCC, AIIMS – EM-SONO, AUTLS. Perioperative (ICU + OT) management of all kinds of COVID-19 patients. Conducted online Ultrasound series of education (Classroom-ISONACC society initiative) as course director.

**Dr Nirupam Madaan** mentored the states of Bihar and New Delhi to create and register facilities for COVID testing. Proposed strategy for overcoming the shortage of oxygen in rural India through the planned provisioning of Pressure Swing Adsorption Oxygen Extractors in the wake of the COVID pandemic for the Government of India, which has thence been approved and implemented.

**Dr Purva Mathur** has been Member Task Force for Developing Infection Control guidelines for Labour rooms. Representative from AIIMS for Launch of Institutional Swachhata Rankings on 1st July, 2019. Meeting of Sub-Committees on 31 July 2019 at 2.30 pm in Board Room, AIIMS regarding preparation work of 64th Institute Day Celebration to be held on 25 September 2019. Technical expert in Informal Consultation to Finalize the Indian Priority Pathogen List (IPPL) on 15th July, 2019 at Thai room, WHO India, RK Khanna Stadium. Member of AIIMS Annual Report compilation. Member of Institute day exhibition committee on 29 July 2019 Surveillance of Healthcare infections and Antimicrobial Resistance, Medanta Hospital. The Director, AIIMS constituted an External Expert Review Committee to review the Intramural Collaborative Research Projects on 16 October 2019 at 11:00 AM in the Dean’s Committee Room. In this regard, there were 15 Collaborative Research Proposals received for the year 2019-2020, discussed in detail the merits of the proposals and recommended 04 proposals for funding.

**Dr Richa Aggarwal** received Female COVID warrior award presented by Deepanjan Charitable Trust.

**Dr Samarth Mittal** was elected as the Executive committee member of Indian Orthopaedic Association which is the national Orthopaedic association of India. Elected as executive member of Delhi Orthopaedic Association for representing south Delhi. Elected as Treasurer of APOA (Asia Pacific Orthopaedic Association) YSF India Chapter. Continued as Associate Editor of JCOT (Journal of Clinical Orthopaedics and Trauma) which is the official journal of Delhi Orthopaedic society and is a Pubmed Indexed journal. Judge for International Poster competition in the DOACON 2020 held on 27 and 28 November 2020. Organised the second congress of APOA young surgeon’s forum India chapter held on 13 and 14 March 2021 as the scientific secretary of the programme. Organised weekly Online classes for PGs across Delhi under the aegis of DOA in 2020. Organising committee member at Delhi site in India for the AO Trauma Masters Hybrid Course—Fracture around the Knee As national faculty on 31 October 2020, India held in 8 different sites simultaneously across Asia Pacific.

**Dr Sanjeev Lalwani** is Member- Governing Body, Keshav Mahavidyalaya, Delhi University 2020-21(Extended). Nodal Officer- Search Committee- Selection of VC, MUHS Nashik Appointment by Governor of Maharashtra. Convenor- Speciality Advisory Board, NBE. Appointment as Member Student Grievance Redressal Committee, NBE. Representative of Secretary Health, Delhi Govt for Authorization Committee at Fortis Hospital Vasant Kunj and Link officer for Dr BL Kapoor Hospital Delhi under TOHOTA 2011. Felicited by Dadhichi Dehdan Samiti for contribution in Body Donation March 2021. Member Expert- Selection Committee at AIIMS Jodhpur. Member Expert- Selection Committee at AIIMS Raipur. Member Expert- Selection Committee at AIIMS Kalyani. Member Expert- Selection Committee at AIIMS Hyderabad. Member Expert- Selection Committee at Safdarjung Hospital and VMMC. Member Expert Selection Committee at UCMS/ICMR on- 29 November 2021, 10 December 2021, 3 January 2021.

**Dr Shilpa Sharma** was awarded Fellowship of National Academy of Medical Sciences 2020. Nominated as Science Academy Member for The Inter-Academy Panel for Women in STEMM 2021-2025. Awarded Nari Gaurav Award 2020 for contribution to Society during the COVID-19 Pandemic 2020 by Destination Group. Re-Elected for second term as World Council Member

of World Organization of Federation of Associations of Pediatric Surgeons 2020-2022, representing Australiasia. Executive Council Member of International Society of Hypospadias and DSD 2020-22. Elected as Executive Committee member of Indian Association of Pediatric Surgeons 2019-21. Elected President of Delhi Association of Pediatric Surgeons (DAPS) 2020-22. Honorary Secretary of Research Section of IAPS 2019-2021. Editorial Board Member - Pediatric Surgery International, Annals of National Academy of Medical Sciences, India, International Journal of Orthopedic Rheumatology (*stem cells & tissue regeneration*) & Journal of Pediatric and Adolescent Surgery, Pakistan. Member- Expert Group ICMR for formulating Stem cell Treatment Guidelines for Pediatric Surgery 2019/20. Member Standing Selection Committee for faculty recruitment of AIIMS, Patna for 2020. Member, Institute Ethics Committee, Superspecialty Pediatric Hospital & Postgraduate Teaching Institute, Sector 30, Noida. Member, Institute Research Committee, Superspecialty Pediatric Hospital & Postgraduate Teaching Institute, Sector 30, Noida. Member, Medical Specialist Cell constituted by National Health Authority under Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) to provide valuable inputs in their areas on expertise on Health Benefit Packages, Standard Treatment Guidelines, Medical audit and Quality of care etc. for the seamless implementation of the scheme. Hospital Lead for Project COVID Surg – International Collaboration 2020 National Institute for Health Research (NIHR). Member of Clinical Epidemiology Unit of AIIMS. 2019-date.

**Dr Subodh Kumar** was nominated as Convener of specialist Board of Trauma Care by National Board of Examination in Medical Sciences, MoH&FW, Govt. of India. Nominated as National Trainer for Emergency Care Training for Medical Officers by National Health Mission, MoH&FW, Govt. of India. Nominated as Managing Editor of Indian Journal of Surgery, a peer reviewed indexed journal by Springer and official journal of Association of Surgeons of India. Invited as an international speaker at 5th World trauma Congress, an international conference of World Coalition for Trauma Care (WCTC) held on 14-18 February 2021.

**Dr Sushma Sagar** was granted patent by patent office GOI for an invention entitled: A wound dressing for combined Negative pressure and Fluid delivery system. Awarded membership of American Association for the Surgery of Trauma (AAST). Nominated as National Trainer for Emergency Care Training for Medical Officers by National Health Mission, MoHFW, GOI. Nominated as member of Delhi Organ Transplant committee as Principal Secretary Nominee. Nominated as member of International Surgical Wound Complications Advisory Panel (ISWCAP). Member AIIMS Intramural Grant for research project committee.

**Dr Vivek Trikha** received Best Publication Award (Above 40 years) by Delhi Orthopaedic Association for the year 2020-2021. Guest Editor for Pelvic Symposium in Journal of Clinical Orthopaedics & Trauma (Pubmed Indexed Journal). Member Editorial Board of Indian Journal of Orthopaedics national Journal of Indian Orthopaedic Association (Pubmed Indexed journal). Associate Editor of Journal of Clinical Orthopaedics & Trauma (Pubmed Indexed journal). Trauma Committee Member of SICOT world Association of Orthopaedic Surgeons from 2020 onwards.

## 10.6. National Drug Dependence Treatment Centre

### **Professor and Chief**

Rakesh Chadda

### **Professors**

Raka Jain      Rakesh Lal      Anju Dhawan  
Sonali Jhanjee                      Atul Ambekar

### **Additional Professors**

Yatan Pal Singh Balhara      Ravindra Rao      Ashwani K Mishra  
Rachna Bhargava      Gauri Shanker Kaloiya      Prabhu Dayal

### **Associate Professors**

Biswadip Chatterjee      Alok Agrawal      Rizwana Quraishi  
Siddharth Sarkar                      Piyali Mandal

### **Assistant Professors**

Roshan Bhad                      Shalini Singh

### **Scientist**

Monica Mongia  
(on long leave)

### **Medical Social Service Officer**

Braham Prakash                      Deepak Yadav  
Ratnesh Kumar                      Dinesh Kumar

### **Administrative Officer**

RK Sharma (From June 2020)

### **Accounts Officer**

Prem Pal

### **Assistant Nursing Superintendent**

Beena Rawat

### **Assistant Store Officer**

Yatendra Kumar Meena



## HIGHLIGHTS



NDDTC continued to provide outdoor clinical services throughout the COVID-19 Pandemic and also provided clinical services to COVID-19 patients in the dedicated COVID-19 areas of AIIMS, New Delhi. A total of 1,72,258 patients were seen: 5492 new patients and 1,66,766 old patients inclusive of NDDTC general OPD and its 5 speciality clinics, 3 community clinics and Mobile Methadone Clinic. The NDDTC laboratory attended more than 28,955 tests during the year in its toxicology, haematology, biochemistry and HIV screening labs.

A state-of-the-art LC-QTOF-MS instrument has been installed in NDDTC laboratory for detection of newer psychoactive drugs as well as other drugs of abuse in biological specimens.

From March 2021, NDDTC has initiated exclusive ‘Consultation Liaison Addiction Psychiatry’ outpatient services thrice a week to improve services for addictive disorders in medically ill patients at the main AIIMS campus.

NDDTC played a prominent role in shaping drug addiction treatment response in the context of *COVID-19 pandemic* in India. This included contribution in development of advisories on ‘Lockdown and alcohol withdrawal’ (for MoH&FW and MoSJE), Inputs for Standard operating protocols (SOPs) for OST centres to NACO and MoH&FW as well as to Indian Psychiatric Society for SOPs on OST services in the private sector. Further, NDDTC continues to be the WHO Collaborating Centre on Substance Abuse since 2012. NDDTC also conducted several Breath and Meditation Workshops for *frontline health workers* including doctors, nurses and faculty of AIIMS. NDDTC was also involved in drafting the document on “Campus Intervention for Substance use among AIIMS students – policy and action.”

With the support of the Ministry of Social Justice and Empowerment (MoSJE), the NDDTC initiated the 25 ‘Addiction Treatment Facility (ATF)’ at the national level during 2020-2021. The centre already coordinates 27 Drug Treatment Clinics (DTC) with the support of DDAP, MOH & FW, at the National level.

Some international contributions by NDDTC during this period include providing technical assistance to the Government and Civil Society of Myanmar to initiate Buprenorphine based opioid dependence treatment. NDDTC represented MoH&FW and was a part of Indian delegation for the CND and also provided inputs towards ‘WHO Action Plan on Global strategy to reduce harmful use of alcohol’ (March 2021).

NDDTC took the lead in forming a society of professionals working and interested in the field of addiction in India, titled ‘Addiction Psychiatry Society of India (APSI)’.

In the field of training and research in substance use disorders, an Online Automated Training in substance use disorders, without involving personal interaction with a trainer on Web portal: has been developed and established. Currently, many



National and International agencies are funding on-going research projects in the centre. Eighty seven research articles in peer reviewed national and international journals of repute and 4 books and 15 chapters in various books have been published during this period.

Many faculty members are technical experts and also holding key positions in national and international professional bodies and editorial boards in prestigious peer reviewed journals.

The centre has organized the following online Training/CME during this period:

- Online Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders: in October 2020 and March 2021
- Orientation sessions on Substance use disorders for undergraduates and postgraduates of AIIMS
- Online CME on Biostatistics: Comprised of 20 sessions organized between the months of May and September 2020
- A National CME titled “ICD-11 - Disorders due to substance use and addictive behaviours: Developing a consensus” was organized by NDDTC on 31 January 2021. This event was supported by the Addiction Psychiatry Society of India (APSI)
- UNODC Training on Overdose Prevention and Management for Bangladesh Physicians, 2020

## **Education**

### **Undergraduate**

MBBS students are posted for a day in the centre during their Psychiatry posting.

### **Postgraduate**

Residents doing MD (Psychiatry) are posted in the centre for 6 months.

NDDTC also offers PhD in Addiction Psychiatry. The centre is also running a Doctorate of Medicine (DM) course in Addiction Psychiatry. Currently, 6 PhD students and 13 DM students are enrolled for the degree. The NDDTC continues all its academic activities in online mode throughout the pandemic. The centre also provides training to MSc psychiatric nursing and BSc Nursing students.

### **PhD and Postgraduate teaching**

\*Journal club -Weekly joint activity with psychiatry

\*CCR and CGR two in every semester at AIIMS

Seminar- Weekly

Case Conference- Weekly

Seminars/ Journal Club

\*Joint activities of the Department of Psychiatry and the Centre

### **Lectures delivered:**

**R Chadda: 7**

**Anju Dhawan: 6**

**Yatan Pal Singh Balhara: 43**

**Ravindra V Rao: 13**

**Biswadip Chatterjee: 3**

**Roshan Bhad: 8**

**Raka Jain: 3**

**Sonali Jhanjee: 9**

**Gauri Shanker Kaloyia: 5**

**Ashwani Kumar Mishra: 32**

**Siddharth Sarkar: 4**

**Shalini Singh: 4**

**Rakesh Lal: 2**

**Atul Ambekar: 19**

**Rachna Bhargava: 8**

**Piyali Mandal: 2**

### **R Chadda**

1. Stress and Anxiety during Crisis: Facing it Fearlessly, JDM College, University of Delhi, 4 May 2020, New Delhi (Online)
2. Building resilience amongst frontline workers during Covid-19 Pandemic, The Department of Urban Development, Govt of Uttar Pradesh, 9 August 2020 (Online)
3. How has Covid-19 affected the world? World Association of Social Psychiatry, 18 September 2020 (Online)
4. Panellist in Webinar “Life Beyond COVID-19: Institutionalizing the new normal in Health & Well-Being”, Indian Institute of Management, Amritsar, 29 August 2020 (Online)
5. Web CME on COVID 19 and Mental Health Issue, National Academy of Medical Sciences (India), 9 October 2020 (Online)
6. Panellist in Panel Discussion “Addressing Mental Health Challenges of COVID-19 Pandemic: Are We on the Right Track?”, 5th Annual National Conference of the Society of Rural Mental Health, 10 October 2020, Rohtak (Online)
7. Growth of mental health care in India, Foundation day program of the Indian Psychiatric Society, 7 January 2021, Patna (Online)

### **Raka Jain**

1. Screening Drugs of Abuse in Body fluids, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 24 October 2020, New Delhi (Online)
2. New psychoactive substances and their detection (invited), Virtual workshop on 'Next- Generation Forensics' conducted by the Department of Life Sciences, University of Calicut, Kerala, India in collaboration with the Kerala Police Academy, 13 January 2021, New Delhi (Online)
3. Screening Drugs of Abuse in Body fluids, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 6 March 2021, New Delhi (Online)

### **Rakesh Lal**

1. Substance abuse-an overview, Amity University, Lucknow, 12 February 2021, Lucknow (Online)
2. Global Epidemic of tobacco use, Capacity Building of Nurses for management of lifestyle disorders by Ministry of Health & FW and WHO India, 10 June 2020, Webinar

### **Anju Dhawan**

1. Role of breath and meditation on Mental Health, Happy being a Radiologist by Indian Radiological & Imaging Association, 19 July 2020, New Delhi (Online)
2. Breath, Meditation and Mental Health, Continuous Yoga Education Series organized by 'Yoga Scholars PGIMER', 21 August 2020, Facebook Online, Chandigarh
3. Mindfulness based interventions and stress reduction Hands on technique based on yoga for reducing stress, Management of Stress in Police Forces, 29 September 2020, New Delhi (Online)
4. Relapse prevention therapy in substance use, Relapse Prevention in Substance Use organized by Fortis Escorts Hospital, Jaipur, 13 December 2020, Jaipur (Online)
5. Management of Opioid Dependence, Training Programme organized by NISD for NGO staff, Ministry of Social Justice and Empowerment, Government of India, New Delhi, 18 January 2021, New Delhi (Online)
6. Panel Discussion on ICD-11 changes - Issues related to assessment and diagnosis of children and adolescents, National CME of Addiction Psychiatry Society of India, "ICD-11: Disorders due to substance use and addictive behaviours: Developing a consensus", 3 January 2021, New Delhi (Online)

### **Sonali Jhanjee**

1. Substance use and stress management at Health and Wellness Centres, CHOs Mewat ECHO Online Programme by Centre for Community Medicine, AIIMS, New Delhi, 30 June 2020 (Online)
2. Psychosocial interventions in tobacco cessation, Online certificate course on Smokeless Tobacco Cessation by WHO FCTC Global Knowledge Hub of Smokeless Tobacco (KH-SLT), ICMR-NICPR, NOIDA, 24 August 2020 (Online)
3. Management of Tobacco Dependence in non-specialised setting (and TCC services available), Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 19 October 2020, (Online)
4. Management of Tobacco Dependence in non-specialised setting (and TCC services available), Online Orientation of Resource Persons (Psychiatrists) By DDAP, Ministry of Health and Family Welfare & NDDTC, New Delhi, 1 March 2021 (Online)
5. Nicotine addiction, 5th online Advanced Cancer Screening Training Program for Dentists (ACSTP-O5) organized by NICPR -ECHO, NOIDA, 10 March 2021 (Online)
6. Cessation strategies for smokeless tobacco, Preconference CME on "Burden of Smokeless tobacco use and smokeless tobacco control policies in South Asia" in the 48th annual conference of IAPSMCON from 19-21 March 2021, PGI Chandigarh, 17 March 2021, (Online)
7. Practical and theoretical approaches for those ready to quit, World Health Organization Virtual Training Workshop on Tobacco Dependence Treatment for Bhutan 17-19 March 2021, 17 March 2021, Bhutan (Online)
8. Practical and theoretical approaches for those not ready to quit: motivational interviewing, World Health Organization Virtual Training Workshop on Tobacco Dependence Treatment for Bhutan 17-19 March 2021, 18 March 2021, Bhutan (Online)
9. Relapse prevention, World Health Organization Virtual Training Workshop on Tobacco Dependence Treatment for Bhutan 17-19 March 2021, 19 March 2021, Bhutan (Online)

### **Atul Ambekar**

1. India: COVID19, Lockdown and Addictions, Webinar organized by International Society of Addiction Medicine, 20 May 2020 (Online)
2. India: COVID19, Lockdown and Addictions, Webinar organized by Govt. of NCT of Delhi, 26 June 2020 (Online)
3. Benzodiazepine use disorders in clinical practice, Webinar organized by the Indian Psychiatric Society, Karnataka Chapter, 2 July 2020 (Online)

4. Opioid Substitution Treatment : An Overview, Webinar organized by Indian Psychiatric Society, Odisha, 26 July 2020 (Online)
5. Laws and Policies related to Addiction Psychiatry, Webinar organized by Kolkata Psychiatry Club and Indian Psychiatric Society, West Bengal, 26 July 2020 (Online)
6. Substance use in Nagaland, State level consultation organized by Kripa Foundation, Nagaland, 4 August 2020 (Online)
7. 6Public health and addictive drugs: Laws and Policies: What works and What doesn't, Webinar organized by Meghalaya legal services authority and Government of Meghalaya on Mental health day, 9 October 2020 (Online)
8. Medicolegal issues with reference to NDPS & MHCA in management of Substance Use Disorders, Webinar organized by Indian Psychiatric Society, 27 October 2020 (Online)
9. Opioid Use Epidemic in India: Changing Pattern and Policy Implications, Keynote address delivered in the ISAM Asia Regional conference, 5 December 2020 (Online)
10. COVID-19 pandemic: Impact on Addiction Psychiatry, Annual National Conference of Indian Association of Private Psychiatry, 5 December 2020 (Online)
11. Evidence Based Treatment of Cannabis Dependence, Webinar organized by the Behavioural and Neuroscience Academy of India, 5 January 2021 (Online)
12. Cannabis Policies: The Way forward, Webinar organized by Indian Psychiatric Society, West Bengal, 17 January 2021 (Online)
13. Harm Reduction: Concept, Philosophy and application to Tobacco, Webinar organized by the Association for Harm Reduction Education and Research, 19 January 2021 (Online)
14. ICD-11 Disorder related to Substance Use and Addictive Behaviour: Field Trial India, National CME organized by the Addiction Psychiatry Society of India (APSI), 31 January 2021 (Online)
15. Newer Technologies for treatment of opioid dependence: Evidence and Ethics, Annual National conference of Indian Association of Biological Psychiatry, 7 February 2021 (Online)
16. Drug Addiction: An overview and strategies for management, Forensic and Technical Course on Narcotic Drugs and Psychotropic Substances for Sri Lankan Police officers, organized by the Central Academy of Police Training, 12 February 2021 (Online)
17. Epidemiology of Substance Use, PG Development program organized by the Indian Psychiatric Society – Central Zone, 20 February 2021 (Online)
18. Treatment of Substance Use Disorders, National Webinar on 'Dimensions of Social Defence & Linkages with SDGs' organized by the FORE school of management, 24 February 2021 (Online)
19. Brief interventions and MET in substance use disorders, 'Thursday Musings' webinar series organized by the Indian Psychiatric Society –Odisha branch, 18 March 2021 (Online)

#### **Yatan Pal Singh Balhara**

1. Internet: Impact on Mental Health, Webinar organized by MAP (Mental Health Action by People), 23 August 2020, New Delhi (Online)
2. Behavioral addictions, Webinar organized by KVG Medical College & Hospital, Sullia, Karnataka, 9 October 2020, Sullia, Karnataka (Online)
3. Empowering Health Workers to offer Mental Health and Psychosocial Support during COVID-19: Regional Initiatives, Webinar titled "Speak up for health worker safety – Voices from WHO South-East Asia" organized by WHO Regional Office for South East Asia, 21 September 2020, New Delhi (Online)
4. Occupational risk protection of health care workers: Regional perspective from WHO South East Asia region, 11<sup>th</sup> Asia Pacific Action Alliance on Human Resources for Health (AAAH) Webinar organized by the Asia Pacific Action Alliance on Human Resources for Health (AAAH), supported by the World Health Organization South East Asia Region Office (WHO SEARO), World Health Organization Western Pacific Region Office (WHO WPRO), World Health Organization Eastern Mediterranean Regional Office (WHO EMRO), United States Agency for International Development (USAID), Human Resources for Health in 2030 (HRH2030), Asian Development Bank (ADB), Japan International Cooperation Agency (JICA), The Prince Mahidol Award Conference (PMAC) and other partners, in collaboration with the Ministry of Public Health, Thailand, 18 September 2020, Bangkok, Thailand (Online)
5. eHealth to strengthen capacity for management of mental disorders and addictive disorders: Initiatives and plan going ahead, Webinar titled 'eHealth to strengthen frontline NCDs and mental health services' organized by WHO Regional Office for South East Asia, 2 July 2020, New Delhi (Online)
6. Gaming Disorder and COVID-19: (Mis)communication, Challenges and Response, WHO Webinar on Gaming and COVID-19 organized by the World Health Organization (WHO), 30 June 2020, Geneva (Online)
7. Safe and Healthy Use of Internet by Students, Webinar organized by the Tagore International School, East of Kailash, New Delhi, 29 June 2020, New Delhi (Online)
8. Issues Related to Addictions, Webinar titled "COVID-19 Outbreak: Psycho-Social Support to the Youth" organized by the Jesus and Mary College, University of Delhi, 10 May 2020, New Delhi (Online)
9. Safe and Healthy Use of Internet among Youth, Online Panel Discussion on the theme "Online Teaching - Safety and Health of Children and Young People (COVID-19 and BEYOND)" organized by Forum for Learning and Action with Innovation and Rigour (FLAIR), 13 June 2020, New Delhi (Online)
10. Safe and Healthy Use of Internet among children, e-conclave on Online Child Sexual Abuse and Exploitation organized by Forum for Learning and Action with Innovation and Rigour (FLAIR), 23 May 2020, New Delhi (Online)
11. Internet and Us, Webinar titled "Safe and Healthy Use of Internet by Children: Role of Parents" organized by The Bluebells School International, New Delhi, 16 May 2020, New Delhi (Online)

12. Dual disorders patient-COVID-19 in India, Webinar titled “Dual disorders during COVID-19 Pandemic Time”, organized by The World Association on Dual Disorders (WADD), 28 May 2020, Madrid, Spain (Online)
13. Behavioural Addictions and Dual Disorders, 4th Congress of World Association of Dual Disorders (WADD) organized by The World Association on Dual Disorders (WADD) held from October 20, 2020, Madrid, Spain (Online)
14. Management of Opioid Addiction at Primary Care, Online session for MBBS Punjab government doctors organized by National Institute of Mental Health and Neurosciences (NIMHANS) Bengaluru, 5 February 2021, Bengaluru (Online)
15. Understanding Recovery, Online course of Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders organized by MOSC Medical College, Kolenchery, Kerala, 15 December 2020 - 14 January 2021, Kolenchery, Kerala (Online)
16. Recovery in a System: Recovery Oriented System of Care, Online course of Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders organized by MOSC Medical College, Kolenchery, Kerala, 15 December 2020 - 14 January 2021, Kolenchery, Kerala (Online)
17. The Relationship between Substance Use Disorders (SUD) and Mental Health Disorders, Online course of Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders organized by MOSC Medical College, Kolenchery, Kerala, 15 December 2020- 14 January 2021, Kolenchery, Kerala (Online)
18. Mental Health Disorder Review, Online course of Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders organized by MOSC Medical College, Kolenchery, Kerala, 15 December 2020 - 14 January 2021, Kolenchery, Kerala (Online)
19. Understanding the Co-occurring Disorders, Online course of Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders organized by MOSC Medical College, Kolenchery, Kerala, 15 December 2020 - 14 January 2021, Kolenchery, Kerala (Online)
20. Mental Status Exam (MSE), Online course of Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders organized by MOSC Medical College, Kolenchery, Kerala, 15 December 2020 - 14 January 2021, Kolenchery, Kerala (Online)
21. Bipolar and Related Disorders, Online course of Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders organized by MOSC Medical College, Kolenchery, Kerala, 15 December 2020 - 14 January 2021, Kolenchery, Kerala (Online)
22. Common Co-Occurring Medical Conditions, Online course of Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders organized by MOSC Medical College, Kolenchery, Kerala, 15 December 2020 - 14 January 2021, Kolenchery, Kerala (Online)
23. Thyroid: mental health and additions, Panel discussion of the theme “Thyroid Fatigue Syndrome” during the SPEED Endocrine e-Dialogues (SEED)– a 3-D Virtual International Diabetes and Endocrinology Conference organized by the Society for Promotion of Education in Endocrinology & Diabetes (SPEED) 27 September, 2020, (Online)
24. Recovery Oriented Model of Care - Drug Abuse Prevention, Online workshop organized by National Institute of Social Defence (NISD), Ministry of Social Justice and Empowerment, Government of India, 16 February 2021, New Delhi (Online)
25. Alcohol addiction and its management, ICMR- National Institute of Cancer Prevention and Research is starting the 4th online Advanced Cancer Screening Training Program for Dentists (ACSTP-O4) from 13th October 2020 till 19th January 2021, 19 January, 2021, NOIDA (Online)
26. Alcohol addiction and its management, ICMR- National Institute of Cancer Prevention and Research is starting the 3rd online Advanced Cancer Screening Training Program for Dentists (ACSTP-O3) from 17 September till 24 December 2020, 24 December 2020, NOIDA (Online)
27. Youth and Technology: Identifying & reducing the risk of Addiction, Online Workshop on the theme “Mental Health & its promotion in Youth” as part of the “Technology mediated delivery of courses in Medical Science Education for NER colleges” project collaboratively implemented by CDAC Noida and AIIMS, New Delhi, 16 January 2021, NOIDA (Online)
28. Online classes and mental health, Discussion on the theme “Online Classes - Learning and Mental Health of Children and Young People” organized by Forum for Learning and Action with Innovation and Rigour (FLAIR), 25 July 2020, New Delhi (Online)
29. Digital technologies and mental health, Panel discussion titled “Teacher Professional Development and Digital Technologies” organized by Forum for Learning and Action with Innovation and Rigour (FLAIR), 19 September 2020, New Delhi (Online)
30. Digital technologies, education and mental health, Panel discussion titled “National Education Policy 2020 and Use of Digital Technologies for Education” organized by Forum for Learning and Action with Innovation and Rigour (FLAIR), 13 August 2020, New Delhi (Online)
31. Eating Disorders as Addictions: Time to revisit the conceptualization?, The Endocrine Society of India - Eating disorders meeting organized by The Endocrine Society of India, 1 March 2021, Hyderabad (Online)
32. Assessment for pharmacological management of opioid use disorders (OUD) : Training on Substance Use Disorder Treatment to be organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
33. Basic pharmacology of opioids, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
34. Short term management of OUD (detoxification), Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)



35. Role of laboratory investigation in management of OUD, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
36. Assessment for suitability for naltrexone, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
37. Basic pharmacology of naltrexone, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
38. Assessment for suitability for Buprenorphine, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
39. Basic pharmacology of Buprenorphine, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
40. Management of Alcohol withdrawals, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
41. Long term pharmacotherapy for alcohol use disorders, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
42. Introduction to NPS, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)
43. Classification and effects of NPS, Training on Substance Use Disorder Treatment organized by The Republic Narcology Center in Bishkek, Kyrgyz Republic, 7-10 July 2020, Bishkek (Online)

#### **Gauri Shanker Kaloyia**

1. Addiction: Its Prevention & Management, 16 October 2020, Sehore (MP) (Online)
2. Staying Mentally Healthy, The Big Picture on Rajya Sabha TV (RSTV), 14 October 2020, New Delhi, (Online)
3. Stress & Coping, Management of Stress in Police Forces, 29 September 2020, New Delhi (Online)
4. Assessment in Cognitive Behaviour Therapy, 30 May 2020, Delhi (Online)
5. Life After Corona, The Big Picture on Rajya Sabha TV (RSTV), 20 May 2020, New Delhi, (Online)

#### **Ravindra V Rao**

1. Mobile Methadone Dispensing: An innovative model for opioid agonist maintenance treatment delivery in India (Symposium), International Society of Addiction Medicine (ISAM) Congress, 2020, 14 November 2020, (Online)
2. Adapting digital technology for delivering opioid agonist maintenance treatment for post-pandemic world (Symposium) International Society of Addiction Medicine (ISAM) Congress, 2020, 12 November 2020, (Online)
3. Overdose: Prevention and Management, Training of doctors and technical staff of harm reduction service providers under the national HIV/AIDS response programme in Bangladesh organised by UNODC, Regional Office for South Asia, 17 May 2020 (Online)
4. New Psychoactive Substances in India, Consultation on Early Warning Advisory on New Psychoactive Substance organised by UNODC, Regional Office for South Asia, 29 October 2020 (Online)
5. Scientific basis of addiction, Lecture delivered at LNIN National Institute of Criminology and Forensic Sciences, 18 November 2020, (Online)
6. Delivering Opioid Substitution Therapy (OST), Training of service providers working in OST centres of Kerala State AIDS Control Society, 17-20 March 2021, Thiruvananthapuram, Kerala
7. Harm Reduction, Online training by NIMHANS, 19 March 2021 (Online)
8. Alcohol Use Disorder: An Overview, Training of medical professionals on Alcohol-related Liver Diseases organized by ILBS, New Delhi, 12 September 2020 (Online)
9. Overview of Treatment of Alcohol Use Disorder, Training of medical professionals on Alcohol-related Liver Diseases organized by ILBS, New Delhi, 12 December 2020 (Online)
10. Consultation Liaison Addiction Psychiatry, PG Development Programme organized by Indian Psychiatry Society, Central Zone, 20 February 2021 (Online)
11. Management of Uncomplicated Alcohol Withdrawals, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 19 October 2020 (Online)
12. Management of Uncomplicated Alcohol Withdrawals, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 1 March 2021 (Online)
13. Management of alcohol and opioid use disorders, Training of doctors working with de-addiction centres in Andhra Pradesh, 6-9 July 2020 (Online)

#### **Ashwani Kumar Mishra**

1. Nuts and Bolts of Database, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 23 May 2020, AIIMS, Delhi (Online)
2. What we do in Statistics, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 30 May 2020, AIIMS, Delhi (Online)
3. Elements of Descriptive Statistics, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 06 June 2020, AIIMS, Delhi (Online)
4. Sampling Distribution, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 13 June 2020, AIIMS, Delhi (Online)



5. Test of Significance, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 20 June 2020, AIIMS, Delhi (Online)
6. Test of Significance-Quantitative Variables, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 27 June 2020, AIIMS, Delhi (Online)
7. Test of Significance-Categorical Variables, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 11 July 2020, AIIMS, Delhi (Online)
8. Epidemiology and Study Design, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 18 July 2020, AIIMS, Delhi (Online)
9. Non-Parametric Test, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 25 July 2020, AIIMS, Delhi (Online)
10. Psychometry - Norms, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 01 August 2020, AIIMS, Delhi (Online)
11. Psychometry - Reliability, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 08 August 2020, AIIMS, Delhi (Online)
12. Psychometric -Validity, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 16 August 2020, AIIMS, Delhi (Online)
13. Measures of Disease Frequency, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 23 August 2020, AIIMS, Delhi (Online)
14. Diagnostics Test-Part 1, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 30 August 2020, AIIMS, Delhi (Online)
15. Diagnostics Test-Part 2, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 06 September 2020, AIIMS, Delhi (Online)
16. Basics of Grounded Theory-Part 1, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 20 September 2020, AIIMS, Delhi (Online)
17. Basics of Grounded Theory-Part 2, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 26 September 2020, AIIMS, Delhi (Online)
18. Correlation and Regression-Introduction, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 27 September 2020, AIIMS, Delhi (Online)
19. Coefficient of Determination and Standard Error of Estimate, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 27 September 2020, AIIMS, Delhi (Online)
20. Binary Logistic Regression Analysis, Online Training Workshop to Residents of Department of Psychiatry and NDDTC, 27 September 2020, AIIMS, Delhi (Online)
21. Principles of Survival Analysis, Online Research Methodology Workshop-Module 9: Principles of survival Analysis: KM curve and Hazard ratio, 22 October 2020, AIIMS, Delhi (Online)
22. Research Methodology and Research Ethics, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 21 December 2020, AIIMS, Delhi (Online)
23. Planning and Conduct of Literature Review, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 22 December 2020, AIIMS, Delhi (Online)
24. Techniques of Data Collection, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 23 December 2020, AIIMS, Delhi (Online)
25. Research Designs, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 24 December 2020, AIIMS, Delhi (Online)
26. Introduction-Test of Significance, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 26 December 2020, AIIMS, Delhi (Online)
27. Fundamentals of Public Health Research, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 27 December 2020, AIIMS, Delhi (Online)
28. Quantitative Aspects of Data Analysis, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 28 December 2020, AIIMS, Delhi (Online)
29. Sample Size Estimation, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 29 December 2020, AIIMS, Delhi (Online)
30. Time to Event Analysis, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 30 December 2020, AIIMS, Delhi (Online)
31. Computational Aspects of Research Methods, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 31 December 2020, AIIMS, Delhi (Online)
32. Elements of Scientific Communication, Online Training Workshop for PhD course work in Research Methodology for Scholars in HNB Medical University, Dehradun, Uttarakhand (**Course Coordinator**), 31 December 2020, AIIMS, Delhi (Online)

### **Rachna Bhargava**

1. Indian Scenario: Psychological Impact of COVID, International Webinar on Psychological Impact of Coronavirus Organized by Department of Psychiatry, Southern Health NHS Foundation Trust, 3 June 2020, London, UK (Online)
2. Adolescent mental health challenges in COVID pandemic, Webinar on Mental Health and Well Being in the Post COVID World Organized by Department of Anthropology, Delhi University, 20 July 2020, (Online)
3. Excessive Internet Use, Symposium on Mental Health & Substance Abuse Organized by Student Wellness Centre, AIIMS, 27 August 2020 (Online)
4. Online learning: Challenges, Hindi Special show “Desh Deshantar” on RSTV, 16 October 2020 (Online)
5. Brief Intervention for Non dependence substance Users, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 24 October 2020 (Online)
6. Smartphone addiction: Impact of COVID 19, 1<sup>st</sup> National Mid Term CME of Indian Association for Child & Adolescent Mental Health, 8 November 2020 (Online)
7. Internet addiction, Enrichment Workshop for UG students Organized by Student Wellness Centre, AIIMS, 2 December 2020 (Online)
8. Brief intervention with non-dependence substance among Children, Awareness/Capacity building & Training program Organized by NISD, New Delhi, 18 January 2021 (Online)

### **Biswadip Chatterjee**

1. Benzodiazepine dependence and its management, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 20 December (Online)
2. Dr Alok Agrawal, Agonist maintenance in opioid dependence, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 23 October 2020 (Online)
3. Agonist maintenance in opioid dependence, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 5 March 2021 (Online)

### **Siddharth Sarkar**

1. Dual Diagnosis in substance use disorder- Diagnostic challenges & management issues, IPS Bihar state Branch clinical meeting, 25 July 2020 (Online)
2. Management of Cannabis Dependence including Cannabis Psychosis in Non-Specialist Settings, Indications for Referral, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 21 October 2020 and 3 March 2021 (Online)
3. Youth and substance use: Prevention and help-seeking, Technology mediated delivery of courses in Medical Science Education for NER colleges, 16 January 2021 (Online)
4. Introduction to Literature Review, Research Methodology Course HNB Medical Education University, Dehradun, 22 December 2020, (Online)

### **Piyali Mandal**

1. Management of Opioid Dependence - withdrawal management, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 23 October 2020 (Online)
2. Management of Opioid Dependence - withdrawal management, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 5 March 2021 (Online)

### **Roshan Bhad**

1. Substance use among adolescents, Lecture organized by Greenfield School on International Day Against Illicit Drugs and Illicit Trafficking, 26 June 2020, New Delhi (Online)
2. Psychosocial Treatment of Substance Use Disorders, Lecture series for ODIC, CPLI & IRCA Centre by National Institute of Social Defence (NISD), 12 October 2020, (Online)
3. Psychoactive Substance Characteristics and Consequences, Lecture series for ODIC, CPLI & IRCA Centre by National Institute of Social Defence (NISD), 19 October 2020, New Delhi
4. Long term pharmacotherapy of Alcohol Use Disorders, Orientation of Resource Persons (Psychiatrists) on Management of Substance Use Disorders conducted by DDAP, Ministry of Health and Family Welfare & NDDTC, AIIMS, New Delhi, 20 October 2020 (Online)
5. Symposium: Streamlining community based Opioid Agonist Maintenance Treatment (OAMT) services using telemedicine & digital technology during Covid-19 pandemic: An Indian experience, 22<sup>nd</sup> Annual Conference of International Society of Addiction Medicine (ISAM-CSAM), 12 November 2020, Victoria, Canada (Online)
6. Symposium: India-Canada Opioid Substitution Therapy Experience, 22<sup>nd</sup> Annual Conference of International Society of Addiction Medicine (ISAM-CSAM), 13 November 2020, Victoria, Canada (Online)

7. Symposium: Mobile methadone dispensing unit: An innovative model for opioid Agonist Maintenance Treatment in India, 22<sup>nd</sup> Annual Conference of International Society of Addiction Medicine (ISAM-CSAM), 14 November 2020, Victoria, Canada (Online)
8. ICD-11 Disorders due to substance use and addictive behaviours - Field testing in India: Key Findings, 1<sup>st</sup> National CME of Addiction Psychiatry Society of India (APSI), 31 January 2021, New Delhi (Online)

### **Shalini Singh**

1. Drug use among students, how to prevent and what are the harms? Wellness symposia for Undergraduate and postgraduate students: "MATE (Mind Activation Through Education)" AIIMS, 15 June 2020, 22 October 2020 & 4 March 2021, New Delhi (Online)
2. Psychosocial interventions for management of alcohol related liver disease, Project LEAD: training program for medical professionals on 'Alcohol related Liver Diseases', Institute of Liver and Biliary Sciences, 8 September 2020, New Delhi (Online)
3. Management of complicated alcohol withdrawal, Programme on Orientation of Psychiatrists (Resource Persons) on Management of SUD, Ministry of Health and Family Welfare, 19-24 October 2020 & 1-6 March, 2021, New Delhi (Online)
4. Can a neighbourhood fall sick? Opioid addiction, collective violence, and currents of death in contemporary India, Lecture series organized by Centre for Study of Developing Societies, India, 29 January 2021, New Delhi (Online)

### **List of oral papers/posters presented: 11**

1. Bhad R, Jain R, Rao R, Dhawan A, Preliminary investigation of stress biomarkers responses to stress and coping in adolescent inhalant users from India: A Case Control Study, The 2nd Research and Education Center of Bridging Asian Mental Health and Psychiatry (REBAMP), 18 July 2020, Taipei, Taiwan (online)
2. Ghosh S, Jain R, Rao R, Jhanjee S, Mishra AK, Is Ethyl Glucuronide A Sensitive Biomarker To Detect Recent Use Of Alcohol in heavy drinkers: A Cross-Sectional Indian Study, 60th Virtual Annual Meeting of Society of Toxicology and Tox-Expo, U.S.A, 13-18 March 2021, New Delhi (online)
3. Ghosh S, Jain R, Rao R, Jhanjee S, Mishra AK, Urinary Ethyl Glucuronide –A Sensitive Biomarker To Detect Alcohol Use, 1st ISAM Asia Regional Meeting on Addiction Medicine (ISAM-ASIA) and 14th Addiction Science Congress (ASC), Virtual online meeting organised by Cellular and Molecular Research Center, Iran University of Medical Sciences, Tehran, Iran, 3-6 December 2020, New Delhi (online)
4. Jain R, Chatterjee B, Gupta A, Assessment of Codeine Abuse among Substance-abuse patients based on Urinalysis, 1st ISAM Asia Regional Meeting on Addiction Medicine (ISAM-ASIA) and 14th Addiction Science Congress (ASC), Virtual online meeting organised by Cellular and Molecular Research Center, Iran University of Medical Sciences, Tehran, Iran, 3-6 December 2020, New Delhi (online)
5. Jain R, Sarkar S, Ghosh S, Singh S, Compliance and pattern of drug use among opioid dependent subjects prescribed tramadol at a tertiary care treatment Centre based on Urinalysis, College on Problems of Drug Dependence (CPDD) 2020 Virtual Meeting NIDA International Poster Session, USA, 22-24 June 2020, New Delhi (online)
6. Jhanjee S, Tripathi R, Dhagadu N.K, Tobacco use in alcohol dependent patients, Society for Research on Nicotine & Tobacco (SRNT) 2021 Annual Meeting, 24-27 February 24 February 2021 (online)
7. Kaur M, Jain R, Bhad R, Dhawan A, Novel Biomarkers for Monitoring Treatment Response in Opioid Dependent Youth: An Exploratory Study from India, ISAM Regional Conference, Iran, 5 December 2020, Tehran, Iran (online)
8. Mandal P, Dhawan A, Indian adolescent Opioid users and their clinical profile and management challenges: A retrospective analysis of 5 years, Joint NIDA ( USA ) & CPDD Virtual meeting, 23 June 2020 (online)
9. Quraishi R, Complete blood count of alcohol dependent patients, Annual meeting of the Asian Internal Society of Addiction Medicine 4 Dec 2020 (online)
10. Rao R, Rates and knowledge of non-fatal Opioid Overdose among people who inject drugs in India, National Institute of Drug Abuse (NIDA) International Forum, 21-24 June 2020 (online)
11. Shukla T, Quraishi R, Rao R, Ambekar A, Jain R, An observational prospective study assessing factors affecting abstinence with disulfiram treatment in patients with alcohol dependence, 2nd international conference of Research and Education Center for mental Health and Psychiatry, Taiwan, July 2020 (online)

### **RESEARCH**

#### ***Ongoing***

1. A functional polymorphism of dopamine beta hydroxylase gene and disulfiram treatment response in patients with alcohol dependence: A pilot exploratory study, Quraishi R, AIIMS (Intramural), 2 years, 2018-2020, Rs 4.5 lakhs
2. A study to examine dependence, harm perception and motivation to quit amongst Indian areca nut users and pilot test an intervention module, Jhanjee S, WHO-SEARO, 1 year, 2020-21, Rs 11.82 lakhs
3. An evaluation of mu-opioid receptor gene polymorphism (A118G) and long term naltrexone treatment response in North Indian Alcohol dependent patients, Quraishi R, ICMR, 3 years, 2019-2022, Rs 26 lakhs

4. An explorative study of knowledge, perceived attitude and risk of addiction potential among different stakeholders concerning recreational cannabis use among youth in India, Bhad R, AIIMS (Intramural), 3 years, 2019 – 2022, Rs 8 lakhs
5. An exploratory case- control study to assess the protective genetic factors against alcoholic liver disease among population from northern part of India, Balhara YPS, AIIMS-Intramural, 3 years, 2017- 2021, Rs 5 lakhs
6. Barriers and Facilitators of Addiction Treatment: A qualitative study, Sarkar S, ICSSR, 2 years, 2019-2021, Rs 4 lakhs
7. Bone mineral density and chronic alcoholism and changes following disulfiram deaddiction therapy, Balhara YPS, DBT, 3 years, 2017-2021, Rs 83 lakhs
8. Brain Stimulation as a Novel Technique for Cognitive Dysfunction and Craving Management to Enhance Treatment Outcome in Patients with Alcohol Dependence: a Prospective, Randomized Controlled Trial, Dayal P, DST, 3 years, 2018-2021, Rs 30.80 lakhs
9. Detection of New Psychoactive Substances among Substance Abuse Treatment Seekers in India – Multi Centric Study, Chadda RK, Jain R, Department of Revenue, Govt of India, 5.5 years, 2017-2022, Rs 6.51 Crore
10. Developing and testing an online training programme for medical officers on treatment of substance use disorders, Rao R, Ministry of Social Justice and Empowerment, Government of India, 2.5 years, January 2019 – April 2021, Rs 14.59 lakhs
11. Development and evaluation of service delivery models for management of substance use disorders among the homeless population receiving urban shelter services in Delhi, Ambekar A, Department of Women and Children (WCD), Ministry of Health and Family Welfare, Government of Delhi, 2 years, 2020-2022, Rs 30.03 lakhs
12. Development of an Indian Scale to Assess Substance Related Problems, Sarkar S, ICMR, 3 years, 2019-2022, Rs 42 lakhs
13. Development of Indian Anxiety and Mania Questionnaire, Mishra AK, ICMR Task Force, 3 years, 2018-2021, Rs 62.29 lakhs
14. Development of module on prevention of substance use and addiction among students for the teachers from the state of Chhattisgarh, Balhara YPS, Government of Chhattisgarh, 1 year, 2020-2021, Rs 10 lakhs
15. Drug Abuse Monitoring System (DAMS), Mishra AK, MoH&FW, GOI, Continued activity of NDDTC, AIIMS, Continued activity of NDDTC, AIIMS, Rs 3 lakhs
16. Establishing and Implementing capacity building mechanisms for addiction treatment facilities in India, Balhara YPS, World Health Organisation-SEAR, 1 year, 2020-, 2021, Rs 10 lakhs
17. Evaluation of Neurocognitive, Personality, Emotional, and Psychosocial Biomarkers as Candidate Endophenotypes for Opioid Use Disorder & Their Relationship with Polymorphism in Opioid & Dopamine Receptor Genes : Implications for Prevention & Treatment, Dayal P, ICMR, 3 years, 2021-2024, Rs 36.62 lakhs
18. Information, Education, Communication (IEC) material on screen time and gaming behaviour in context of the COVID- 19 for the WHO South East Asia Region, Balhara YPS, WHO SEAR0, 0.4 years, 2020-21, Rs 3.2 lakhs
19. Internal Consistency and Divergent Validity of the Hindi Version of the Addiction Severity Index-Lite among Individuals with Alcohol and Opioid Dependence Syndrome, Mishra AK, AIIMS, Intramural Grant, 2 years, 2019-2022, Rs 3.25 lakhs
20. Leveraging Digital Technology for Health Care Delivery: A randomised controlled trial to assess effectiveness of an e- Health intervention to manage gaming disorder, Balhara YPS, Indian Council of Medical Research (ICMR), 2 years, 2019-2021, Rs 7.37 lakhs
21. Naltrexone implant, Lal R, Rusan pharmaceutical, Open ended, 2018, Rs 9.5 lakhs
22. National Survey on Extent and Pattern of Substance Use in India, Ambekar A, Ministry of Social Justice and Empowerment, Government of India, 5 years, 2016-2021, Rs 22.41 crore
23. NIHR Global Health Research Group on Psychosis Outcomes: the Warwick-India-Canada {WIC} Network, Chadda RK, National Institute of Health Research, UK, 3 years, 2017-2020, Rs 2.52 Crore
24. Rates and pattern of psychoactive substance use among prisoners in India, Rao R, Ministry of Social Justice and Empowerment, Government of India, 2 years, January 2019 – March 2021, Rs 30 lakhs
25. Role of genetic polymorphism in determining risk and severity of opioid dependence: A case-control study, Chatterjee B, AIIMS intramural funding, 2 years, 2019-2021, Rs 10 lakhs
26. Role of significant other involvement in retention and outcome on naltrexone among opioid dependent individuals: An open label comparative study, Mandal P, AIIMS, Intramural Grant, 2 years, 2020-22, Rs 4.55 lakhs
27. Role of specific single-nucleotide gene polymorphisms (SNPs) with treatment adherence and outcome with naltrexone among patients with opioid dependence: A naturalistic follow-up study, Chatterjee B, ICMR, 3 years, 2021-24, Rs 50 lakhs
28. Screening and Intervention for Drug/Substance Use among Elementary School going Children, Bhargava R, UEE Mission, Education Department Delhi, 1 year, 2020-21, Rs 23 lakhs
29. Screening and Intervention for Drug/Substance Use among Secondary School going Children, Dhawan A, UEE Mission, Education Department Delhi, 1 year, 2020-21, Rs 23 lakhs



30. Screening and intervention in school students of elementary classes for substance use in Delhi, Bhargava R, Shiksha S, DOE, 1, Oct 2019-March 2021, Rs 24 lakhs
31. Setting up of a Tele-Medicine and online resource hub on mental health and addictive disorders for South East Asia, Balhara YPS, WHO SEAR0, 1 year, 2020-2021, Rs 11.6 lakhs
32. Use of online web-based applications as a platform to strengthen the services for management of addictive disorders in the state of Odisha, Balhara YPS, Department of Health, Government of Odisha, 1 years, 2019-2021, Rs 12 lakhs

### **Completed**

1. “Alcohol e-Help” – A Study to explore the efficacy of the World Health Organization Internet self-help intervention for the reduction of alcohol consumption, Ambekar A, WHO, 5 years, 2016 – 2021, Rs 5 lakhs
2. Developing Training Mechanisms for use of Essential Narcotic Drugs (Methadone) for the treatment of Opioid Dependence, Ambekar A, Department of Revenue, Ministry of Finance, Government of India, 3 years, 2017-2021, Rs 76.22 lakhs
3. Extent of Mental Health issues & Addictive Behavior among Adolescents seeking help in Adolescent Friendly Health Clinics in Delhi, Dhawan A, Adolescent Health Division, Directorate of Family Welfare, Govt of NCT of Delhi, 1 year, 2019-2020, Rs 18.85 lakhs
4. Field Testing of ICD-11 Classification for Disorders related to Substance Use and Addictive Behaviours, Ambekar A, World Health Organization (Geneva), 3, 2017-2020, Rs 3.25 lakhs
5. Peripheral Blood Inflammatory Cytokines and Markers of Neuroinflammation in Alcohol Dependence and Their Association with Behavioural Markers and Alcohol Dependence Treatment Outcome, Dayal P, AIIMS (Intramural), 1 year, 2019-2020, Rs 4.63 lakhs
6. Portrayal of psychoactive substance use in Bollywood movies: a mixed methods study, Rao R, Intramural project of AIIMS, 1.5, July 2016 – March 2019, Rs 1.44 Lakhs
7. Psycho-social correlates of drug use among attendees of Women’s Clinic of National Drug Dependence Treatment Centre, Mandal P, AIIMS Intramural Grant, 3 years, 2017-2020, Rs 0.5 lakhs
8. Role of *Delphinium denudatum* (Jadwar) in a Rat Model of Nicotine Dependence, Jain R, AYUSH, 3.5 years, 2017-2020 (Sept.), Rs 29.16 lakhs
9. Service -based field testing of ICD-11:Public Health/Clinical Utility and Comparability with ICD-10 in India, Ambekar A, WHO, 2 years, 2019-21, Rs 5 lakhs
10. Survey on Substance use among School and College Students, Dhawan A, Ministry of Social Justice and Empowerment, Government of India, 1 year, 2019-20, Rs 14.85 lakhs

### **Departmental projects**

#### **Ongoing**

1. A community-based study of characteristics and pattern of alcohol use during different phases COVID-19 pandemic lockdown among patients receiving opioid substitution therapy (OST) in Delhi, India
2. A Comparative Study to assess the Effect of Anti-tobacco media messages on Maintenance of Abstinence among Currently abstinent tobacco using university students of Delhi University Chitkara centre, Punjab university
3. A comparative study to assess the psycho-social correlates of gaming disorder among college students
4. A cross sectional study to measure the frequency of the BDNF gene polymorphism (Val66Met) in patients seeking treatment for Alcohol Dependence syndrome (ADS)
5. A cross sectional to measure the frequency of the BDNF Met66 allele in patients seeking treatment for alcohol use disorder.
6. A global online survey on assessment for need and scope for the standardized training, research opportunities and mentorship in addiction medicine among early career addiction medicine professionals
7. A Study to Assess Effectiveness of Advocacy Skill Building Programme on Prevention of Tobacco Use among Adolescents in selected schools of Delhi
8. Assessing client related factors influencing initiation of opioid substitution therapy among Injecting Drug Users: A Community based, Cross Sectional, Comparative Study
9. Assessment of Clinical and Neuroendocrine response to induced stress in detoxified opioid dependent subjects
10. Assessment of impact of COVID-19 and related measures on substance use and associated factors among treatment-seeking adolescents
11. Assessment of outcome of opioid dependent patients initiated on agonist maintenance treatment with Buprenorphine vs Methadone: comparative study using retrospective chart review
12. Assessment of reasons, status of and factors associated with drop out in patients on opioid substitution therapy: a cross-sectional, comparative, community-based study.
13. Assessment of Stress Biomarkers in Opioid Dependent Youth and its association with stress and coping : An Exploratory study.
14. Assessment of treatment response, inflammatory cytokine (TNF-alpha) and mtDNA 10398A/G polymorphism in Familial Bipolar Disorder.



15. Association of Phosphatidylethanol (PEth) levels with Severity of Alcohol dependence in Treatment Seeking Patients of Alcohol Dependence : An Exploratory Study.
16. Association of the galanin gene polymorphism (rs948854) and opioid dependence: A case control observational study
17. Association of Tobacco Smoking with Psychiatric Co-morbidities among Patients with Chronic Obstructive Pulmonary Disease
18. Brain Derived Neurotrophic Factor gene polymorphism (Val66Met) association with peripheral BDNF levels and clinical variables in major Depressive Disorder Patients.
19. Clinical and Biochemical Assessment of Compliance to Disulfiram and Abstinence for Alcohol: A Longitudinal Study in Alcohol Dependent Subjects.
20. Clinical laboratory profile of opioid dependent patients: A retrospective chart review study.
21. Comparative Study of Marital Adjustment in Alcohol and Opioid Dependent Men and their Wives
22. Comparison of Delay Discounting Rate among current users of Heroin and abstinent: An Observational Study
23. Correlates of Recovery Capital in patients with dual diagnosis – an explorative study
24. Course of depressive symptoms in patients with alcohol dependence undergoing detoxification.
25. Cue Induced Craving and fMRI changes associated with Meditation- Based intervention in Smokers
26. Cue Induced craving in Smokeless tobacco: an fMRI study
27. Development of Cognitive Behavioral based Intervention Module for Adolescents in Conflict with Law
28. Development of Psychological Intervention Module among adolescents with Dissociative Disorder
29. Effectiveness of reminders using Phone call versus Short Message Service on treatment retention in patients with Substance Use Disorders: An open label randomised trial
30. Endorsement and Concordance of ICD 11, ICD 10 and DSM 5 Diagnostic Guidelines for Alcohol and Opioid Use Disorders
31. Experience of Patients on Methadone Maintenance Treatment Receiving Take-Home Methadone Doses During Covid-19 Pandemic In India: A Mixed-Method Study
32. Exploratory study of problematic internet pornography use
33. Factors associated with treatment retention in Alcohol dependent patients
34. Family Interventions Addressing Expressed Emotions in Treatment Seeking Men with Opioid Dependence
35. Feasibility and concurrent validity of ecological momentary assessment to measure craving and mood in treatment-seeking patients of alcohol dependence syndrome
36. Feasibility of ecological momentary assessment to measure associations between perceived control over alcohol use, craving, mood and daily alcohol consumption in treatment-seeking patients of alcohol dependence syndrome
37. Hindi Adaptation and Psychometric Validation of Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) among Participants with Alcohol Dependence
38. Impact of Screen Time on Mental, Behavioural and Social aspects among School going Adolescents
39. Indigenously produced psychoactive substances in India: Patterns of use and Profile of users
40. Laboratory Assessment of Codeine Abuse among Substance-abuse patients based on Urinalysis.
41. Outcomes in Treatment with Tramadol for Opioid Use Disorder over 12 weeks : A Prospective Observational Study
42. Pattern and trends of serum Lithium levels in Consecutive samples received at lithium laboratory between January 2015-March 2020.
43. Problems faced by people who use drugs and responses from the drug users community during the covid-19 and subsequent lockdown in India – a qualitative study
44. Profile of substance Use based on urinalysis for consecutive referrals from psychiatric services: A retrospective review of laboratory records between 2015- 2020.
45. Psychological Correlates of Caregiving among the caregivers of patients with Schizophrenia
46. Study of the factors affecting Recovery Capital in patients with Alcohol and Opioid dependence
47. Substance use among homeless men receiving services from shelter homes in Delhi

### **Completed**

1. A clinical trial to find the effect of transcranial direct current stimulation (tDCS) on craving to smoke tobacco among opioid dependent smokers maintained on Buprenorphine
2. A comparative study of Ethyl glucuronide (EtG) and Fatty acid ethyl ester (FAEE) with other conventional biomarkers in Alcohol Dependent subjects
3. A comparative study of serum brain-derived neurotrophic factors levels in-patients with alcohol dependence, depression and co-morbid alcohol dependence and depression
4. A comparative study to assess the psycho- social correlates of gaming disorder among college students
5. A Longitudinal Observational Study to Assess Treatment Retention Rate & Predictors of Treatment Retention among Patients with Opioid Use Disorder

6. A pilot follow up study on retention and outcome in patients with opioid dependence
7. A study of the Feasibility, Acceptability and Preliminary Effectiveness of a Mobile Methadone Dispensing Model Intervention for Opioid Use Disorder in Delhi-NCR, India
8. Assessing client related factors influencing initiation of opioid substitution therapy among Injecting Drug Users: A Community based, Cross Sectional, Comparative Study
9. Assessment of Cannabis use Among Alcohol and Opioid Dependent Subjects based on Urinalysis: A retrospective Chart Review.
10. Assessment of factors associated with short term retention of opioid dependent subjects on oral Naltrexone
11. Assessment of reasons, status of, and factors associated with drop-out in patients on Opioid Substitution Therapy: A cross-sectional, comparative, community-based study
12. Assessment of sexual behavior among patients seeking treatment for opioid dependence at NDDTC
13. Assessment of Stress Biomarkers in Opioid Dependent Youth and its association with stress and coping: An Exploratory Study
14. Association of Tobacco Smoking with Psychiatric Co-morbidities among Patients with Chronic Obstructive Pulmonary Disease (COPD)
15. Correlates of family functioning in adolescent substance users
16. Effect of Cannabis on serum Brain Derived Neurotrophic Factor level and its relation with psychosis – A cross-sectional exploratory study.
17. Effectiveness of reminders using Phone call versus Short Message Service on treatment retention in patients with Substance Use Disorders: An open label randomised trial
18. Family Functioning and Parenting Styles in Adolescent Substance Use
19. Gambling disorder and its socio- demographic correlates among treatment seeking patients with alcohol use disorders
20. Neurological soft signs and their correlates among patients with cannabis use disorder with and without psychosis: a cross-sectional comparative study
21. Study on the association of polymorphism, methylation and expression status of the genes of monoamine pathways in Alcohol dependence
22. Substance Use in Children and Adolescents with Attention Deficit Hyperactive Disorder : A Exploratory Study
23. Trazodone for sleep disturbance in opioid dependent patients maintained on buprenorphine: a double blind, placebo-controlled trial

## **Collaborative Projects**

### ***Ongoing***

1. A Cross-Sectional Study to Screen for Psycho-sexual Health Disorders and Measure Neurochemical Correlates in Gynecology Cancer Survivors, Department of Gynaecology and Radiology
2. A hermeneutic phenomenological study on experiences of living donors post kidney transplant at AIIMS New Delhi, Nursing
3. A study to compare the anxiety, depression and quality of life (QOL) among caregivers of children with cerebral palsy and those with typically developing children attending Paediatric Neuro OPD at AIIMS, New Delhi, Nursing
4. A Study to explore the of Gamma Synuclein as a Potential Biomarker in Breast Cancer, Surgery
5. Anxiety and apprehensions among infertile women and women planning pregnancy amidst COVID-19 Pandemic, Department of Gynaecology and Obstetrics
6. Clinical severity and distress in periocular and ocular malignancy patients during COVID pandemic, Ophthalmology
7. Comparison of Double “J” and infant feeding tubes as stents in open Cohen’s ureteric reimplantation in terms of hospital stay -a Randomized study, Paediatric Surgery
8. Development and validation of an assessment tool for traumatic maxillofacial and dental re-injury associated fear and anxiety in 10-16 years old boxers in Delhi NCR region, Dental
9. Enhancing Mental Health and Substance Use Literacy among College Going Students in National Capital Territory of Delhi- An Intervention Study, Centre for Community Medicine
10. Functional outcome of patients undergoing thoracic surgery for benign Pulmonary and pleural diseases: an ambispective cohort study, Surgery
11. HRV and autonomic parameters for supplementing clinical assessment of opioid withdrawal, Physiology
12. Psychosocial factors among patients undergoing orbital exenteration, Ophthalmology

### ***Completed***

1. A vignette based cross-sectional study to assess health care professional’s perspective on various ethical dilemma clinical situation, Medical Oncology
2. Default Mode Network of addictive disorders: A Quantitative EEG study, Physiology

## PUBLICATIONS

Journals: 67

Abstracts: 1

Chapters in books: 14

Books and monographs: 3

## PATIENT CARE

### Biochemistry Laboratory (April 2020 to March 2021)

- 1) Total biochemistry tests: 81269
- 2) Total Serum Electrolytes tests: 5135
- 3) Total haematology tests: 48995
- 4) Total HIV screened: 735

### Yearly record of Drug Screen Laboratory (April 2019 to March 2020)

Total number of drugs of abuse screened in urine = 4282

	Drugs Test	Nos.
1.	Morphine	573
2.	Codeine	333
3.	Buprenorphine	508
4.	Chlorpheniramine maleate	379
5.	Tramadol	549
6.	Pentazocine	379
7.	Benzodiazepines	766
8.	Cannabis	100
9.	Cotinine	46
10.	Barbiturate	100
11.	Amphetamine	100
12.	Cocaine	100
13.	Naltrexone	348
14.	Inhalants	1
	<b>Total number of drugs tested in urine</b>	<b>4282</b>

## I. OUT-PATIENT SERVICES

Statement showing the data of Hospital Statistics for the financial year 2020-2021 i.e. (1 April 2020 to 31 March 2021).

GENERAL OPD	NEW CASES	OLD CASES	TOTAL
NDDTC	4613	37668	42281
TRILOKPURI (COMMUNITY CLINIC)	217	24658	24875
SUNDER NAGRI (COMMUNITY CLINIC)	480	96504	96984
KOTLAMUBARAKPUR (COMMUNITY CLINIC)	158	7495	7653
TOTAL CASES	5468	166325	171793

SPECIALITY CLINIC			
ADOLESCENT CLINIC	07	82	89
DUAL DIAGNOSIS	05	227	232
TOBACCO CESSATION	04	89	93
WOMEN CLINIC	08	39	47
FAMILY EMPOWERMENT CLINIC	NIL	04	04
TOTAL CASES	24	441	465
GRAND TOTAL OF CASES	5492	166766	172258

## II. OTHER PATIENT CARE STATISTICS

Total No. of admission	65
Total No. of operation theatre/ cases	N/A
Total No. of patients visited Day care	N/A
Total No. of death	NIL
Average no. of admission per working day	1.18
Average no. of OPD attendance per working day at NDDTC (New patients)	22
Average no. of OPD attendance per working day at NDDTC (Old patients)	127
Average no. of OPD attendance per working day at Trilokpuri clinic (New patients)	1.05
Average no. of OPD attendance per working day at Trilokpuri clinic (Old patients)	83
Average no. of OPD attendance per working day at Sunder Nagri community clinic (new patients)	1.88
Average no. of OPD attendance per working day at Sunder Nagri community clinic (old patients)	264
Average no. of OPD attendance per working day at Kotla Mubarakpur Community clinic (new patients)	0.76
Average no. of OPD attendance per working day at Kotla Mubarakpur Community clinic (old patients)	25
Bed occupancy in a year	15%
Average length of stay	8 days

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Rakesh Chadda** is Secretary General, World Association of Social Psychiatry; Member, Editorial Board, BJ Psych International Member, Delhi High Court Legal Services Committee; Member Selection Committee, KGMU, BHU, AIIMS, Kalyani; Member, Expert Group to discuss and finalize Faculty Development Program for Post Graduate teachers and its implementation; Convenor, Specialist Board in Psychiatry, National Board of Examinations; Nominated Member, Institute of Eminence, University of Delhi; Nominated Member, Governing Body, Ramanujan College, University of Delhi; Member, Finance Committee, National Academy of Medical Sciences (India); Chair, Psychotherapy Sub Committee, Indian Psychiatric Society; Chair, Awards Committee, Indian Association for Social Psychiatry; Member, Deans Committee, AIIMS; Organized Webinar on Cognitive Behaviour Therapy, Psychotherapy Sub Committee, Indian Psychiatric Society, 30th May, 2020; Organized Webinar on Case based Discussion on CBT in anxiety and depression. Psychotherapy Sub Committee, Indian Psychiatric Society, 6 June 2020; Conducted online Workshop on “Stress management in police personnel”, Bureau of Police Research and Development, 29 September 2020.

**Professor Raka Jain** was nominated as Admission Committee Member for admission to Ph.D. Program at Center of Excellence in Pharmaceutical Sciences (CEPS), for the session 2020-2021, Guru Gobind Singh Indraprastha University, Govt. of Delhi, Sector 16-C Dwarka Delhi; Nominated as a member for Centre Research and Consultancy Committee (CRC) for “Centre of Excellence in Pharmaceutical Sciences” dated 5.10.2020 for one year, Guru Gobind Singh Indraprastha University, Govt. of Delhi, Sector 16-C Dwarka Delhi; An External Expert for the Ph.D. Program at CEPS, Guru Gobind Singh Indraprastha University, Sector 16-C Dwarka Delhi dated 21.10.2020; Appointed as steering Committee member of the Guru Gobind Singh Indraprastha University, Govt. of Delhi, attended and participated in Steering Committee meeting (online) held on 22.10.2020; As an expert attended and participated in a Virtual meeting of Scientific support Group for hand holding in analysis and conducting research for National Tobacco Testing Laboratories (NDDTL) on 6.10.2020, organized by MoH & FW. GOI; As an expert participated in webinar on the topic ‘Evidence Multistat’- A fully automated analyser to detect New Psychoactive substances and Roadside drug testing dated 7.6.2020 organised by the University of Calicut, Malappuram, Kerala in collaboration with Kerala Police Academy and Indian Criminology & Forensic Science Association (ICFSA); As an Expert Committee member of the WHO Expert Advisory Panel on Drug Dependence (Dependence Liability Evaluation), attended and participated in the virtual online 8th Working Group of the Expert Committee on Drug Dependence (ECDD) held on 20.4.2020 and 8.5.2020; As an Expert Committee member of the WHO Expert Advisory Panel on Drug Dependence (Dependence Liability Evaluation, attended and participated in the World Health Organization (WHO) Virtual Online “43rd Expert Committee Meeting on Drug Dependence (43rd ECDD, 12th-20th Oct. 2020). Presented two peer reviews of New Psychoactive Substances as an expert; Also evaluated a Ph. D thesis of Dr B.R. Ambedkar Center for Biomedical Research. University of Delhi. New Delhi; Recipient of the 9th EZAMA Award (bronze medal) for Young Investigators on Addiction Medicine for oral Presentation at ISAM Asia; Recipient of the 9th EZAMA award- honorary diploma for Young Investigators on Addiction Medicine for oral Presentation at ISAM Asia.

**Professor Rakesh Lal** was Virtual webinar participant UNODC WHO Informal Scientific network meeting Management of drug use disorders and Covid 19, March 29, 2021; Reviewer for journal: *The Primary Care Companion for CNS Disorders* is an international, peer-reviewed, online-only journal, and its articles are indexed by the National Library of Medicine in MEDLINE/PubMed; Nurses training proposal within city and nationally. Proposal accepted by Nursing council, Ministry of Health and Family welfare. Principal coordinator: Rakesh Lal; Nursing coordinator Dr Sandhya Gupta; Coordinated with



students of Architectural colleges to design a Drug Dependence Management Centre; Coordinated 1 day program of training of B.Sc nursing students from AIIMS.

**Professor Anju Dhawan** conducted four Online Meditation and Breath Workshops for Doctors and Nurses on Covid-19 duty in 3 batches on 29-31 May 2020, 5-7 June 2020, 12-14 June 2020, 23-25 June 2020 attended by 150 participants; Conducted an Online Meditation and Breath Workshops for AIIMS faculty on 16-18 June 2020 attended by 60 participants; Membership International Society of Addiction Medicine (ISAM) Training and Education Committee; Member expert panel of Wellness Programs Department, Art of Living for drafting substance use modules integrating yoga and psychological interventions as early intervention for substance users; Involved in drafting the Campus Intervention for Substance use among AIIMS students – policy and action.

**Professor Sonali Jhanjee** Was a resource person for World Health Organization Virtual Training Workshop on Tobacco Dependence Treatment for Bhutan 17-19 March 2021; Was a co-author in the paper titled “Role Of Cerebellum In Cue Induced Craving To Nicotine – A Functional MRI Study” which received the College on Problems of Drug Dependence (CPDD), National Institute of Drug Abuse( CPDD-NIDA) international best poster award; Conducted four Online Meditation and Breath Workshops for frontline workers on COVID– 19 duty on 29-31 May 2020, 5- 7 June 2020, 12-14 June 2020, 23-25 June 2020 attended by 150 participants.

**Professor Atul Ambekar** was nominated by the Government of India as a member of the Indian delegation at the intersessional meetings and thematic meetings of the Commission on Narcotic Drugs (CND), Vienna, [held virtually], in July 2020, October 2020 and December 2020; Nominated as Member, expert committee constituted by the Ministry of Home Affairs, Government of India to examine the strategies to control diversion of ‘dual use’ chemicals; Nominated by Ministry of Health and Family Welfare (MoH&FW), Govt. of India for representing India at the South East Asia Regional consultation on Action Plan for WHO Global strategy to reduce harmful alcohol use (March 2021); Conferred honorary fellowship, Centre for Criminology, the University of Hong Kong; Nominated as Member, Governing Body, Rajkumari Amrit Kaur College of Nursing, Delhi University (2021-2023); Nominated as member, Post Graduate Board of Studies, Institute of Mental Health, Pt. B D Sharma University of Health Sciences, Rohtak, Haryana; Nominated as expert member, Board of studies (DM Addiction Psychiatry), AIIMS, Rishikesh; As the nodal officer, initiated the implementation of the Addiction Treatment Facility (ATF) scheme of Ministry of Social Justice and Empowerment (MoSJE), Govt. of India, under which 21 hospitals across the country were approved to initiate ATFs under the mentorship of NDDTC AIIMS; Engaged as subject matter expert by World Psychiatric Association and American College of Cardiology on online course on substance use disorders; Nominated as Member, certification and course committee, Indian Psychiatric Society (2021-2022); External reviewer for thesis for MD Psychiatry at Srimanta Sankardeva University of Health Sciences, Guwahati; Nominated as member Scientific Committee – INEBRIA (International Network on Brief Interventions for Alcohol & Other Drugs) International Conference, September 2021 (Goa).

**Dr Yatan Pal Singh Balhara** is Member, planning group for formulation of cyber safety guidelines for schools by the National Commission for Protection of Child Rights (NCPCR), 2020-2021; Elected Member, Advisory Committee of World Association of Dual Disorders (WADD), 2018-2021; Member, Expert Working Group for finalising the Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders of the Colombo Plan Drug Advisory Programme (CPDAP), 2017 onwards; Member, Advisory Panel on Cyber Awareness Ambassador Program, South- East District, Delhi Police, India, 2017 onwards Member, Advisory Board, the Southeast Asia - HIV Addiction Technology Transfer Center (SEA-HATTC), 2018-2020; Nominated as Zonal Representative of World Association of Dual Disorders (WADD), 2015 onwards; Elected Member, Education Core Committee of World Psychiatric Association (WPA), 2014- onwards; Member, Education Committee of the International Society for Bipolar Disorders (ISBD), 2011 onwards; Global Mental Health Scholar, WHO and Columbia University, USA, 2014-2020 Collaborative Member, Gulbenkian Global Mental Health Platform- a collaborative effort by Calouste Gulbenkian Foundation, Department of Mental Health of the Faculty of Medical Sciences (NOVA University of Lisbon), and World Health Organization (WHO), 2013- onwards.

**Dr Ravindra Rao** is Technical expertise to National Drug Agency, Republic of Maldives, to start Methadone Maintenance Treatment (MMT) for individuals with opioid dependence; Assisted in initiation a society for addiction psychiatry professionals in India, named ‘Addiction Psychiatry Society of India’ and nominated as treasurer of the society; Developed online training modules for medical professionals for emergency management of individuals with alcohol use disorders and opioid use disorders subsequent to imposition of lockdown due to Covid-19 pandemic in India.

**Dr Ashwani Kumar Mishra** received certification of completion with 91.2% Marks for the successful completion of the course on Systematic Review and Meta-Analysis, from John Hopkins University, USA; Appointed as the Associate Editor for Frontiers in Public Health for the specialty section Public Mental Health; Received Grant of INR 1,50,000 from Department of Science and Technology (DST), under the scheme Karyshala Scheme for organizing ten days online training workshop on the topic Analytical Methods for Statistical Analysis in Mental Health; Served as the Course Coordinator for the PhD coursework on Research Methodology for HNB Medical Education University, Dehradun, Uttarakhand; Scientific Reviewer – Indian Journal of Medical Research, National Medical Journal of India, Health, The American Journal of Alcohol and Drug Abuse, Acta Astronautica, Frontiers, National Medical Journal of India, Health; Continuing as the Elected Member of International Institute; Continuing as the Elected Member of International Association for Statistical Education; Continuing as Member– International Society for Clinical Biostatistics.



**Dr Rachna Bhargava** is Associate-cum-Speciality Editor in Journal of Indian Association of Social Psychiatry; Executive member, IASP

**Dr Prabhu Dayal** was nominated expert member, speciality sub-group TB-Tobacco & Substance abuse, National Technical working group on TB-Co-morbidities for development of framework, guidelines on management and capacity building materials for India, Ministry of Health and Family Welfare, Government of India.

**Dr Piyali Mandal** was recipient of NIDA (USA) International Travel Award, 2020; Organized half day programme on Orientation and training of residents and nursing officers on emergency management on 29 January, 2021.

**Dr Roshan Bhad** was recipient of “Young Psychiatrist Award” for the paper titled “Preliminary investigation of stress biomarker responses to stress and coping in adolescent inhalant users from India: a case control study” presented at 2nd Research and Education Center of Bridging, Asian Mental Health and Psychiatry (REBAMP) Conference, Taiwan, 11, 18, 25 July 2020; Elected as a Chair of ISAM NExT (New Professionals Exploration Training & Education Committee of International Society of Addiction Medicine- ISAM), 30-member committee consisting members from 20 countries; Admitted as an Ex-Officio Board of Director (BOD) at International Society of Addiction Medicine (ISAM), a largest organization of addiction medicine professionals in the world.

## 10.7. Neurosciences Centre

### Neurology

**Professor and Head**  
MV Padma Srivastava

Manjari Tripathi

**Professors**  
Rohit Bhatia

Mamta Bhushan Singh

**Additional Professor**  
Deepti Vibha

Vishnu VY  
Rajesh Kumar Singh  
Animesh Das

**Assistant Professors**  
Roopa Rajan  
Anu Gupta  
Divya MR  
Ayush Agarwal

Awadh Kishor Pandit  
Elavarasi  
Bhargavi Ramanujam

### Neurosurgery

**Professor and Head**  
Shashank Sharad Kale

Prakash Narain Tandon

**Emeritus Professors**

Ajit K Banerji

P Sarat Chandra  
Manmohan Singh

**Professors**  
Ashish Suri  
Deepak Agrawal (JPNATC)  
Gurudutt Satyarthee (JPNATC)

Rajinder Kumar  
Deepak Gupta (JPNATC)

Pankaj Kumar Singh (JPNATC)

**Additional Professors**  
Vivek Tandon

Sachin Borkar

Hitesh Gurjar  
Rajeev Sharma  
Dattaraj Sawarkar

**Associate Professors**  
Amandeep Kumar  
Shweta Kedia  
Kanwaljeet Garg

Shashwat Mishra  
Ramesh Doddamani  
Manoj Phalak

Amol Raheja  
Santanu Kumar Bora

**Assistant Professors**  
Satish Verma

Rajesh Meena  
Kolulla Praneeth

### Neuroimaging and Interventional Neuroradiology

**Professor and Head**  
SB Gaikwad

**Professor**  
Ajay Garg

**Additional Professor**  
S Leve Joseph Devarajan

### Neuroanaesthesiology

**Professor and Head**  
Arvind Chaturvedi

	<b>Professors</b>	
Mihir Prakash Pandia Girija Prasad Rath		Rajendra Singh Chouhan Hemanshu Prabhakar
	<b>Additional Professors</b>	
Gyaninder Pal Singh (JPNATC) Keshav Goyal (JPNATC)	Ashish Bindra (JPNATC)	Niraj Kumar (JPNATC) Navdeep Sokhal (JPNATC)
	<b>Associate Professors</b>	
Charu Mahajan	Indu Kapoor	Surya Kumar Dube
	<b>Assistant Professors</b>	
Vanitha Rajgopalan		Suman Sokhal
	<b>Clinical Neuro-psychology</b>	
	<b>Professor</b>	
	Ashima Nehra	
	<b>Neuropathology Section</b>	
	<b>Professor</b>	
Chitra Sarkar	Mihir Chand Sharma	Vaishali Suri
	<b>Hospital Administration</b>	
	IB Singh	
	<b>Chief Medical Officer</b>	
	Anjali Hazarika	

## HIGHLIGHTS

In the year 2020-2021, the Neurosciences Centre continued to scale newer heights in the domains of patient care, research and training, despite continuing COVID-19 crisis. Prof. M.V. Padma Srivastava was elected as a fellow of the prestigious INSA. The department in collaboration with the Neurology department of PGIMER Chandigarh, organized a 7-day virtual teaching program for neurology trainees in addition to two other virtual academic conferences. Neurosurgery department was the first department to conduct online MCh exit examination in May 2020 followed by department of Neurology. Prestigious 23rd Annual Micro neurosurgery Workshop was conducted in March 2021. A state-of-art 128 slice dual energy CT scanner installed replacing the 10-year-old 6-slice CT scanner. The existing 1.5T MR was upgraded to 'silent MR' system. Upgrading of PACS network was done with installation of newer stations and Wi-Fi access. New facilities have been added for the molecular diagnosis and cytogenetic work-up in routine work up in neurooncology, which include *in-situ* hybridization, capillary, real-time PCR etc. The diagnostic immunohistochemical panel has been expanded. Neuropsychiatry division was Nominated for the World Health Organization (WHO) TBI Rehabilitation Working Group Member: under the aegis: Rehabilitation 2030. All the departments and divisions received prizes at various virtual national and international conferences and continued to excel with a number of high impact publications.

## Neurology

## HIGHLIGHTS

In the year 2020-21, the Department of Neurology continued to scale new heights in patient care, research, and training, despite the COVID-19 crisis. Prof. M.V. Padma Srivastava was elected as a fellow of the prestigious Indian National Science Academy, dedicated towards promotion of science for national welfare and fostering international collaborations. The department in collaboration with the Neurology department of PGIMER Chandigarh, organized a 7-day virtual teaching program for neurology trainees on a novel theme – 'Of the residents, for the residents and by the residents. In this academic venture, the residents were given a platform for live case-based discussions and debates. The department organized two other virtual academic conferences focussed on dissemination of knowledge and improving clinical skills of residents and practitioners, on a National and regional platform. In the research arena, the department continued to excel with several other publications in high impact factor journals.

## EDUCATION

In view of the COVID pandemic, in the year 2020-2021, the Neurology department adopted virtual mode to ensure timely completion of training for undergraduates, postgraduates and nursing students through case presentations, seminars, journal clubs, thesis progress and dedicated topic wise approach. Virtual classes were started for postgraduates where they presented cases and disease updates, moderated by faculty members. The DM entrance and exit examinations were also successfully completed virtually. A standardized, virtual case-repository was developed for the same. Preliminary efforts were taken towards developing a Neurology Resident Training Module as part of E-curriculum. The department in collaboration with the Neurology department of PGIMER Chandigarh, organized a 7-day virtual teaching program for neurology trainees on a novel theme – ‘Of the residents, for the residents and by the residents’. In this academic venture, the residents were given a platform for live case-based discussions, debates and interactive quiz.

### CMEs/Workshops/Symposia/National and International Conferences organized by department.

1. Third AIIMS-PGI Neurology Update, 23-29 November 2020, Virtual
2. DNACON 2021, 5-7 February 2021, Virtual
3. First AIIMS Botulinum Toxin Workshop, 19-21 March 2021, Virtual

### Lectures delivered:

**MV Padma Srivastava: 4**

**Mamta Bhushan Singh: 4**

**Roopa Rajan: 9**

**Anu Gupta: 3**

**Divya MR: 4**

**Achal Srivastava: 7**

**Deepti Vibha: 4**

**Awadh Kishor Pandit: 2**

**Elavarasi: 3**

**Bhargavi Ramanujam: 4**

**Rohit Bhatia: 9**

**Vishnu VY: 1**

**Rajesh Kumar Singh: 2**

**Animesh Das: 2**

**Ayush Agarwal: 1**

### MV Padma Srivastava

1. Stem cells in stroke recovery, Virtual World Stroke Congress. 2020, October 2020, Virtual
2. Intracranial atherosclerotic disease – management issues, AIIMS PGI neurology update (APNU), 23-29 November 2020, Virtual
3. Neurologic manifestations versus neurologic associations of COVID-19 based on pathophysiology, Virtual Annual meeting of Delhi neurological Association, 5-7 February 2021, Virtual
4. IVT in special populations, Virtual Indian national stroke conference, 17-19 March 2021, Virtual

### Achal Srivastava

1. A case of ataxia, FINE Webinar Session for PG Medical Students, 9 July 2020, Virtual
2. Adult-onset ataxias - Indian perspective, Virtual Agrim Neurology Update (VANU) 2020, 10 October 2020, Virtual
3. Neurobiomarkers, Vaishvik Bhartiya Vaigyanik (VAIBHAV) Summit 2020, 14 October 2020, Virtual
4. Functional Genomics in Spinocerebellar Ataxia, UQ-IITD-AIIMS Research Symposium, 5 November 2020, Virtual
5. Treatable ataxias, AIIMS PGI neurology update (APNU), 23-29 November 2020, Virtual
6. Dissecting adult leukodystrophies, Virtual Annual meeting of Delhi neurological Association, 5-7 February 2021, Virtual
7. Overview: Basics of Botulinum Neurotoxin injection, AIIMS Botulinum Neurotoxin Update 2021, 19 March 2021, Virtual

### Rohit Bhatia

1. IAN autoimmune subsection symposium, Webinar on Managing MS and Related Disorders during COVID-19, 24 May 2020, Virtual
2. Mapping Acute Stroke Treatment Gaps in Low- And Middle-Income Countries, Virtual World Stroke Congress. 2020, October 2020, Virtual
3. World stroke day webinar Moderator, Webinar Indian Stroke Association, 29 October 2020, Virtual
4. Spectrum Of Demyelinating Disorders, AIIMS PGI neurology update (APNU), 23-29 November 2020, Virtual
5. Managing stroke, Online class for trainees for JSS Chattisgarh, December 2020, Virtual
6. Escalation/ de-escalation in multiple sclerosis, Virtual Annual meeting of Delhi neurological Association, 5-7 February 2021, Virtual
7. Types of research designs, IAN research methodology course, 26 February 2021, Virtual
8. Grey areas in CNS Demyelination Diagnosis and Management, Virtual Annual Telangana neuro society meeting, March 2021, Virtual
9. Decompressive craniectomy in stroke, Virtual Indian national stroke conference, 17-19 March 2021, Virtual

### **Mamta Bhushan Singh**

1. EEG Rapid fire, AIIMS-PGI Neurology Update, 27 November 2020, Virtual
2. Epilepsy in the times of COVID, AINA Virtual Epilepsy Annual Meeting, 6 December 2020, Virtual
3. Pregnancy and epilepsy: Neurologist's point of view, Pregnancy and Epilepsy CME organised by LHMC, 7 December 2020, Virtual
4. Can outreach clinics reduce epilepsy treatment gap? 23rd DNACON, 5 February 2021, Virtual

### **Deepti Vibha**

1. How do I approach a case of TBM, Annual AIIMS-PGI conference, 23-29 Nov, 2020, Virtual
2. Eligibility for endovascular treatment in the 6 to 24-hour time window: Retrospective study from India, Society of Vascular and Interventional Neurology (SVIN) 2020, 18-21 November 2020, Virtual
3. Neurocritical Journal Club, Neurocritical Care Subsection of the Indian Academy of Neurology, 25-26 January 2021, Virtual
4. Applications of Neurosonology in outpatient clinic, 23rd Annual Conference of Delhi Neurological Association", 20 March 2021, Virtual

### **Vishnu VY**

1. Limb girdle muscular dystrophy, Annual AIIMS-PGI conference, 23-29 Nov, 2020, Virtual

### **Roopa Rajan**

1. Deep Brain Stimulation in KMT2B dystonia, MDSI Webinar, 16 April 2020, Virtual
2. What is the importance of a research paper in your name?, Webinar: Explore- Research Made Easy. Jubilee Mission Medical College and Research Institute, Thrissur, Kerala, 16-September 2020, Virtual
3. Case-in-a-box Movement Disorders., Virtual Agrim Neurology Update, New Delhi, 18 October 2020, Virtual
4. Medical Management of advanced Parkinson's Disease: Motor Fluctuations and Dyskinesias, AIIMS-PGI Neurology Update, 25 November 2020, Virtual
5. Hyperkinetic Movement Disorders: Phenomenology Detection, AIIMS-PGI Neurology Update, 29 November 2020, Virtual
6. Integrated Care for Movement Disorders, German Parkinson's Network Conference, 4 December 2020, Virtual
7. Heterogeneity of Parkinson's disease: Phenotype and their progression, DNACON 2021, 5 February 2021, Virtual
8. Rare Movement Disorders: Treatment matters, First Indian Rare Movement Disorders Symposium, 28 February 2021, Virtual
9. Botulinum neurotoxin for tremors, AIIMS Botulinum Neurotoxin Update, 21 March 2021, Virtual

### **Awadh Kishor Pandit**

1. Debate by residents (Low NIHSS with M1 occlusion: to intervene or not?), AIIMS-PGI Neurology update, 23 November 2020, Virtual
2. Endovascular therapies in AIS, 23rd Annual Conference of Delhi Neurological Association", 5 February 2021, Virtual

### **Rajesh Kumar Singh**

1. Management of Neurocysticercosis and case discussion, AIIMS PGI Neuro-update, 24 November 2020, Virtual
2. Tuberculoma- How I treat? DNACON, 7 February 2021, Virtual

### **Anu Gupta**

1. Surgical management of IHH, Neuro-ophthalmology web series, 9 August 2020, Virtual
2. Cortical vision loss – how I proceed? Neuro-ophthalmology web series, 5 September 2020, Virtual
3. Pathognomic Neuro-ophthalmology findings – Now you see it, now you know it, DNACON 2021, 6 February 2021, Virtual

### **Elavarasi**

1. Air pollution and cognition, "**Doctors For Clean Air,**" a national campaign by Doctors in India to advocate for Clean Air.", 6 September 2020, Virtual
2. Wake up stroke: A case based approach, AIIMS-PGI Neurology Update 2020, 23 November 2020, Virtual
3. Guidance techniques for Botulinum toxin injection, Annual AIIMS Botulinum neurotoxin update 2021, 19 March 2021, Virtual



### **Animesh Das**

1. Acute onset fever and altered sensorium, AIIMS-PGI update, 2021, 24 November 2020, Virtual
2. How I approach it- A child who moves too much, DNAICON-2021, 7 February 2021, Virtual

### **Divya MR**

1. Approach to Acute Vision Loss- Case Based Discussion, 3rd AIIMS-PGI Neurology Update, November, 2020, Virtual
2. Deep Brain Stimulation – Indications, DNAICON 2021, February 2021, Virtual
3. Myasthenia Gravis- “What Every Nurse Must Know”, Delhi Nurses Association Annual Conference 2021, February 2021, Virtual
4. Basics of Botulinum Toxin – Blepharospasm and Hemifacial Spasm, 1st Annual AIIMS Botulinum Toxin Workshop, March 2021, Virtual

### **Bhargavi Ramanujam**

1. SUDEP, Emergencies In Epilepsy (ONLINE), 19/06/2020, Virtual
2. Paediatric New-Onset Epilepsy Case Discussion, APNU 2020 (ONLINE), 27/11/2020, Virtual
3. ‘Mother Knows Best’, DNA meeting (ONLINE), 06/03/21, Virtual
4. Epilepsy surgery Case Discussion, Comprehensive Epilepsy Surgery Online Course Series- X, 21/03/21, Virtual

### **Ayush Agarwal**

1. Short duration proximal muscle weakness – a case based discussion, 3rd AIIMS-PGI Neurology Update, November, 2020, Virtual

### **List of oral papers/posters presented: 27**

1. Agarwal A, Sharma J, Srivastava MVP, Bhatia R, Singh MB, Gupta A, Pandit AK, Singh RK, Rajan R, Dwivedi S, Upadhyay A, Garg A, Vishnu VY, Early post stroke seizures in acute ischemic stroke: A prospective cohort study, American Academy of Neurology 2021, April 2021, Virtual
2. Agarwal A, Srivastava MVP, Gupta A, Rajan R, Garg A, Mishra B, Singh MBS, Bhatia B, Vishnu VY, Cysticidal therapy for diffuse parenchymal and calcific cysticercosis, American Academy of Neurology 2021, April 2021, Virtual
3. Anandapadmanabhan R, Rajan R, Saini A, Srivastava AK, Essential tremor and essential tremor plus are essentially similar on electrophysiological tremor analysis, MDS Virtual Congress 2020, 12 September 2020, Virtual
4. Anandapadmanabhan R, Roopa Rajan, Arti R, Saini, Achal A, Srivastava, AK. Comparison of automated spiral characteristics with the electrophysiological analysis of tremors, DNAICON 2021, 5 February 2021, Virtual
5. Bhatele P, Tripathi M, Garg A, Vibha D, Singh RK, Elavarasi A, Ramanujam B, Pediatric Autoimmune Neuropsychiatric Disorder Associated With Streptococcus Pyogenes Infection (PANDAS)- A Case Report, DNAICON 2021, 5 February 2021, Virtual
6. Divya M, Radhakrishnan, Kishan Raj K, Parthiban Bala P, Ajay Garg A, Achal Srivastava A, Electrophysiological And Magnetic Resonance Neurography Correlate Of Non-Traumatic Common Peroneal Neuropathy, American Academy of Neurology 2021, April 2021, Virtual
7. Elavarasi A, Srivastava MVP, Agarwal M, Agarwal S, Arushi, Dhinghra LS, Patel LJ, Patient experience of a pilot neurology Tele-follow up program initiated at AIIMS during the COVID-19 pandemic, AIIMS Institute Day 2020, 25 September 2020, New Delhi
8. Fatima S, Elavarasi A, Tripathi M, Vibha D, Ramanujam B, Singh RK, Garg A, Joseph L, Bindra A, Gupta A, Bansal R, AIIMS, New Delhi, Acute carotid revascularization by carotid stenting for the treatment of stuttering stroke after recent thrombolysis in a nonagenarian: Aa case report, DNAICON 2021, 5 February 2021, Virtual
9. Gomathy SB, Siripurapu G, Das A, Srivastava AK, Radhakrishnan DM, Idiopathic Hypoparathyroidism Presenting As New Onset Refractory Status Epilepticus(Won 2nd Best Poster Award), DNAICON 2021, February 2021, Virtual
10. Gupta A, Gupta Y, Anjana RM, Sharma G, Jyotsna VP, Ranjani H, Sagar R, Mohan V, Tandon N, Prevalence of cognitive impairment and association with metabolic risk factors, depression and sleep quality in Indian patients with Type 2 Diabetes, AAIC Neuroscience Next, 10 November 2020, Virtual
11. Lanjiwar M, Srivastava AK, Jaryal A, Rajan R, Pandit AK, Vibha D, Prasad K, Sleep and Autonomic dysfunction in? Idiopathic Sporadic Progressive Cerebellar Ataxia, Virtual Agrim Neurology Update (VANU) 2020, 10 October 2020, Virtual
12. Moganty R, Pathak D, Srivastava AK, Gulati S, Genetic, biochemical and clinical findings in Friedreich’s ataxia patients – relationship with the disease severity, MDS Virtual Congress 2020, 12 September 2020, Virtual

13. Narang MK, Srivastava AK, Kumaran SS, Padma MV, Rajan R, Mohd Faruq M, Aggarwal R, Prasad K, Dentato-Rubro-Thalamic (DRT) tract dysfunction in the emergence of tremor in Spinocerebellar ataxia type -12, DNACON 2021, 5 February 2021, Virtual
14. Nehra A, Srivastava AK, Rajan R, Singh R, Khan M, Sharma P, Narain A, How cultural beliefs buffer against suicide in Parkinson's disease patients with Depression: An Indian Karmic Perspective, MDS Virtual Congress 2020, 12 September 2020, Virtual
15. A.K. Pandit AK, K. Prasad K, V. Padma V, Vishnu Vy, R. Bhatia R, S. Gaikwad S, S.L. Josef SL, and A. Garg A, Efficacy and safety of injection Tenecteplase in 4.5 to 24 hours imaging eligible window patients with acute ischemic stroke (AIS)., World stroke congress virtual meeting., October 2020, Virtual
16. Pedapati R, Bhatia R, Shakywar M, Gupta A, Vishnubhatla S, Padma MV, Tripathi M, Singh M, Singh R, Vishnu VY, Rajan R, Gupta A, Prasad K, The role of structured education to care givers in reducing complications in hospitalized stroke patients and improving their outcomes – a cluster randomized trial, World stroke congress virtual meeting., October 2020, Virtual
17. Rajan R, Anandapadmanabhan R, Saini A, Venugopalan VY, Gupta A, Bhatia R, Singh M, Srivastava A, Srivastava MVP, Botulinum Toxin Injections for Upper Limb Dystonia with Tremor, MDS Virtual Congress 2020, 12 September 2020, Virtual
18. Sahib A#, Divya MR, Das A, Pandit AK, Srivastava AK, Aggarwal S, Paraneoplastic peripheral neuropathy in papillary carcinoma of thyroid: A rare presentation., 23rd Annual Conference of Delhi Neurological Association, 5 February, 2021, Virtual
19. Saini A, Rajan R, Anandapadmanabhan R, Vishnu VY, Gupta A, Verma B, Choudhary N, Bhatia R, Singh M., Srivastava A, Srivastava MVP, Anticholinergic Burden in Parkinson's Disease Patients in India – A Hospital Based Study, MDS Virtual Congress 2020, 12 September 2020, Virtual
20. Singh I, Ahmed I, Shakya S, Srivastava AK, Clinical and genetic abnormalities in patients with Friedreich's ataxia: A genotype-phenotype correlation, MDS Virtual Congress 2020, 12 September 2020, Virtual
21. Singh RK, Vibha D, Bhatia R, Tripathi M, Garg A, Sharma MC, Singh M, Case series of biopsy proven immunoglobulin G4 (IgG4) related pachymeningitis Poster presentation, CONY 2020, 31 October 2020- 1 November 20/11/20, Virtual
22. Siripurapu G, Sahib A, Gomathy SB, Srivastava AK, Pandit AK, Divya MR, Das A., A curious case of headache that requires early suspicion and treatment., 23rd Annual Conference of Delhi Neurological Association, 5 February, 2021, Virtual
23. Sisodia P, Bhatia R, Padma MV, Saxena R, Vishnubhatla S, Prasad K, Sharma G, Singh M, Genetics Of Aspirin Resistance: Targeted Next Generation Sequencing Reveal Novel Variants Associated With Aspirin Resistance In Indian Population With Ischemic Stroke., World stroke congress virtual meeting., October 2020, Virtual
24. Srivastava AK, Ahmad I, Sharma P, Seth M, Shamim U, Singh I, Rajan R, Srivastava MVP, Mohammad F, Clinical correlation with the Genotype of Friedreich's Ataxia (FRDA) patients in Indian population, MDS Virtual Congress 2020, 12 September 2020, Virtual
25. Suroliya V, Faruq M, Srivastava AK, Genome-wide analysis of microsatellite repeats among genetically uncharacterized SCA patients in Indian population, Virtual Agrim Neurology Update (VANU) 2020, 10 October 2020, Virtual
26. Verma B, Siripurapu G, Gupta A, Srivastava AK, Rajan R., Social cognition in healthy north Indian adults., 23rd Annual Conference of Delhi Neurological Association, 5 February, 2021, Virtual
27. Vibha D, Misra S, Desai SM, Prasad K, Srivastava AK, Pandit AK, Jadhav AP, Eligibility for endovascular treatment in the 6 to 24-hour time window: Retrospective study in an academic center in India, XIV Indian National Stroke (Virtual) Conference 2021, 20 March 2021, Virtual

## RESEARCH

### Funded projects

#### Ongoing

1. A population Based Prospective Cohort Study in Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective, Achal Kumar Srivastava, DBT funded collaborative project with Rotterdam University Netherland. 7 years, 2014-2022, Rs 32 crore
2. A prospective, multicentric, randomized, double-blind, parallel, phase III clinical study to assess efficacy of PMZ-1620 along with standard treatment in patients of acute ischemic stroke. Deepti Vibha, 2 years, 2019-2021. Rs 7,48,000
3. Aspirin or clopidogrel in patients with TB Meningitis. Rohit Bhatia, ICMR, 3 years. 2019-2022. Rs 75 lakhs

4. Awareness of Head Injury While Driving in Patients With Epilepsy: A Preventive And Public Education Study, Divya MR. ICMR, 3 years, 2019-2022, 26 lakhs
5. Blood based protein biomarkers for the prediction of stroke outcome using high through-output proteomics approach, Deepti Vibha, Intramural, 3 years. 2019-2022. Rs 10 lakhs
6. Bridging therapy with intravenous Alteplase in imaging eligible Acute Ischemic Stroke patients with onset between 4.5 to 9 hours–A Randomized Controlled, Pilot Study (Funding by Intramural Grant, AIIMS, New Delhi), Awadh Kishor Pandit, AIIMS, New Delhi, 2 years, 2020- 2022, 8 lakhs
7. Can capacity building at primary care level improve access to epilepsy care in Chhattisgarh? An Implementation Research.', Dr. Mamta Bhushan Singh, ICMR, 2 years, 2021- 2023, Rs 89,10,600
8. Clinical And Genetic Profile Of Patients With Huntington's Disease And Other Hereditary Chorea's, Divya MR. AIIMS, 2 years, 2021-2023, 8 lakhs
9. Clinical and genetics characterization of dystonia using deep targeted sequencing. Dr Achal K Srivastava. ICMR. 3 years, 2019-2022, Rs 6 lakhs
10. Cognitive dysfunction in patients with Multiple Sclerosis. A Cross sectional and longitudinal study, Rohit Bhatia, DST, 3 years, 2021-2024, Rs 80 lakhs
11. CRISPR-based Editing of Regulatory Region & Expanded Triplet repeats as Therapeutic Approach in India's Most Common Hereditary Ataxias, Achal K Srivastava, DBT, 3 years, 2018- 2021, Rs 12535416
12. CSF inflammatory markers in the diagnosis of autoimmune encephalitis. Rajesh Kumar Singh, AIIMS, New Delhi. 2 years, 2021-2022, Rs 4.95 lakhs To evaluate the prevalence and incidence of cognitive deficits in relation to glycaemic control and other metabolic risk factors in elderly patients with type 2 diabetes mellitus who are at high risk of dementia, in comparison to age and sex matched control group: a multicentre cohort study, Anu Gupta, ICMR, 3 years, 2019-2022. Rs 48,59,820
13. Determination of efficacy of 9 months, 12 months, and 18 months of Anti-Tubercular Treatment (ATT) for Tuberculous Meningitis (TBM): A randomized controlled, non-inferiority Trial. Dr. Deepti Vibha, Department of Health Research. 3 years. 2019-2022. Rs 40,52,121.
14. Efficacy and safety of Cyclophosphamide in treatment of refractory proliferative arachnoiditis in Central nervous system Tuberculosis- A Randomized placebo-controlled Trial, Dr. Elavarasi A, AIIMS Intramural, 2 years, 2020-2022, Rs 6.20
15. Establishment of the Indian Stroke Clinical Trial Network (INSTRuCT), (Co-Principal Investigator For AIIMS-Site), MV Padma Srivastava, ICMR, 3 years, 2017-2020, Rs 12,11,280/-
16. Evaluation of Effects of Repetitive Trans Cranial Magnetic Stimulation At Supplementary Motor Area In Parkinson's Disease Patients With Freezing of Gait- A Randomized Sham Controlled Study, Divya MR. ICMR, 3 years, 2021-2024. Rs 24 lakhs
17. Genetic Architecture of Parkinson's Disease in India (GAP-India). Dr. Roopa Rajan, Michael J Fox Foundation. 3 years, 2019-2022. Rs 75 lakhs
18. Genomic and Proteomic Characterization of Indian Amyotrophic Lateral Sclerosis. Dr. Rohit Bhatia. AIIMS, IIT. 2 years, 2019-2021, Rs 10 lakhs
19. HLA associated genetic predisposition for hypersensitivity to antiepileptic drugs in North Indians- A case control study, Animesh Das, AIIMS Intramural Grant, 2 years, 2021-2023, 10 lakhs
20. ICMR CARE – centre for advanced neuroassistive technology for stroke recovery. Prof. MV Padma Srivastava. ICMR, 5 years, 2021-2025, Rs 5 crores.
21. Identification of brain imaging quantitative traits loci for cerebral small vessel disease among AIIMS cohort participants using genome wide association study, Achal Kumar Srivastava, DHR. 3 years, 2018-2021, Rs 27 lakhs
22. Indian Multiple Sclerosis and Allied demyelinating disorders registry and research Network, Dr. Rohit Bhatia, ICMR, 5 years, 2021-2025, Approved. Seed money granted Awaiting final sanction release.
23. Is Air Pollution and climate change a Stroke Risk Factor? with special reference to Stroke in Young Indians and ischemic stroke subtypes: A multi-centre study, Prof. MV Padma Srivastava, DST. 3 years, 2018-2021. Rs 59,11,164
24. Long Range, Cis-Acting Functional Variations in Regulatory Elements of Frataxin: New Therapeutic Targets in Friedreich's Ataxia, Achal Kumar Srivastava. ICMR, 3 years, 2021-2024, Rs 89 lakhs
25. National Hospital Based Stroke Registry ICMR. Rohit Bhatia, ICMR, 5 years, 2020-2025, Rs 5 lakhs annually
26. Pathobiology of Multiple sclerosis: phenotypic, biomarker and genetic signatures, Dr. Rohit Bhatia. ICMR. 3 years, 2018-2021. Rs 1.2 crores
27. RESET-MS. Randomised trial of yoga in patients with multiple sclerosis, Dr. Rohit Bhatia, DST, 3 years, 2020, 2023, 35 lakhs

28. Role of Normobaric Oxygen Therapy, Fluoxetine and Transcranial Direct Current Stimulation (rTDCS) in Hypoxic Ischemic Brain Injury – HIBI initiative, Prof. MV Padma Srivastava, DBT, 5 years, 2018-2023, Rs 1,06,03,000
29. Scaling-up The COmpetency of Primary Care Workers to Manage Epilepsy by Task-Sharing (STOP-Epilepsy), PI Gagandeep Singh Co-PI Mamta Bhushan Singh, DBT/Wellcome Trust India Alliance, 5 years, 2021- 2026, Rs 10,16,65,781
30. Smartphone based Telestroke vs ‘Stroke Physician’ led Acute Stroke Management (SMART INDIA): A cluster randomised trial, Prof. MV Padma Srivastava, DHR, 3 years. 2021-2025, Rs 1.5 crores
31. Targeting Repressor Sites in fxn Gene and Associated Transcription Factors as Potential Therapeutic Approach in Friedreich’s Ataxia, Dr Achal K Srivastava. ICMR, 3 years.2019-2022, Rs 6227909.00
32. The Indian Movement Disorder Registry and Biobank: clinical and genetic evaluation in Indian patients with movement disorders. Roopa Rajan, DBT, 3 years, 2018-2021, Total: INR 28772170 AIIMS: INR: 7337000
33. The National Institute for Health Research Global Health Research Group on improving stroke care in India at The University of Central Lancashire. IMPROVing Stroke CarE in India (IMPROVISE), MV Padma Srivastava, NIHR-UCLAN-UK, 2 years, 2018-2020, Rs 42
34. Understanding and facilitation of neural plasticity for enhancing post stroke recovery using low-cost non-invasive brain stimulation techniques, MV Padma Srivastava, DHR, 3 years, 2017-2020, Rs 48 lakhs
35. Unravelling the genetic landscape of Indian dystonia: a chromosomal microarray approach. Dr. Roopa Rajan, AIIMS, 2 years, 2021-2022. Rs 10 lakhs

### **Completed**

1. A 12 Week double blind, randomized multi-centric study comparing the efficacy and safety of once monthly subcutaneous AMG 334 against placebo in adult episodic migraine patients (EMPOWER), Prof. MV Padma Srivastava, NOVARTIS, 1 year, 2018, 2020, Rs 90,815/-
2. A cross-sectional study on the impact of discontinuance of elective health services and initiation of Telemedicine services due to COVID-19 pandemic on patients under follow up in Neurology OPD at a tertiary care centre, Dr. Elavarasi A. AIIMS COVID intramural funding, 2.5 months. April 2020-June 2020, 20000 INR Utilized 3347 INR
3. An exploratory study to identify candidate CSF biomarkers in Idiopathic
4. Automated hand-drawn spiral analysis platform as a tool to differentiate tremor syndromes, Dr. Roopa Rajan, DST-SERB, 3 years, 2017-2020, Rs 42 lakhs
5. Botulinum Toxin injection for treatment of dystonic hand tremor: a randomized, placebo-controlled, parallel group trial, Dr. Roopa Rajan, AIIMS, 2 years, 2018-2020, Rs 4,82,000
6. Citicoline in acute ischemic stroke- a randomised controlled trial (CAISR), Prof. M.V. Padma Srivastava/ Venugopalan Y. Vishnu, ICMR AIIMS Intramural grant, 2 years, 2018-2020, **Rs 2.5 lakhs**
7. Clinical and genetic factors for aspirin resistance in Indian patients with ischemic stroke, Rohit Bhatia, DBT, 3 years, 2017-, 2020, Rs 85 lakhs
8. (Co-Principal Investigator For AIIMS-Site) Secondary Prevention By Structured Semi-Interactive Stroke Prevention Package in INDIA (SPRINT INDIA) Study, Prof. MV Padma Srivastava, ICMR, 3 years, 2017-2020, Rs 3,29,000/-
9. Effect of Dual-Task Exercise in Conjunction with Fluoxetine & Transcranial Direct Current Stimulation (tDCS) on Postural Stability and Gait in Stroke Patients., Prof. MV Padma Srivastava, ICMR, 3 years, 2017-2020, Rs 50,60,406
10. Elucidating The Pathobiology Of Classical Ayurvedic Interventions In Post Stroke Recovery Using Magnetic Resonance And Other Techniques Based Structural, Functional And Chemical Biomarkers, Prof. MV Padma Srivastava, DST, 3 years, 2018-2021, Rs 31,33,360/-
11. Intracranial hypertension with or without vision loss. Dr. Awadh Kishor Pandit, AIIMS, New Delhi, 2 years, 2018, 2020, Rs 2.5 lakhs
12. Mapping, Researching And Addressing The Gaps In Scientific Awareness & Health Practices Regarding Stroke In HP: Applying Novel, Interactive/Demonstrative Science Communication, Prof. MV Padma Srivastava, DST, 3 years, 2016-2020, Rs 40,45,020
13. Targeting specific sleep abnormalities in patients with temporal lobe epilepsy, to improve their cognitive performance – a randomized controlled study, Dr. Achal Kumar Srivastava, DHR, 3 years, 2017-, 2020, Rs 45 lakhs

### **Departmental projects**

#### **Ongoing**

1. A Population Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A Cross-Cultural Perspective (Funded by DBT, Government of India)



2. A randomized double-blind study of prophylactic levetiracetam for prevention of post stroke seizures (PROLEVIS) -Funded by DST.
3. AIIMS Primary CNS Vasculitis Registry.
4. An ambispective cohort study of chronic inflammatory demyelinating neuropathy and its variants.
5. An ambispective cohort study of idiopathic inflammatory myopathies to understand the clinical profile and the temporal trends in management.
6. An Exploratory Study to Evaluate Optical Coherence Tomography Angiography in Cases of Ischemic Stroke due to Extracranial Internal Carotid Artery Atherosclerotic Disease and Pre And Post Carotid Artery Re-Vascularization (Carotid Artery Stenting and Carotid End-Arterectomy) –A Prospective Cohort Study
7. Analysis of non-ataxic manifestations of SCA-12
8. Assessment of sleep dysfunction and its correlation with autonomic function test and severity of disease in apparently idiopathic sporadic progressive cerebellar ataxia
9. Bridging therapy with intravenous Alteplase in imaging eligible Acute Ischemic Stroke patients with onset between 4.5 to 9 hours – A Randomized Controlled, Pilot Study (Funding by Intramural Grant, AIIMS, New Delhi)
10. Characterization of tremor and gait in spinocerebellar ataxia type 12
11. “Clinical and radiological spectrum of Anti Myelin oligodendrocyte glycoprotein (MOG) antibody related neurological disorders- An ambispective observational study”.
12. Clinical and Radiological Spectrum of Anti-MOG antibody related neurological disorders – an ambispective observational study.
13. Clinical profile of stroke in young patients in a tertiary care centre, their outcomes and quality of life-An observational study
14. Clinical Utility of Intravascular Ultrasound (IVUS) in carotid artery interventions – a systematic review and meta-analysis
15. Clinical, Laboratory and Imaging features, Treatment trends and long term outcomes in patients with Parenchymal and Extra-parenchymal Neurocysticercosis-A registry based study
16. Clinico-radiological spectrum of patient presenting with acute myelitis- A prospective study
17. CONCERN: Care giver burden among patients undergoing decompressive craniectomy for malignant MCA infarction.
18. Correlation of FDG-PET findings with different phenotypic variants of PSP
19. Cost-effective analysis of evidence-based interventions underlying Acute Ischemic Stroke: A Retrospective Study of Patients in a Tertiary Care Hospital, Delhi, India (Approved for funding by DHR, Government of India)
20. Determinants of sleep disturbances in post stroke patients – a cross sectional study
21. Early Neurological Deterioration after Acute Ischemic Stroke and Long-Term Functional Outcome: A Prospective Cohort Study
22. Efficacy and safety of prednisolone as an adjunct to anti-epileptic drugs in drug resistant epilepsy: A Randomized double blind placebo control study
23. Epidemiological, Clinical and Radiological Spectrum of Connective Tissue Disease Related Neurological Disorders — An ambispective observational Study.
24. Exploring the utility of quantitative susceptibility mapping in MRI brain in Wilson’s disease
25. Fever, hyperglycemia, swallowing and hypertension management in acute stroke: A cluster randomized controlled trial (Indian Quality Improvement in Stroke Care study)” (Funded by ICMR, Government of India)
26. Identification of novel unstable tandem nucleotide repeat loci by genome wide screening and their implication in the pathogenesis of genetically uncharacterized progressive cerebellar ataxias.
27. Identification of pathobiological and disease activity markers in Primary CNS Vasculitis (Funded by ICMR, Government of India)
28. Institutional registry of patients with hypertrophic pachymeningitis
29. Linezolid as an add on therapy in the intensive phase of TBM. Randomised controlled trial.
30. Machine Learning model for early diagnosis of stroke in resource limited settings: Pilot study: A collaborative project with IIT Delhi (Funded by DBT, Government of India)
31. Micro-embolic signal monitoring in stroke subtypes: A systematic review and meta-analysis of 58 studies
32. Mission Thrombectomy 2020 (MT 2020 App) study.
33. N-acetyl cysteine in patient with acute ischemic stroke. Randomised controlled trial.
34. Non ataxic manifestations of spinocerebellar ataxia



35. Occurrence of Hemorrhagic Transformation in patients with Acute Ischemic Stroke (AIS) using Transcranial Doppler (TCD) – A Prospective, Observational Study
36. Pathobiology of Multiple sclerosis: biomarker and genetic signatures.
37. Prevalence and determinants of Cerebral Microbleeds among community dwelling people aged 50 years and older: a population based cross-sectional study.
38. Prevalence of incidental findings on brain MRI in adults aged 50 years and above: A population-based cross-sectional study.
39. Prevention of post-stroke seizures with Levetiracetam in Intracranial Cerebral Venous Sinus Thrombosis (PROLEVIS-CVT): A Randomized Placebo-Controlled Trial (Approved for funding by DHR)
40. Randomised trial of oral prednisolone in patients with muscular dystrophy
41. Repetitive transcranial magnetic stimulation to the inferior parietal lobule in task specific focal hand dystonia: a randomized, cross over, blinded outcome assessment study
42. Role microRNAs in pathophysiology of neurodegenerative disorder: spinocerebellar ataxia type 2 (SCA2)
43. Social Cognition in Parkinson's disease
44. To determine correlation between Optical Coherence Tomography Angiography (OCT-A) changes at 3 to 6 weeks and functional outcome (modified Rankin Scale- mRS) at 3 months of onset of acute ischemic stroke due to Extracranial Internal Carotid Artery Atherosclerotic Disease (ECAD)
45. To Determine the Diagnostic Performance Characteristics of Blood Based Protein Biomarkers for The Differentiation Of Stroke Using High-Throughput Proteomics Approach
46. To identify functional genetic elements in triplet repeats flanked haplotype region and mitochondrial genome in spinocerebellar ataxias
47. To study the molecular correlation of Friedreich's ataxia (FRDA) phenotype through mitochondrial genome and transcriptome analysis
48. To study the utility of high-resolution vessel wall magnetic resonance imaging in patients with acute ischaemic stroke.

### ***Completed***

1. Assessment of neurological and radiological (magnetic resonance imaging of the brain) features and inflammatory/prothrombotic biomarker trends in mildly symptomatic or asymptomatic cases of COVID-19
2. Biomarker to enhance accuracy and precision of prediction of short term and long-term outcome of spontaneous ICH: A prospective cohort study (Co investigator, DBT funded)
3. Clinical and genetic factors for aspirin resistance in Indian patients with ischemic stroke.
4. Clinical trial to evaluate the role of education to care givers in reducing complications and improving outcomes of hospitalized stroke patients.
5. Clinico-radiological profile and treatment outcomes in hypertrophic pachymeningitis: A retrospective study
6. Development and Use of an Instrument for Assessing Competence of Trainee Doctors in Providing Epilepsy Primary Care
7. Development and Use of an Instrument for Assessing Competence of Trainee Doctors in Providing Epilepsy in Primary Care
8. Study of efficacy of Fluoxetine in post-stroke anxiety-A Randomized Controlled Trial
9. Utility of 8-channel EEG in detecting interictal Generalised spike and wave discharges in generalized epilepsy – A diagnostic study

### **Collaborative projects**

#### ***Ongoing***

1. "Effect of Probiotics and repetitive Transcranial Magnetic Stimulation on cognitive and motor function in 6-hydroxy Dopamine rat model of Parkinson's Disease, Physiology
2. Development of digital ELISA diagnostics to monitor therapeutic efficacy of pharmacological
3. Effect of Probiotics Supplementation on Cognition and Motor Symptoms in Patients with fluctuating Parkinson's Disease, Physiology.
4. Exosome based non-invasive (saliva and urine) detection technique development, Bio-Physics
5. Genomic and Proteomic Characterization of Indian Amyotrophic Lateral Sclerosis, IIT Delhi
6. Impact of Glutathione (GHS) Supplementation in mild cognitive impairment (MCI) Patients: A Randomized Control Trial, NBRC

7. interventions in dopamine dictated states of Parkinson's disease and schizophrenia, Bio-Physics.
8. Mild Cognitive Impairment and associated factors among elderly persons in an urban resettlement colony in Delhi, Ravneet Kaur, Center of Community Medicine
9. Outcome of Myasthenia Gravis patients after thymectomy, Surgery. AIIMS. Delhi

### **Completed**

1. Assessment of impact of home confinement resulting from COVID-19 pandemic on motor and non-motor features of patients with idiopathic Parkinson's Disease and factors associated with it, Department of Neurology, AIIMS Rishikesh
2. Identification of novel tandem nucleotide repeats expansion (TNR) and factors governing the TNR instability in the genomes of spinocerebellar ataxia patients, CSIR-IGIB
3. Impact of Virtual Interactional Epilepsy Education in People with Epilepsy and their Caregivers: A Randomized Controlled Trial, Department of Nursing
4. Intracranial atherosclerotic disease imaging and outcome, Neuroradiology. AIIMS. Delhi

### **PUBLICATIONS**

**Journals: 137**

**Abstracts: 14**

**Chapters in books: 4**

### **PATIENT CARE**

#### **Special clinic**

1. Stroke clinic
2. MS, Demyelinating disorders and Neuroimmunology clinic
3. Movement Disorder and DBS Clinic
4. Botulinum Toxin Clinic
5. Neuromuscular Disorder clinic
6. Intractable epilepsy clinic
7. Neuro-infections clinic
8. Headache clinic
9. Ataxia clinic
10. Sleep clinic
11. Telephonic helpline for covid patients and home care advise.

#### **Special lab facility**

Neurobiology lab

Tremor analysis

Diagnostic Digital Subtraction Angiography (DSA) in Neurovascular cases with Neurosurgery

#### **Community services/camps**

Outreach epilepsy clinics on the Lifeline Express at the following locations:

Belonia, Tripura 11-13 September 2020

Badarpur, Assam 8-10 January 2021

Bajpatti, Sitamarhi, Bihar 26-28 February 2021

Balangir, Orissa 27 March, Belonia, Tripura 11-13 September 2020

Awareness programs on DD News, RSTV and DD National for various awareness programs

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

Awards won by students/trainees

- Second Best Poster Award in DNACON 2021 (Gomathy Saranya, Siripurapu Govinda, Das Animesh, Srivastava Achal, Radhakrishnan Divya\*. Idiopathic Hypoparathyroidism Presenting As New Onset Refractory Status Epilepticus. DNACON 2021)

- Ph.D. student, Anandapadmanabhan R- Third Prize in abstract presentation- DNACON 2021
- Second Best Poster Award in DNACON 2021
- Third Best poster award in DNACON 2021
- Third Prize in Best paper award DNACON 2021
- First prize best poster award during Virtual Agrim Neurology Update (VANU) 2020

**Professor MV Padma Srivastava** was Elected fellow of Indian National Science Academy; Member of Institute Body of PGIMER Chandigarh: From January 2020 onwards; Member of Institute Body of AIIMS, Rae Bareli: January 2020 onwards; Member of Governing Body of AIIMS, Rae Bareli: January 2020 onwards; Member of Governing Body of Ambedkar Institute of Medical Sciences under Govt. of Punjab from January 2020 onwards; Member SEC, DGHS, Govt. of India; External expert for DHR, Govt. of India; Member, Task Force, SATYAM, DST, Govt. of India; Member Task Force for MSU for North-East, under ICMR; Member, Scientific Committee for ESO-WSO, held in November 2020.

**Professor Manjari Tripathi** Organized International EEG workshop, Epilepsy surgery workshop and VEEG workshop

**Professor Achal Srivastava** received Fellowship of Royal College of London (FRCP); Associate Editor of Annals of Indian of Neurology; Associate Editor of Annals of Movement Disorder; Executive Committee Member Indian Academy of Neurology; Executive Committee Member Neurological Society of India; Executive Committee Member Movement Disorder Society of India; Executive Committee Member Delhi Neurological Association; Founder Member and Hony. Treasurer Nerve Muscle Society; Founder Member and Hony. Treasurer of Neuromodulation Society of India; Chairperson Movement Disorder Subsection of Indian Academy of Neurology; Member of technical evaluation committee of Department of Health and Research (DHR) for establishing medical research units at various medical colleges; Member of AIIMS Ethics Subcommittee for SAEs in CT; Member of Committee for addressing Grievances of PhD students and faculty; Member of Board of studies of Department of Neurology at SGPGI, Lucknow; Thesis evaluation MD Medicine and DM Neurology -Guru Govind Singh University, Delhi; PGIMER, Chandigarh; KGMU, Lucknow; NIMHANS, Bengaluru; Chairman of the COVID care Team for EHS of AIIMS during pandemic; Organizing chairperson of the Indian Academy of Neurology - Movement Disorder Subsection Webinar held on 17 January 2021; Moderated Short history of proximal muscle weakness – case based group discussion at AIIMS PGI neurology update (APNU), and Rare Ataxias Module at the 1st Indian Rare Movement Disorders Symposium.

**Professor Rohit Bhatia** was President Indian Stroke Association. March 2020- March 2021 Convenor. Autoimmune subsection, Indian Academy Neurology. Ongoing; Associate editor. Journal of Stroke medicine; Executive committee member India Stroke Association. March 2021 to ongoing; Presidential Oration at the Virtual Indian national stroke conference from 17-19 March 2021, Bangalore India; Panel discussion - IAN Tropical Neurology Conference 2021. Virtual meeting on 28 March 2021, Ludhiana. India; Chairperson: Debate, APNU, 23-29 November 2020, New Delhi; Member ethics subcommittee for postgraduate research. AIIMS. New Delhi; Invited Advisor for UPSC medical officers selection February 2021; Member Academic Council. Baba Farid University of Health Sciences. Faridkot. Punjab; MD thesis evaluation: PGIMER Chandigarh, DM thesis evaluation: PGIMER Chandigarh, PhD thesis evaluation: PGIMER Chandigarh.

**Professor Mamta Bhushan Singh** was Asian & Oceanian Epilepsy Congress (AOEC) Bursary won by Jasmine Parihar for her work titled: The sensitivity of non-contrast CT Scan in epilepsy– A prospective observational study; AMERICAN ACADEMY OF NEUROLOGY; International Subcommittee (Member)24 April 2021–28 April 2023; Quality Committee (Member - Virtual Only) 24 April 2021- 28 April 2023; International Subcommittee (Member)11 May 2019 -22 April 2021; Thesis evaluated Profile of cerebrovascular hemodynamics in Indian sickle cell disease - DNB Neurology; Study of practice patterns of management of cerebral venous sinus thrombosis in tertiary care center – DNB Neurology.

**Dr Deepti Vibha** was Chairperson; Core faculty in the stroke fellowship programme (under Neurology) and research; methodology and evidence-based medicine (under CMETi); Expert reviewer forextramural projects in DST and DHR; Member of AIIMS annual report committee; Expert panelist for MD (Medicine) thesis dissertations for PGIMER, Chandigarh; External expert member for online interviews at CSIR-Central Drug Research Institute, Lucknow; Moderated the session on Neuroimmunology at Virtual Agrim Neurology Update on the 9 October 2020; Member of the editorial board for Neurology India; Reviewer to journals: Annals of Indian Academy of Neurology, National Medical Journal of India, Neurology India, BMJ case reports, Journal of International Medical Research, Neurocritical Care.

**Dr Vishnu VY** was Started the split-site ICGNMD MRC Neuromuscular Genomic Medicine International Fellowship; Selected to the “World Stroke Organization Future Leaders Program” conducted by World Stroke Organization; Invited to present in the first ever online Gower’s lecture at UCL; Peer reviewer for journals: BMJ, Stroke, Annals of Indian Academy of Neurological Sciences; Nodal officer for Tele-medicine services from Neurology and member of Quality assessment board in Neurosciences Centre.

**Dr Roopa Rajan** was Co-Chair, International Parkinson and Movement Disorder Society Task Force: Management of Movement Disorders- Integrated and Interdisciplinary Care; Steering Committee Member, MDS Young members Group; Faculty facilitator for Young Members Group at the MDS Networking and Engagement Series.

**Dr Awadh Kishor Pandit** was Successfully completed Fellowship in Neuro-endovascular therapy for Neurological disorders particularly stroke management at Aichi Medical University, Aichi, Japan. This fellowship was funded by the Aichi Medical University, Aichi, Japan (January 2020 to June 2020).

**Dr Rajesh Kumar Singh** was Member of team from Neurology, AIIMS for Quality improvement Projects; Nodal person for coordinating Fire Drill and other safety measures at NS center, CN Centre, AIIMS; Assistant editor in Journal Neurology India.

**Dr Anu Gupta** was Nodal officer for hospital infection control from Neurology; Peer reviewer for journals: Journal of Neuro-ophthalmology, European Journal of Neurology, Neurology India and Annals of Indian Academy of Neurology.

**Dr Elavarasi** was Assistant Editor, Annals of Indian Academy of Neurology; Judge for the event: Neuro-Eunoia – A Neuroscience Affair; Moderator for the quiz: Delhi Neurologic Association; Moderator: Quiz at: Formulating the research question, Decoding meta-analysis; Research and education; society of Medical Oncology, 12 December 2020, New Delhi, 7 February 2021, Virtual; Peer reviewer for journals: Journal of Neuro-anaesthesiology and Critical care, British medical Journal; Case reports, Saudi Journal of Medicine, Saudi Journal of Kidney Disease and Transplantation, Annals of Indian Academy of Neurology, SN Comprehensive Clinical Medicine, Neurology India, Radiology of Infectious Diseases.

**Dr Ayush Agarwal** was Reviewer for Journal of Neuroimmunology, BMJ case reports, Journal of Clinical Rheumatology, Annals of Indian Academy of Neurology and Neurological Sciences; Qualified DNB (Neurology) Exam in December 2020.

## Neurosurgery

### HIGHLIGHTS

The Department of Neurosurgery has continued to excel in patient care, research and training during the year 2020-2021. COVID has presented some unique challenges during this year and our department has risen to face these challenges. We started tele-OPD services when there was complete lockdown. We also modified our workflow to provide continuous services to both trauma & non trauma emergency cases during lockdown period due to COVID. Despite restrictions imposed due to COVID, department of Neurosurgery performed 1543 surgeries including surgeries on COVID positive patients. The Gammaknife services have continued during COVID times & 789 cases of GKRS were performed. Various technical modifications were done in operation theatres & in instruments to minimise risks of COVID to both patients & care providers. During lockdown, our department has continued its academic and teaching activities & adopted online platform for teaching MCh students and fellows. We also conducted several online webinars both on national as well as international platforms. Our department was the first department to conduct online MCh exit examination in May 2020. We also conducted MCh entrance & fellowship exams during this period. We also successfully conducted 23rd Annual Microneurosurgery Workshop from in March 2021 in physical format despite hurdles posed due to COVID. This years' Microneurosurgery workshop was also a great success with particularly good participation and was much appreciated for its scientific content as well as for its meticulous planning and organization. Not lagging in research, our department has published 186 research articles in both national and international high impact journals.

### EDUCATION

**Innovative training programs-** Department was instrumental in organizing following training programs

#### **Ashish Suri**

Convener: Neurosurgery Simulation-based Short Term Skills Training Program: Neurosurgery Skills Training Facility (NSTF) and Neurosurgery Education and Training School (NETS)

1. Simulation-based neurosurgery skills training sessions:391
2. Cadaver-based skull base dissection: No session due the COVID -19 Pandemic
3. Simulation-based short term neurosurgery skills training= 1
  - a. 4 weeks short term training = 0
  - b. 2 weeks short term training = 1
4. NETS Weekend Workshops (no of residents)= number of workshops = 4 ; number of trainees = 59
  1. Microsuturing = number = 2; trainees = 29)
  2. Basic Drilling = number = 2; trainees = 30)

5. National Workshop :
  - 22nd Microneurosurgery Workshop 2020, New Delhi = Total Delegates 62
  - 23rd Microneurosurgery Workshop 2021, New Delhi = Total Delegates 35
  - E-learning in neurosurgery skills training
  - Surgical videos = 1,47,462 views (1349 Subscribers)
  - Website views = 8706 views
  - Discussion forum = 42 likes ( total likes = 8754)

#### **CMEs/Workshops/Symposia/National and International Conferences:**

All were virtual conferences.

1. Twentythird AIIMS annual Microneurosurgery workshop: 18-20 March 2021
2. NSI Masterclasses in Spine surgery: 31 October 2020
3. NSI Masterclasses in Spine surgery: 21 November 2020
4. NSI Masterclasses in Spine surgery: 26 December 2020
5. NSI Masterclasses in Spine surgery: 16 January 2021
6. NSI Masterclasses in Spine surgery: 6 February 2021
7. DNACON 2021:5-7 February 2021

#### **Lectures delivered at CMEs, National and International conferences**

**SS Kale: 6**

**P Sarat Chandra: 3**

**Ashish Suri: 8**

**Vivek Tandon: 8**

**Sachin A Borkar: 15**

**Hitesh Kumar: 2**

**Shashwat Mishra: 1**

**Shweta Kedia: 3**

**Dattaraj Sawarkar: 1**

**Manoj Phalak: 3**

**Ramesh S Doddamani: 2**

**Kanwaljeet Garg: 3**

**Amol Raheja: 3**

**Rajesh Meena: 1**

**Santanu Kumar Bora: 2**

#### **SS Kale**

1. A case of Degenerative spine disease, Master Class in Spine Surgery, 31 October 2020, Virtual
2. Thoracic Disc Prolapse, Master Class in Spine Surgery, 21 November 2020, Virtual
3. Spine Tumor, Master Class in Spine Surgery, 26 December 2020, Virtual
4. A case on dual injuries of spine (Moderator), Master Class in Spine Surgery, 16 January 2021, Virtual
5. A case on 'Chin on chest deformity', Master Class in Spine Surgery, 6 February 2021, Virtual
6. Biomechanics of the Cervical Spine, 23rd Annual Microneurosurgery Workshop, AIIMS, New Delhi, 18-20 March 2021, Virtual

#### **P Sarat Chandra**

1. Comprehensive Surgery Online course series II, Indian Epilepsy society, Epilepsy surgery Webinar, 21 June 2020, Virtual
2. Epilepsy surgery in TLE syndromes, presurgical evaluations, case study, Indian Epilepsy society, Epilepsy surgery Webinar, 19 July 2020, Virtual
3. Epilepsy surgery and semiology in Children, Case study, Indian Epilepsy society, Epilepsy surgery Webinar, 17 October 2020, Virtual

#### **Ashish Suri**

1. Surgery of Complex and Giant Intracranial Aneurysms, Invited Talk organized by Department of Neurosurgery, Bangladesh Sheikh Mujib Medical University, BSMMU, Dhaka, Bangladesh, 18 September 2020, Dhaka, Bangladesh/ Online
2. Bypass in Intracranial Aneurysms, Virtual meeting on Cerebrovascular Society of India - Virtual Neurovascon-2020, 3-4 October 2020, Bangalore /Online
3. Preparedness and guidelines for neurosurgery in COVID-19 era: Indian perspective from a tertiary care referral hospital, Invited Talk organized by Neurosurgical Focus: interactive JNSPG Journal Club, USA, 4 January 2021, USA / Online
4. Surgery of Petroclival Meningioma, Invited Talk organized by Bangladesh Sheikh Mujib Medical University, Dhaka, Bangladesh, 20 January 2021, Dhaka, Bangladesh / Online



5. Endoscopy versus microscopy for endonasal approach to skull base. Virtual WFNS Neuroendocrine Symposium organized by WFNS Neuroendocrine Society, 31 January 2021, Mumbai / Online
6. Bypass in Intracranial Aneurysms, 23rd Annual Conference of the Delhi Neurological Association (DNAICON-2021), 7 February 2021, New Delhi / Online
7. Extended Endonasal Approach to Skull Base, NESI Webinar Series VII Schedule, Neuroendoscopic Society of India, 14 February, 2021, Mumbai / Online
8. NSI Webinar on Innovation, Incubation and Patent, Neurological Society of India (NSI), 6 March, 2021, Lucknow/Online

#### **Vivek Tandon**

1. Covid challenges and solutions, DNAICON 2021, 6 February 2021, Online
2. Using USG in neurosurgery, 23rd AIIMS annual Microneurosurgery workshop, 18 March 2021, New Delhi
3. C1-C2 screw, 23rd AIIMS annual Microneurosurgery workshop, 18 March 2021, New Delhi
4. Multiple case discussions, debates, panel discussions, 23rd AIIMS annual Microneurosurgery workshop, 18 March 2021, New Delhi
5. NSI masterclass on spine surgery- Presented a case on dual injuries of spine, Masterclass in Spine surgery- NSI, 16 January 2021, Online
6. NSI masterclass on spine surgery- Presented a case on 'Chin on chest deformity', Masterclass in Spine surgery- NSI, 6 February 2021, Online
7. The surgery in low grade gliomas involving eloquent cortex: debate, Delhi- Neuro-Oncology Forum Webinar, 6 February 2021, Online
8. Talks on EMF-Myths and Truths, For Department of telecommunications public outreach program on-24, 25 and 30 March for Mumbai, Assam and Gujarat respectively, 24, 25 and 30 March 2021, Online

#### **Sachin A Borkar**

1. Debate-Decompression versus Fixation in Chiari malformation (Expert), 23rd AIIMS Annual Microneurosurgery Workshop, 18-20 March 2021, Delhi
2. Video- Parasagittal meningioma -Operative Nuances, 23rd AIIMS Annual Microneurosurgery Workshop, 18-20 March 2021, Delhi
3. Pediatric spinal deformity- Os odontoideum with Cervical Kyphosis, Association of Spine Surgeon's of India Conference ASSICON Virtual -2021, 29-31 January 2021, Online
4. Cervical Laminoplasty: Newer Perspectives, Annual meeting of Delhi Neurological Association-2021, 7 February 2021, Online
5. Deformity case (Moderator), NSI master-class in Spine Surgery, 6 February 2021, Online
6. Dual spinal injuries case (Moderator), NSI master-class in Spine surgery, 16 January 2021, Online
7. Complications Case (Moderator), NSI master-class in Spine surgery, 26 December 2020, Online
8. Vertebral hemangioma case (Presenter), SUPER SPECIALITY COURSE (NSI-CNS) Controversies in Neurovascular Surgery, 9 December 2020, Online
9. Cervical laminoplasty technique, AO Spine Surgical Video Discussion Advanced Webinar—Cervical laminoplasty and Lateral mass & C1-2, 6 December 2020, Online
10. Tumour case (Presenter), NSI master-class in Spine surgery, 21 November 2020, Online
11. Degenerative case (Presenter), NSI master-class in Spine surgery, 31 October 2020, Online
12. Interactive Case discussion- Aneurysmal bone cyst of spine & Post-laminectomy cervical kyphosis, Pune Spine Weekend, 31 October 2020, Online
13. Dynamic Extension Reserve (DER) & T1 slope (T1S) predict loss of Cervical Lordosis following Cervical laminoplasty, Association of Spine Surgeon's of India Conference ASSICON Virtual -2020, 18-20 September 2020, Online
14. Presenter & Moderator, AIIMS Surgical Workflow in Covid Era - Lessons Learnt, 14 August 2020, Online
15. AAD and Complex CVJ Anomalies: Tips & Tricks of Management, AO Spine Hangout- Case based discussion webinar, 28 May 2020, Online

#### **Hitesh Kumar**

1. Thoracic pedicle screws in children younger than 8 years for spinal tumors, Virtual DNAICON 2021, 5 February 2021, Online
2. C1C2 fixation techniques, Microneurosurgery workshop, 18-20 March 2021, New Delhi

**Shashwat Mishra**

Panel discussion on the importance of Dual Trained (Surgery and Endovascular) Cerebrovascular Neurosurgeons in The Current Era, Annual Conference of Delhi Neurological Association 2021, 5 February 2021, Delhi/Online

**Dr Shweta Kedia**

1. Stereotactic planning and biopsy, 23rd AIIMS Microneurosurgery “live operative workshop”, 18 March 2021, Delhi, India
2. Advances in The Management of Pediatric TBI, 23rd Annual conference of DNA, 7 February 2021, Delhi, India
3. Use of PPEs by Doctors, Nurses and health care specialists and desired features to
4. enable due patient care and patient testing and diagnostics stages while addressing pathogen related risks control, National Policy Workshop “Impact of COVID-19 on plastics consumption, innovation, logistics and waste generation (including PPEs and wastes from Health Care Facilities) and related challenges”, 20 May 2020, Delhi

**Dattaraj Sawarkar**

1. Anterior odontoid screw fixation, DNACON 2020, 06/02/2021, Online, Delhi

**Manoj Phalak**

1. Cervical Disc replacement – how I do it, DNACON 2021, 7 February 2021, Delhi, India
2. Management of head and spine injuries in trauma, DNACON 2021- Nursing symposium, 7 February 2021, Delhi
3. Spinal Dural AVF- surgical nuances, AIIMS microneurosurgery workshop 2021, 19 March 2021, Delhi

**Ramesh S Doddamani**

1. Minitemporal Craniotomy in the management of Temporal lobe epilepsy, DNACON 2020, 6 February 2021, Online, Delhi
2. Complex case of Drug Refractory Epilepsy: Evaluation and Management, Indian Epilepsy Society Webinar series 2020, June 2020, Online

**Kanwaljeet Garg**

1. MIS TLIF vs OPEN TLIF, what does the literature recommend, Annual Delhi Neurological Association Conference, 20 February 2021, Online
2. Is early knife really needed in low grade gliomas? - Against early surgery, Delhi- Neuro-Oncology Forum Webinar, 6 February 2021, Online
3. Pallidotomy for dystonia, Monthly meeting of Delhi Neurological Association, 6 March 2021, Online

**Amol Raheja**

1. Moderated webinar lecture by Prof. William T. Couldwell “Simplifying the surgery of giant trigeminal schwannoma”, Operative neurosurgery masterclass, 18 July 2020, Online
2. Moderated session on Interesting Neuro-oncology case discussion, DNACON 2021, 6 February 2021, Online
3. Microvascular suturing–Technical pearls and operative nuances, Hybrid microneurosurgery conference 2021, 18 March 2021, New Delhi

**Rajesh Meena**

1. Role of Multiplex PCR in diagnosis of Spinal tuberculosis, Cervical spine regional society-Asia pacific, 7 March 2021, Online, Korea

**Santanu Kumar Bora**

1. High speed drilling: Its importance in neurosurgical practice, 23rd AIIMS Microneurosurgery workshop 18 March 2021, New Delhi
2. Neurosurgery during the COVID era: Trials and experiences of the Department of neurosurgery, Delhi Neurological Association monthly meet, 5 March 2021, New Delhi

**List of oral papers/posters presented:**

1. Mishra S, Difficulties faced in transcavernous approaches, Online webinar on Cavernous sinus surgery, organised by Arkansas Neuroscience Institute, Little Rock, AR, USA, 1 August 2020, Online conference/Little Rock, USA
2. Mishra S, Kale S S, Tuberculum sellae meningiomas: safeguarding the vision, Annual Conference of Delhi Neurological Association 2021, 6 February 2021, Online Conference.

3. Raheja A, Agarwal N, Mohapatra S, Tandon V, Borkar SA, Chandra PS, Kale SS, Suri A, Neurosurgical protocols for testing and triaging in COVID-19 era, DNACON 2021, 5 February 2021, Online
4. Raheja A, Sreenivasan S, Suri A, Singh M, Mishra S, STA MCA bypass for symptomatic moyamoya disease – Lessons learnt from 89 revascularizations, NEUROVASCON 2020, 4 October 2020, Online
5. Raheja A, Sreenivasan S, Suri A, Singh M, Mishra S. STA-MCA bypass for symptomatic moyamoya disease– Lessons learnt from 89 revascularizations, 19th All Russian Scientific Practical Neurosurgery Conference Polenov’s Readings, 31 March 2021, St. Petersburg, Russia
6. Sharma R, AVM Resection (PAPER), Virtual DNACON 2021, 7 February 2021, New Delhi- online
7. Sharma R, Doddamani R, Satyarthee GD. Ultrasonic surgical aspirator in neurosurgery (paper), 23rd AIIMS Annual Microneurosurgery Workshop, 18 March 2021, New Delhi
8. Sharma R. OSCE Questions, Examinolone, Simulation of OSCE- Neurosurgery organized by NSI and BASS - ONLINE, 1 August 2020, online

## RESEARCH

### Funded Projects

#### Ongoing

1. 3D volumetric analysis to define the extent of resection of giant pituitary adenomas, Dr. Rajeev Sharma, AIIMS, New Delhi, 2 years, 2021-2023, Rs 10 lakhs
2. ADAPT, Deepak Gupta, National Institute of Health, 5 years, 2019-2025, Rs 63,49,336
3. Advanced Epilepsy Research: a multidisciplinary approach, Prof P Sarat Chandra, Principal Scientific Advisor (PSA), Govt of India, 3 years, 2018-2021, Rs 3,77,47,856
4. AIIMS+ IIT-D Intramural multi-institutional grant Multiple Degrees of Freedom Robotic Manipulator for Minimally Invasive Neurosurgery, Prof. Ashish Suri, AIIMS + IIT-D, 2 years, 2020-2022, Rs 10 lakhs
5. AIIMS-UCL: Collaborative Research Grant Computational Modeling of Cerebral Blood Flow in Moya Moya Disease, Ashish Suri, AIIMS+ UCL-London, 1 year, 2020-2021, Rs 5 lakhs
6. CENTER-TBI, Deepak Gupta, Universitair Ziekenhuis Antwerpen (UZA), Belgium, 2 years, 2016-2021, 5000 USD per year Rs 3.75 lakhs
7. Centre of Excellence for Epilepsy, Phase II, Prof P Sarat Chandra, Dept of Biotechnology, Ministry of Science and Technology, India, 3 years, 2018- 2021, Rs 50,20,00,000.22
8. Collaborative Neuro-engineering platform for excellence in innovation and translational research, Prof. Ashish Suri, Department of Biotechnology (DBT), Ministry of Science and Technology, Govt. of India, AIIMS+ IIT-D, 3 years, 2018-2022, Rs 657 lakhs
9. Designing and testing intra-operatively an inexpensive, small, efficient and portable, table microscope objective mounted device for visualizing and recording in docyanine green fluorescence during surgeries under the operative microscope, Shashwat Mishra, AIIMS– IIT-Delhi Faculty Interdisciplinary Research Projects (2019-2020), 2 years, 2020-2022, Rs 10 lakhs
10. Extending the horizon of endoscopic neurosurgery: A cadaveric study as a starting step to introduce posterior fossa endoscopic approaches to the armamentarium of minimally invasive neurosurgery of our institute. Santanu Kumar Bora, Research Section, AIIMS, New Delhi, 1 year, 2020, Rs 4.05 lakhs
11. Facet tropism and cervical disc herniation – Is there any correlation? Kanwaljeet Garg, AIIMS (Intramural project), 2 years, 2020-2021, Rs 225000
12. Investigating The Role of GABA A Receptor Subunits Alteration in Focal Cortical Dysplasia, Hitesh Kumar, AIIMS, 2 years, 2018-2020, 5 lakhs
13. Material characterization of brain tissue and development of tissue-device interaction based
14. Microsurgical comparison of operative exposure of IAC through middle fossa and retrosigmoid hearing preservation skull base approaches - a laboratory investigation, Amol Raheja, AIIMS Intramural grant, Extension granted, 2018-2020, Rs 5 lakh
15. neurosurgical simulation tools, Ashish Suri, Department of Health and Research (DHR), Indian Council of Medical Research (ICMR), Ministry of Health & Family Welfare, Govt. of India, AIIMS+ Applied Mechanics- IIT-D, 3, 2020- 2023, Rs 839 lakhs
16. Paroxysmal Sympathetic Activity and its role in severe TBI, Prof. Deepak Agrawal, AIIMS, 2 years, 2018-2021, Rs 10
17. Quantitative analysis of the variants of the Far lateral Approaches in Neurosurgery, Rajesh Meena, Intramural, ongoing, 2016 - ongoing, Rs 4.75 lakhs

18. RESCUE ASDH, Deepak Gupta, Cambridge University, 3 years, 2017-2021, Consumables: 144 pounds per randomised patient CRF completion costs: 213 pounds per randomised patient Rs 9.52
19. Role of Kineurenic acid, a glutamate receptor inhibitor, in hyperexcitability associated with mesial temporal lobe epilepsy, Ramesh S Doddamani, DBT Govt Of India, Ongoing, 2016 - ongoing, 5 lakh
20. Serum Vascular Endothelial Growth Factor and Endostatin as an adjunct to clinical decision making in managing radiation induced changes post Gamma Knife in cranial Arterio-venous Malformations patients: Observational Study, Shweta Kedia, AIIMS, 2 years, 2020-2022, Rs 5 lakh
21. Support to Indian Institutes to Conduct Training Programme in the area of Operational Research Neurosurgery Skills Training, Prof. Ashish Suri, Department of Health Research (DHR), Indian Council of Medical Research (ICMR), Ministry of Health & Family Welfare, Govt. of India, AIIMS+ IIT-D, 5 years, 2016-2021, Rs 99 lakhs
22. TATA Innovation Fellowship Award 2015, Ashish Suri, Department of Biotechnology (DBT), Ministry of Science and Technology, Govt. of India, 5 years, 2016-2021, Rs 45 lakhs

### **Completed**

1. Feasibility study of endoscopic minimally invasive odontoid screw fixation in cadavers, Shweta Kedia, AO Spine, 2 years, 2018-20, 6 lakh

### **Departmental projects**

#### **Ongoing**

1. Role of kynurenic acid on hyperexcitability associated with mesial temporal lobe epilepsy (DBT-SRF)
2. Efficacy of comparative Magnetoencephalography Source Localisation and propagation of interictal epileptic discharges in patients with drug resistant epilepsy
3. An epidemiology study of traumatic head injury and spinal cord injury in different AIIMS Hospitals of India
4. A study to assess effectiveness of simulated home environment in hospital settings for home mechanical ventilation in chronic ventilator dependent neurosurgical patients.
5. A study to develop an automated neurotrauma registry for TBI.
6. Heart rate variability as a predictor of seizure onset in neurosurgical patients: an observational study
7. Effect of techniques of pain neurosciences education and neuroplasticity explanation based thoracic spine mobilization in women with chronic low back pain: a randomized clinical trial
8. A study to determine the presence of sleep in unconscious patients using commercial sleep trackers in Neurosurgery ICU
9. Role of Surgical Technique in the Clinical Outcome of patients with Subcortical Lesions: A Randomized Controlled Trial
10. Morphometric study of cranio-vertebral junction in Indian population
11. A critical analysis of failed craniovertebral junction fixation techniques
12. Role of posterior transarticular screws in craniovertebral junctional instability
13. Role of bevacizumab in reduction of post gamma knife oedema
14. Gamma-Knife for giant intracranial (>20cc) lesions
15. Role of Gamma Knife in Craniopharyngiomas
16. Role of Bevacizumab in NF2 for tumor control
17. Global sagittal balance in degenerative spine diseases
18. Correlation between clinical examination and MRI findings in Neurosurgical cases : A prospective study
19. Study of variations in anatomy and pattern of skull base fractures in patients with posttraumatic CSF leak
20. An observational study to assess the changes in vision post gamma knife therapy for sellar and parasellar lesions (Dr Karamsi Gopinath Naik)
21. Role of endoscopic endonasal approach in the management of giant pituitary adenoma (Dr Ajay Kumar Jhajharia)
22. Functional and neuropsychological outcome in moyo moyo disease (Dr Siddharth B Joshi)
23. Third ventricular volume as a predictor of hydrocephalus and shunt dependence in patients with aneurysmal SAH
24. Impact Of COVID-19 On Neurosurgical Procedures For Non-Traumatic Pathologies In Neurosciences Centre, AiiMS Delhi
25. Role of Gamma Knife Radiosurgery in Trigeminal Neuralgia—Its long term outcome and prediction using Artificial Neural Network Model
26. Intraoperative m MEP and D wave monitoring in CVJ patients undergoing DCER and post operative motor outcome
27. Spinal Alignment After Fixation In Trauma Patients

28. Molecular analysis of tissue with patient with cortical dysplasia
29. Thesis: Combined approach in surgery of Juvenile nasopharyngeal angiofibroma and role of Dotanoc scan
30. Thesis: Clinicosurgical outcome fo giant intracranial aneurysm
31. Randomised control trial for various relaxation therapies before spine surgery
32. A study on the effect of GABA A receptor alterations in cortical dysplasias.
33. Prospective study to evaluate the role of bevacizumab in treatment of vestibular schwannoma in patients with neurofibromatosis type 2
34. Fixation versus Decompression in the management of Chiari malformation: A randomized control trial.
35. Lateral and Third Ventricle Tumors: Incidence, clinical, radiological and histopathological evaluation- an Ambispective study
36. A study to assess the effectiveness of Interventional package on prevention of pressure ulcer for caregivers of patients with chronic neurological conditions in AIIMS, Delhi - a Randomized Controlled Trial
37. A retrospective analysis of atlantoaxial fusion with C1-C2 transarticular screws
38. Outcomes following Traumatic Posterior fossa injuries in neurosurgical patients
39. Remission and recurrence after surgical treatment for functional pituitary adenomas

### ***Completed***

1. Analysis of PDL-1 expression and T-cell infiltration in different molecular subgroups of midline gliomas and the clinical outcome
2. C7-D1 traumatic fracture dislocation: Outcome analysis
3. Deciphering the role of Casein kinase 2 in Mesial temporal lobe Epilepsy (SERB, DST)
4. Deciphering the role of Transforming Growth Factor  $\beta$  signalling and Matrix Metalloproteinase 9 in Epileptogenesis in Mesial Temporal Lobe Epilepsy (ICMR-SRF)
5. Evaluation of endoscopic uninostril transseptal surgery for pituitary adenomas and its outcomes
6. Investigating the role of GABA A receptor alteration in Cortical dysplasia
7. Midline gliomas: A study of clinical outcome and associated molecular alterations
8. Outcome of surgically clipped anterior circulation aneurysms with good grade SAH
9. Pituitary dysfunction following stereotactic radiosurgery for secretory pituitary adenomas
10. Primary Gamma-Knife with concurrent Temozolomide for GBM
11. Radiosurgical outcome of AVM planned on DSA and MRI versus MRI alone
12. Randomized trial to compare the utility of Intraoperative MRI and intraoperative USG for knowing the extent of resection in glioma surgery
13. Standard MRI Imaging is inadequate in drug resistant epilepsy” Retrospective analysis.
14. Study of Traumatic brain injury induced secondary gastrointestinal changes
15. Surgical outcome of aneurysm clipping via keyhole supraorbital approach
16. Surgical outcome of clinoidal meningioma
17. “Therapeutic Application of Bone Marrow Derived Stem Cell in Complete Spinal Cord Injury”.
18. To study the effect of kynurenic acid on modulation of synaptic transmisson in patients with mesial temporal lobe epilepsy
19. Utility of Postoperative CT scans in Elective Postoperative Neurosurgical Patients.

### **Collaborative Projects**

#### ***Ongoing***

1. Collaborative Neuro-engineering platform for excellence in innovation and translational research, AIIMS: Neurosurgery, Anatomy, Forensic Medicine, Neuroradiology, Neuropathology IIT-D: CSE
2. Collaborative Research Grant Computational Modeling of Cerebral Blood Flow in Moya Moya Disease, AIIMS: Neurosurgery, Neuroradiology UCL: Mathematics, Healthcare Engineering
3. Correlation of neuropsychological deficits and lesions of white matter bundle in the pre-frontal area, Physiology, Neuropsychology
4. Effect of plasma jet on tumor tissues resected from patients with tumor linked refractory epilepsy, Institute of Plasma Research, Gandhinagar
5. Elucidating the meditation associated epigenetic modulation in persons with temporal and temporal plus epilepsy, Department of Neurology, AIIMS, New Delhi (Science and Technology of Yoga and Meditation, DST)



6. “Establish robust and economical blood-based panel of diagnostic biomarkers for early diagnosis, detection of tumor progression and its recurrence in gliomas.”, Pathology (AIIMS) and Biotechnology (IIT Delhi)
7. Fluoride levels in the body fluids and tissues in patients of the cervical ossified posterior longitudinal ligament, Department of Anatomy
8. Intramural multi-institutional grant Multiple Degrees of Freedom Robotic Manipulator for Minimally Invasive Neurosurgery, AIIMS: Neurosurgery IIT-D: Mechanical Engineering
9. Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tools, AIIMS: Neurosurgery, Anatomy, Forensic Medicine, Neuroradiology, Neuropathology, NMR IIT-D: Applied Mechanics
10. Outcome assessment of Early Integration of Palliative Care in management of patients of primary brain tumors, Onco-anaesthesia and Palliative care, IRCH
11. Radio-genomics of GBM, Neuroradiology Department
12. RELA fusion in Supratentorial Ependymomas, Neuropathology
13. To explore the possible mechanism of neuromodulation by COVID-19 virus spike protein S and main protease Nsp5 in neuronal cell lines, Department of Biophysics, AIIMS

### **Completed**

1. Deciphering the role of ATF3 and TGF $\beta$  signaling in mesial temporal lobe epilepsy patients, Department of Neurology, AIIMS
2. Role of Alpha 7 and alpha4-beta2 subtypes of nicotinic receptors in abnormal synaptic transmission associated with hippocampal sclerosis, Department of Biophysics, AIIMS

### **PUBLICATIONS**

**Journals: 142**

**Chapters in books: 28**

### **PATIENT CARE**

Department of Neurosurgery has two units with general neurosurgical ward under each unit (35X2 beds). There are two ICUs with 23 beds. There are now 7 elective operation theatres and two exclusive operation theatre in trauma centre. We offer world class neurosurgical facilities in all neurosurgical sub-specialties, which include- vascular surgery, epilepsy surgery, minimally invasive cranial and spinal neurosurgery, pediatric neurosurgery, functional neurosurgery, neuro-oncosurgery, skull base and complex spinal surgeries. We have advanced imaging modalities (intraoperative MRI and O-arm) and navigational devices (like Stealth Station and ROSA). Department of Neurosurgery has also started an outpatient Spine clinic which deals with all diseases related to spine including degenerative, deformity, tumors, etc. It is held on Saturdays from 9 am to 12 pm. Prof. Deepak Agrawal was instrumental in setting up Stem Cell Translational & Neurosciences Laboratory (STN Lab) 100 square feet of laboratory space at Jai Prakash Apex Trauma Center, All India Institute of Medical Sciences, New Delhi, India. This includes a neurotrauma translational lab, molecular lab, stem cell processing lab and immunology lab. PhD Scholars, Graduate students and research associates & nurses have separate desks in the main laboratory area.

**Following number of patients were treated by us during the year 2020-2021.**

S. No.	Treatment facility	Number
1.	Outpatient department	
	a) Total New Cases	4274
	b) Total Old cases	10145
	c) Pediatric new cases	565
	d) Pediatric old cases	1237
	e) Tele OPD Consultation	9386
	f) Total cases	14419
2.	Gamma knife performed	789
3.	Total number of surgeries CNC	1513
4.	Number of surgeries (JPNATC)	30
5.	Total number of surgeries	1543

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Deepak Agrawal** was Editor-in Chief of Journal of Peripheral Nerve Surgery (JPNS); Editor-in Chief of Indian Journal of neurotrauma (IJNT).

**Professor Gurudutt Satyarthee** received Who's Who in the World Award, 2020 Marquis Who's Who, America.

**Dr Vivek Tandon** Organized and Moderated webinar lecture by Prof. William T. Couldwell "Simplifying the surgery of giant trigeminal schwannoma".

**Dr Sachin Borkar** Moderated the session Craniocystosis in the 3rd Dr DK Chhabra oration and Dr VK Jain oration with SGPGI Pediatric Neurosurgery update; Moderator: AO Spine webinar on Diagnosis, investigations and medical management of spinal tuberculosis

Moderator: Medtronic Educational Webinar on Degenerative CSM and Chiari malformation

**Dr Dattaraj Sawarkar** received 'AO Spine national Fellowship and completed it in Amrita institute, Kochi under.

**Dr Sajesh Menon** was Managing package stores responsibilities as a member of package store committee.

**Dr Rajeev Sharma** was Coordinator and Moderator for International webinar- Operative neurosurgery Master Class – Revascularization in Moyamoya Disease by Prof Katsumi Takizawa on 4 July 2020, an International online lecture; Co-opted member, COVID task force, ASSI.

**Dr Satish Verma** was Part of the Organising committee of the 23rd AIIMS Annual Microneurosurgery Workshop held at AIIMS, New Delhi, from 18-20 March 2021.

**Dr Sachin A Borkar** Re-nominated as a member of the website committee of Association of Spine Surgeons of India(ASSI) for another tenure; Nominated as a member of the Publications committee of Association of Spine Surgeons of India(ASSI); Reviewer for International Neurosurgery Journals -World Neurosurgery, Neurospine, Asian J of Neurosurgery; Served on the technical advisory committee for Neurosurgery equipment purchase for JIPMER, Pondichery and HLL; Evaluated MCh Neurosurgery thesis for PGI, Chandigarh; Moderated the session 23rd AIIMS Annual Microneurosurgery Workshop.

**Dr Amol Raheja** was Co-organizer for the microvascular anastomosis workshop held during our departmental annual microneurosurgery conference held in March 2021. I was also actively involved in our departmental CCR entitled "The balancing act: Neurosurgical workflow during COVID-19 pandemic – Challenges faced and lessons learnt". I have also been actively involved in "Quality improvement" projects being conducted in our neurosciences centre, in order to standardize protocols for suction drainage, surgical scrubbing technique, and central venous catheter care.

### Neuroimaging and Interventional Neuroradiology

#### HIGHLIGHTS

A state-of-art 128 slice dual energy CT scanner installed replacing the 10-year-old 6-slice CT scanner.

With the new CT low-dose CT protocols with modelled iterative reconstruction, a dose reduction potential of up to 60% & faster acquisition in clinical routine are now possible with the best image quality ensured. This has enhanced patient compliance, especially in children and where breath hold acquisition is required.

CT Fluoroscopy to help guided- biopsies and CT perfusion to assess cerebral perfusion especially in acute stroke have been started with the installation of the new CT scanner.

The existing 1.5T MR was upgraded to 'silent MR' system which has helped perform silent MR protocols which reduce patient's anxiety during scan; reduce scan time and incidence of rescans as the patients are relaxed and cooperate to stay still during long examinations. The high gradient coil switching noise of previous system was a serious bother for many patients, especially during high-end acquisition techniques. With the upgrade, this irritant is largely removed and wide bore of the magnet has reduced claustrophobia in patients significantly.

PACS network operational in wards & OPD rooms of NSC with upgrade of the PACS server & installation of viewing stations in wards, ICUs & thin clients in OPD rooms with Wi-Fi access. Reporting of all neuro-imaging procedures made on-line with improved organization of the reporting room, making it easier to report, edit, sign out & network all studies on-line. Auto-requisitioning enabled from NSC wards on-line for CTs, MRIs, US& DSAs etc. Auto fetching of case records from PACS enabled for neuroradiology conferences. Private imaging films digitized and integrated into PACS on registration of patient UHID.

#### CMEs/Workshops/Symposia/National and International Conferences

##### Lectures delivered at CMEs, National and International conferences

**SB Gaikwad: 3**

**Ajay Garg: 7**

**Leve Joseph Devarajan: 3**

##### SB Gaikwad

1. Mobilization of Stem cells using G-CSF for Acute Ischemic Stroke, Society for Brain Mapping and Therapeutics, "session on Stem Cell and Therapeutics", 21 November 2020, USA, LA
2. Neuroimaging of acute stroke, Fortnightly Webinar series of "Indian Society of Neuroradiology, 25 March 2021, SCTIMST, Trivandrum (Virtual)

3. Endovascular management of intracranial mycotic aneurysms, Monthly meeting of “Delhi Neurological Association, 6 March 2021, Conference Hall, 6 Floor, NSC, AIIMS, New Delhi

### **Ajay Garg**

1. Pediatric Brain Tumours, ICRI-IRIA e-Symposium on Pediatric Radiology, 5 July 2020, Online
2. Neuroimaging in Epilepsy, VIRTUAL AGRIM NEUROLOGY UPDATE 2020, 10 October 2020, Online
3. Parasitic infections of the brain, 22nd Annual conference of Indian society of Neuroradiology, 16 October 2020, Online
4. Neuroimaging in AIS, WORLD STROKE DAY WEBINAR, 29 October 2020, Online
5. Case Discussion & Pearls of Wisdom from the Examiner, Film Reading Sessions’: Neuro-Radiology and Head & Neck Imaging, 13 February 2021, Online
6. Learning Tips to avoid Mistake in Brain Tumor Imaging, Indian Society of Neuroradiology (ISNR) fortnightly webinar series on Case Based Review of Brain Tumors and Neurometabolic Disorders, 11 March 2021, Online
7. Panel discussion: heavy multilesional NCC, Virtual Tropical Neurology 2021 Conference, 28 March 2021, Online

### **Leve Joseph Devarajan**

1. A case of filar arteriovenous fistula associated with anomalous common posterior intercostal arterial trunk, Quarterly CME (WEBINAR) by Delhi state chapter of ISVIR, 27 June 2020, Virtual, (New Delhi)
2. Vein of Galen malformations in the new-born, 22nd Annual conference of ISNR, 16-18 October 2020, Virtual, (Thiruvananthapuram)
3. Imaging and Interventions in intracranial Dural Arterio-Venous Fistulae, Indian Radiological & Imaging Association’ (IRIA) and ‘Indian College of Radiology & Imaging’ (ICRI) e-symposium on neuro imaging, 1 November 2020, Virtual

### **List of oral papers/posters presented**

1. Nair P, Vibha D, Kumar S, Balasundaram P, Srivastava AK, Dwivedi SN, Kumar N, Gaikwad SB, Prasad K, Vascular risk factors and brain MRI measures: Baseline cross-sectional data from longitudinal cognition and aging research on population of ncr (LoCARPoN) AIIMS cohort study”, ESO-WSO Conference, 7-9 November 20 Virtual
2. Sebastian LJD, Balasundaram P, Gupta M, Garg A, Clinical Profile, Imaging and Prognosis of CNS Mold Infections - A single Institutional Experience, 58th Annual Conference of American Society of Neuroradiology (ASNR-2020 Virtual), 30 May – 4 June 2020, Virtual, (Las Vegas, USA)
3. Sebastian LJD, Nadarajah J, Balasundaram P, Gupta M, Garg A, Characterization of Geometry of Intra-Cranial Atherosclerotic Lesions Using Computed Tomography Angiography and their Clinico- Imaging Correlates, 58th Annual Conference of American Society of Neuroradiology (ASNR-2020 Virtual), 30 May-4 June 2020, Virtual, (Las Vegas, USA)

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Novel Computer Aided Diagnostic System for the Detection and Evaluation of Intracranial Atherosclerotic Disease using Computed Tomography angiography, Dr. S. Leve Joseph Devarajan DBT, 2 years, 2020-2022, Rs 26,08,400

### **Departmental projects**

#### ***Ongoing***

1. Comparative assessment of DCE, DSC and ASL MR perfusion techniques in differentiation of radiation necrosis from tumour recurrence- Vinay Goel
2. Outcomes of carotid angioplasty and stenting in symptomatic carotid artery stenosis: a retrospective analysis of single centre experience- Manoj Naik
3. Predictors of a good recanalization after mechanical thrombectomy in acute ischemic stroke with large vessel occlusion-A Retrospective study- Bheru Charan

#### ***Completed***

1. Aneurysms of the intracranial and cervical vessels in the pediatric population: Endovascular treatment and its outcome- Dr Kalyan Sarma
2. Proposal of clinicoradiological criteria for the diagnosis of primary CNS angitis- Dr Sushant Agarwal
3. Role of T2-FLAIR & diffusion-weighted imaging (DWI) in MRI to differentiate Neurocysticercosis from Neurotuberculoma- Dr Nishant Mishra

## Collaborative projects

### Ongoing

1. An exploratory study to identify candidate CSF biomarkers in Idiopathic Intracranial hypertension with vision loss, Neurology
2. Aspirin or clopidogrel in patients with TB Meningitis. PI Prof Rohit Bhatia, Neurology
3. Assessment of neurological and radiological (magnetic resonance imaging of brain) features and inflammatory/prothrombotic biomarker trends in mildly symptomatic or asymptomatic cases of COVID 19, Neurology
4. Centre for Excellence (COE) for Difficult to Treat Epilepsy. PI- Prof Manjari Tripathi. Funded by Department of Science and Technology, Government of India, Neurology
5. Clinical and genetic factors for aspirin resistance in Indian patients with ischemic stroke. Dr Rohit Bhatia, Neurology
6. International Centre for Genomic Medicine in Neuromuscular Diseases (ICGNMD)-PI: Prof. MV Padma Srivastava. Funded by the Medical Research Council, UK, Neurology
7. Pathobiology of Multiple sclerosis: phenotypic, biomarker and genetic signatures. Dr Rohit Bhatia, Neurology
8. Prevalence of Symptomatic and asymptomatic coronary artery disease in patients with stroke and transient ischemic attacks. PI Prof Rohit Bhatia, Neurology

### Completed

1. Association of Vascular Risk Factors, Brain MRI Measures, Cognition and Gait in Community Dwelling Adults Aged 50 years and above: A Population Based Cross-Sectional Study, Neurology, Biostatistics
2. Intra-arterial Chemotherapy in retinoblastoma, RPC, Paediatric department

## PUBLICATIONS

**Journals: 26**

**Chapters in books: 1**

**Books and monographs: 1**

## PATIENT CARE

The department works 24x7, 365 days for patient care work & regularly attends to emergencies like subarachnoid haemorrhage, stroke, acute encephalopathies, myelopathies, traumatic or iatrogenic cerebro-vascular injuries etc. All requests for CT scan from out patients & in-patients are done the same day & often immediately, so that decision can be promptly taken for patient management. There is no waiting for CT scans in this department. DSAs are regularly done for cerebral & spinal vascular studies for patients attending the Neurosciences Centre and also other departments like ENT & Ophthalmology. Similarly Neurointerventional therapeutic management is routinely carried out for patients of the Neurosciences Centre as well as those referred from ENT, Ophthalmology, Paediatrics, Cardiology, Orthopaedics amongst others. Besides, CT scans are done in the ICUs for patients on life support or ventilator using the mobile CT scanner. Bedside x-rays are routinely done using digital portable x-ray unit or CR unit & images are uploaded to the PACS network. Portable Ultrasound is done whenever required for sick & immobile patients in the wards & ICUs of the Neurosciences Centre. All consultants & residents access PACS images through IP enabled protocol and hence can view the images from home or anywhere using internet or even using their smart phones. The departmental conference room has been upgraded for multimodality image viewing using high resolution Dicom compatible projection system, so that clinical consultants & residents can easily see their patient's images in chronological sequence & in comparison mode on the large projection screen. Even old images & scanned private images can be viewed efficiently instantaneously which helps quick decision making.

## Neuroimaging & Interventional procedures performed during the year 2020-2021

C T Scans	11235	
Digital Subtraction Angiography	Therapeutic Neuro-Interventional procedures: (Cerebra Aneurysms, Cerebral & Spinal AVM embolizations, Carotid revascularization etc.)	132
	Diagnostic DSA	223
	<b>Total</b>	<b>335</b>
Ultrasound Examinations / Doppler studies		<b>1106</b>
MRI		<b>2073</b>
X Rays		<b>1154</b>
Portable x-rays		<b>4754</b>

Vidar		<b>5104</b>
Data Migration		<b>1611</b>

**Total for the year = 27,372**

### Cases discussed & reviewed in Neuroradiology conferences for patient care decision making

	No. of cases	Weekly Frequency	Total
Epilepsy Case Conference	10@	2	20/week
Neurosurgery conferences	40@	4	160/ week
Neurology conferences	25@	6	150/ week
Neuropathology conference	4@	biweekly	8/ week
		<b>Total</b>	338/ week

**Total = 17,576 cases per year**

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Shailesh B Gaikwad** was Member of “National stroke registry”. Attended “Research Area Panel” meeting on stroke, 15 October 2020 at ICMR-NCDIR Bangalore through video Conference; Member of board of studies for setting up DM “Neuroradiology” degree course at Radiology department in SGPGI, Lucknow. Attended a board of studies meeting, held on 4 November 2020 at 12.00 noon in Telemedicine department of SGPGI, Lucknow to discuss: 1. reconsidering to start DM Neuroradiology course at SGPGIMS (Statutory Autonomous), 2. Review of course curriculum & syllabus of DM Neuroradiology course, 3. Panel of experts for DM Neuroradiology, 4. Panel of experts for faculty selection and promotion in dept of Radiodagnosis; Presented department space/machinery/staff requirement for the upcoming new setup under the aegis; of “AIIMS Master plan & Campus Re-development” on February 2021, 8.30 am-12.30 pm, at Board Room meeting under the chairmanship of Director, AIIMS in presence of AECON Representative; Examiner for DM in “Neuroradiology”, practical viva voce, department of Radio diagnosis, PGIMER, Chandigarh, 12 December 13 2020; Chairman of AIIMS Gymkhana, entrusted with the responsibility of conducting various sports events for the welfare of the students, residents, research scholars, paramedical and non medical staff and faculty members. Engaged in facility expansion, maintenance of related infrastructures and providing logistical support for the smooth functioning of the Gymkhan; Technical expert on “3T Digital PET/MRI” facility to be setup at Nuclear Medicine department, AIIMS, New Delhi; Chaired a session in the 22nd Annual Conference of Indian Society of Neuroradiology.

### Neuroanaesthesiology

#### HIGHLIGHTS

Anaesthetic management for 1175 neurosurgical procedures was performed. Anaesthetic management for 302 neuroradiological procedures (190 in Angiography lab and 112 in MRI suite) was performed. Intensive care management of 2513 ICU patients was performed. A total of 126 patients were seen in Pre-Anaesthesia Check-up (PAC) clinic OPD at NSC. A total of 82 patients (20 new and 62 old) were seen in pain clinic OPD, NSC and 96 nerve blocks were given in the pain clinic.

Five candidates were awarded D.M. (Neuroanaesthesiology and Critical Care) degree and one candidate was awarded fellowship in Neurocritical care. Four new candidate joined D.M. course and two candidates joined the Neurocritical care fellowship courses. Twentysix senior residents (both academic and non-academic) received training in the department. Four postgraduate students received neuro-anaesthesia training. Faculty members are working on two funded research projects. Thirty-eight research projects were completed in the department and 19 research projects continuing. Faculty members are also involved in 11 collaborative research projects along with other departments and institutes and they are working on 4 other collaborative projects that are continuing. Faculty members delivered 34 lectures in various national and international conferences. The department published 65 papers in various national and international journals and 12 chapter in books. Faculty members of the department have also published 7 books during this period. Faculty members in the department got awards and recognition in various nationals and international platforms.

#### EDUCATION

We have regular classes (Seminars, Journal Club, Case presentation) on Monday, Tuesday and Friday between 8-9 am. Because of the pandemic situation academic activities were carried out on online platforms. Other than the scheduled academic activities, the faculty members are also involved in clinical teaching for care of patients in the operation theatres, intensive care units, preanesthesia clinic, neuroradiology units and pain clinic.

#### Lectures delivered at CMEs, National and International conferences

**Hemanshu Prabhakar: 1**

**Gyaninder Pal Singh: 2**

**Ashish Bindra: 3**



**Niraj Kumar: 6**  
**Surya Kumar Dube: 2**

**Keshav Goyal: 9**  
**Indu Kapoor: 1**

**Charu Mahajan: 3**  
**Vanitha Rajagopalan: 5**

**Hemanshu Prabhakar**

1. Basic principles of Neurocritical care nursing, 23rd Annual conference of Delhi Neurological Association and 19th Neuronurses forum, 5-7 February 2021, New Delhi/Virtual

**Gyaninder Pal Singh**

1. Critical Care Management of Cervical Spine Injury, 1st Annual Conference of Neurocritical Care Society of India (NCSI-Virtual), 2-4 October 2020, Gurugram
2. Refining Neurointensive care protocolized therapies in TBI, 3rd Annual conference of Society of Neurocritical Care (SNCC-Virtual), 27-29 November 2020, Gurugram

**Ashish Bindra**

1. ANC lecture on Status epilepticus, Neurocritical care society of India, 3 October 2020, Online
2. Effect of inhalational anesthetics on cerebral physiology, Update on inhalational anesthetics, organized by Indian college of anaesthesiologists (ICA) and American Society of Anaesthesiologists (ASA), 16 October 2020, Online
3. Anesthesia for Patient with epilepsy for non-epilepsy surgery, PG refresher series, 12 March 2021, Greater Noida

**Niraj Kumar**

1. Basic principle of ultrasound and knobology, Classroom - ISNACC society initiative, 15 May 2020, Online
2. Lung ultrasound, Classroom - ISNACC society initiative, 28-05-2020, Online
3. Basic echo, IVC and FAST, Classroom - ISNACC society initiative, 19 July 2020, Online
4. Airway Usg, Classroom - ISNACC society initiative, 19 July 2020, Online
5. Traumatic Cervical spine Injury (TSI), ANCU 2020, 3 October 2020, Online
6. Critical appraisal of a literature, ISNACC2021, 25 January 2021, Online

**Keshav Goyal**

1. Approach to Non-Covid Emergencies #ER# OT# ICU#Cath, ISNACC and NCSI Webinar, 3 April 2020, New Delhi
2. Traumatic Brain Injury: Recent in management and diagnosis, ISNACC Webinar, 14 June 2020, New Delhi
3. Traumatic Brain Injury: Acute Emergency Management \*Course National coordinator, Acute Neuro Care (ANC) Course 1st conference of Neurocritical Care Society of India (NCSI), 2-4 October 2020, Gurgaon
4. Multi-modality Neuromonitoring in Neuro-ICU, International Conference on Critical Care and Pain by Bangladesh Society of Anaesthesiologists, 17-18 October 2020, Bangladesh
5. How I Manage Intracranial Hypertension with Multimodal Neuromonitoring? 37th annual academic congress 2021 College of anaesthesiologist and intensivist of Srilanka, 23-24 January 2021, Virtual. Sri Lanka
6. Practical aspects of Neuromonitoring in Neurocritical care- Panel discussion, 22nd Annual Conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC 2021), 24- 26 January 2021, Chennai, India
7. Dealing with Neurological emergencies-A neuro-anaesthetist perspective, 23rd Annual Conference of Delhi Neurological Association” (VIRTUAL DNACON), 5-7 February 2021, Delhi
8. Multimodal Neuromonitoring, 1st International and 30th National Conference of Research Society of Anaesthesiology Clinical Pharmacology (RSACPCON 2021), 6-7 March 2021, Delhi
9. Correlation of near infra-red spectroscopy with intraoperative transfusion trigger in pediatric posterior fossa neurosurgical procedures, Delhi Neurological Association (DNA) monthly meet, March 2021, Delhi

**Charu Mahajan**

1. Anesthetics are neuroprotective versus neurotoxic: Pro-Con Session, 22nd Annual Conference of Indian Society of Neuroanaesthesiology and Critical care (ISNACC) 2021, 24-26 January 2021, Virtual platform
2. Management of posterior fossa SOL, 9th SGPGI Postgraduate Anaesthesiology Refresher Course- 2021, 4-10 April 2021, Virtual
3. Management of hydrocephalus, 9th SGPGI Postgraduate Anaesthesiology Refresher Course- 2021, 4-10 April 2021, Virtual

**Surya Kumar Dube**

1. Airway and Ventilation: Acute Neuro Care, 1st Conference of Neurocritical Society of India and Annual Neurocritical Care Update 2020, 2-4 October 2020, Online

- Balanced Salt Solutions Versus Normal Saline in Neuroanesthesia Practice: Impact on Outcome (Pro-Con Session), 22nd Annual Conference of ISNACC. ISNACC 2021, 24- 26 January 2021, Online

#### **Indu Kapoor**

- Traumatic Brain Injury, Comprehensive Neuro-critical Care Course [CNCC] in 3rd Annual Conference of Society of Neurocritical Care [SNCC-India] – Virtual, 27 November 2020, New Delhi/Virtual

#### **Vanitha Rajagopalan**

- Basics of Ventilation in COVID 19, Torrent - Covigilance Webinar, 11 April 2020, New Delhi/ Online
- Precautions before Surgery COVID 19 Scenario, SPEED Webinars, 20 April 2020, New Delhi/ Online
- Organ Donation; Ethics & Brain Stem testing, PG teaching The Anaesthetist: ICU Mini symposium 1, 10 September 2020, UK/ Online
- Basics of Neurocritical Care, 3rd Annual Conference of Society of Neurocritical Care (SNCC) Virtual, 27 November 2020, Gurugram/ Online
- Clinical Aspects of Neuromonitoring, RSACP Academic Webinar Series 2021- Neuroanaesthesia& Critical Care- Indore Branch, 13 January 2021, Indore/ Online
- Delayed Recovery/ Awakening/ Emergence from Anaesthesia, Crisis Management Symposium- Global Anaesthesia Society & Royal College of Anaesthetists, UK, 6 March 2021, Liverpool, UK/ Online

#### **List of oral papers/posters presented**

- Burman S, Chauhan RS, Kumar N, Effect of ketamine infusion as neuroprotective agent on neurological outcome in patients with severe traumatic brain injury: a randomized controlled pilot study, ISNACC 2021, 24-26 January 2021, Virtual
- Dube SK, Rath GP, Bithal P, Prasad K, Roy H, Jena BR, A Comparative study of indirect calorimetry vs. standard weight-based regimen for nutrition in stroke patients, 22nd Annual conference of The Indian Society of Neuroanaesthesiology & Critical Care (ISNACC Virtual 2021), 25 January 2021, Virtual
- Gupta A, Chouhan RS, Pandit SA, Sharma PBK, Irritant Contact Dermatitis caused by Povidone Iodine solution in a pediatric patient: A case report, 22nd Annual Conference of Indian Society Of Neuroanesthesiology and Critical Care, 24 -26 January 2021, Online
- Gupta DS, Bindra A, Kapoor I. A prospective randomized controlled trial to study the effect of two different tidal volumes (6-8 mL/kg vs 12-15 mL/kg) on the time to wean from the ventilator in patients with an acute traumatic cervical spine injury, Neurocritical care society of India, 26 September 2021, Online
- Gupta DS, Bindra A, Kapoor I. A prospective randomized controlled trial to study the effect of two different tidal volumes (6-8 mL/kg vs 12-15 mL/kg) on the time to wean from the ventilator in patients with an acute traumatic cervical spine injury, Indian Society of Neuro anaesthesia and Critical Care, 26 January 2021, Online
- Gupta DS, Bindra A, Kapoor I. A prospective randomized controlled trial to study the effect of two different tidal volumes (6-8 mL/kg vs 12-15 mL/kg) on the time to wean from the ventilator in patients with an acute traumatic cervical spine injury, DNACON, 5 February 2020, Online
- Jayanth S, Mishra N, Dube SK, Rath GP, Chaturvedi A, Anesthetic management of TOF with cerebral abscess: a retrospective analysis, 22nd Annual conference of The Indian Society of Neuroanaesthesiology& Critical Care (ISNACC Virtual 2021), 25 January 2021, Virtual
- Mahapatra R, Kumar N, Singh GP, To evaluate the effect of change in end tidal carbon dioxide on optic nerve sheath diameter under general anaesthesia: A prospective study, ISNACC 2021, 24-26 January 2021, Virtual
- Prasad CK, Chouhan RS, Chaturvedi A, Narang R and Suri A, Effect of stellate ganglion block on cardiac rhythm in patients with acute aneurysmal sub-arachnoid hemorrhage with vasospasm: A holter-based preliminary study, 22nd Annual Conference of Indian Society of Neuroanesthesiology and Critical Care, 24-26 January 2021., Virtual
- Prasad CK, Chouhan RS, Chaturvedi A, Narang R and Suri A, Effect of stellate ganglion block on cardiac rhythm in patients with acute aneurysmal sub-arachnoid hemorrhage with vasospasm: A holter - based preliminary study, Ist International & 30th National Conference of RSACP (VIRTUAL), 6 – 7 November 2021, Virtual
- Rath GP, Roy H, Goyal K, Devarajan LJ, Effect of Neuroradiologic Interventions on Regional Cerebral Oxygenation in Patients with Anterior Circulation Aneurysm, 48th Annual Meeting of Society for Neuroscience in Anesthesiology and Critical Care (SNACC Virtual 2020), 11 September 2020, Virtual
- Sharma P, Sokhal S, Roy H, Chouhan S R, Sokhal N, Fire in Anaesthesia Workstation: A report of Two Cases, 22nd Annual Conference of The Indian Society of Neuroanesthesiology and Critical Care, 26 January 2021, Virtual
- Sharma PBK, Sokhal S, Roy H, Chouhan RS and Sokhal NS., Fire in anesthesia workstation: A report of two cases, 22nd Annual Conference of Indian Society of Neuroanesthesiology and Critical Care, 24- 26 January 2021, Virtual

14. Shukla R, Mahajan C, Goyal K, Chaturvedi A, Serum Lactate, Base deficit and glucose levels as prognostic markers in Severe Traumatic Brain Injury, 1st conference of Neurocritical Care Society of India (NCSI), 2-4 October 2020, Virtual
15. Tyagi M, Dube SK, Chaturvedi A, A prospective randomized study comparing Goal directed Vs Conventional Fluid Therapy in Aneurysmal Sub Arachnoid Haemorrhage patients, 22nd Annual conference of The Indian Society of Neuroanaesthesiology & Critical Care (ISNACC Virtual 2021), 25 January 2021, Virtual
16. Vatipalli S, Goyal K, Chaturvedi A, Correlation of near infra-red spectroscopy with intraoperative transfusion trigger in pediatric posterior fossa neurosurgical procedures, 1st conference of Neurocritical Care Society of India (NCSI), 2-4 October 2020, Virtual

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, Dr Niraj Kumar, AIIMS + IIT Delhi, 2 years, 2019-continuing, Rs 20 lakhs
2. Non convulsive status epilepticus in severe TBI patients at level-1 trauma center in India: Incidence and prognosis correlation. (DHR-GIA Proposal) IEC-928-4/09/2020, Dr Keshav Goyal, AIIMS, 2 years, 2020- continuing, Rs 25 lakhs

### **Departmental projects**

#### ***Ongoing***

1. A comparison of two non-invasive methods for intraoperative estimation of cardiac output in neurosurgical patients under general anesthesia.
2. Assessment of cerebral autoregulation by near infrared spectroscopy (NIRS) in patients with Severe TBI
3. Can change in 3rd Ventricle width predict post-operative cognitive dysfunction in elderly patients undergoing spine surgeries under general anaesthesia: A Prospective Observational Pilot Study
4. Can change in 3rd ventricle width predict post-operative cognitive dysfunction in elderly patients undergoing spine surgeries under general anesthesia: A prospective, observational pilot study.
5. Cardiovascular complications after traumatic spinal cord injury.
6. Changes in somatic NIRS changes during major hemorrhage with craniotomy and tumorexcision: an observational study
7. Comparing different types of laryngoscopes for endotracheal intubation in various Difficult airway scenarios simulated using a high-fidelity airway mannequin model– an observational study
8. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study
9. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study
10. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in Covid ICU: A pilot study
11. Comparison between transcranial sonography [TCS] and computerized tomography [CT] scan to assess the midline shift [MLS] in traumatic brain injury patients.
12. Comparison of 0.9% normal saline, stereofundin, and plasmalyte with respect to metabolic parameters and brain relaxation in patients undergoing supratentorial craniotomy
13. Comparison of change in the Pulsatility index before and after ventriculoperitoneal shunt surgery in adult patients with hydrocephalus.
14. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study.
15. Comparison of functional neurological outcome with propofol total intravenous anesthesia or sevoflurane balanced anesthesia in adult patients undergoing decompressive craniectomy for supratentorial acute ischemic infarct: A randomized, controlled pilot study.
16. Comparison of Glasgow Coma Scale, Glasgow Coma Scale- Pupils and Full Outline of Unresponsiveness Score for predicting outcome in patients with traumatic brain injury.
17. Comparison Of Glasgow Coma Scale, Glasgow Coma Scale- Pupils And Full Outline Of Unresponsiveness Score For Predicting Outcome In Patients Of Traumatic Brain Injury

18. Detection of saline filled cuff by Ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study
19. Effect of decompressive craniectomy on jugular venous oximetry (SJVO<sub>2</sub>) in patients with severe Traumatic brain injury (TBI)
20. Effect of propofol versus sevoflurane on cerebral oxygenation in childhood Moyamoya Disease- a near infrared spectroscopy [NIRS] study
21. Effect of surgical revascularization on regional cerebral oxygen saturation in Moya-Moya disease
22. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study.
23. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study.
24. Evaluating the effects of Dexmedetomidine loading dose on cerebral hemodynamic of patients with temporal/parietal glioma via Transcranial Doppler – A Prospective single arm trial
25. Goal-directed intraoperative fluid therapy in Aneurysmal SAH patients: a prospective randomized study
26. Intraoperative somatic site near infrared spectroscopy changes in supratentorial craniotomy: A prospective study
27. Near infrared spectroscopy as a predictor of evaluation towards brain death following severe brain damage
28. Opioid sparing Anesthesia Technique for supratentorial craniotomy in geriatric patients [OPIATE]: a randomized open labelled study
29. Outcome predictors of giant intracranial aneurysms undergoing surgical management: A retrospective analysis
30. Posterior fossa surgery in sitting position: a retrospective analysis from a single center using sitting position in current practice
31. Prevalence of Augmented Renal Clearance in pediatric traumatic brain injury patients.
32. Prevalence of augmented renal clearance in Pediatric traumatic brain injury patients
33. Red blood cell distribution width as prognostic marker in aneurismal subarachnoid hemorrhage
34. Role of lung ultrasound in estimating extravascular lung water as an early predictor of sepsis in neurotrauma patients – An observational study
35. To determine the rate of multidrug resistance to antimicrobial drugs in pediatric neurointensive care patients.
36. To establish correlation between inferior vena cava collapsibility index and carotid Doppler flow time with cardiac output in patients undergoing intracranial tumor surgeries.
37. To evaluate the effects of Ketofol and Propofol on cerebral oxygenation in patients undergoing trans-sphenoidal pituitary surgery under total intravenous anaesthesia
38. To study the risk factors and causes of extubation failure in head injury patients

### ***Completed***

1. A Comparison of the effectiveness of Dexmedetomidine versus Propofol infusion for sedation during awake Craniotomy
2. Characteristics of gut microbiome after traumatic brain injury
3. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study
4. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study
5. Comparison of 0.9% normal saline with sterofundin and plasmalyte with respect to metabolic parameters and brain relaxation in patients undergoing supratentorial craniotomy: a randomized controlled trial
6. Comparison of ketofol and propofol for sedation in severe traumatic brain injury patients: a randomized comparative pilot study
7. Comparison of propofol and ketofol on transcranial motor evoked potentials in patients undergoing thoracolumbar spine surgery
8. Correlation of NIRS with intraoperative transfusion trigger in paediatric patients posted for posterior fossa tumour excision
9. Effect of anesthetics on brain volume as assessed using transcranial sonography: A Randomized Controlled Study
10. Effect of ketamine infusion as neuroprotective agent on neurological outcome in patients with severe traumatic brain injury: A randomized, controlled, pilot study
11. Effect of ketamine infusion as neuroprotective agent on neurological outcome in patients with severe traumatic brain injury: a randomized controlled pilot study

12. Effect of stellate ganglion block on cardiac rhythm in patients with acute aneurismal sub-arachnoid hemorrhage with vasospasm: A Holter-based preliminary study
13. Effect of surgical revascularization on regional cerebral oxygenation in patients with Moya Moya disease
14. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study
15. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study
16. Incidence and risk factors for delayed extubation after posterior fossa surgery- A prospective study
17. Incidence and risk factors of deep vein thrombosis in patients undergoing intracranial tumour surgeries – a prospective study
18. Prognostic value of serially estimated serum procalcitonin in multiple trauma victims with and without head injury
19. To evaluate the effect of change in end-tidal carbon dioxide on optic nerve sheath diameter under general anaesthesia” (Guide)

## **Collaborative projects**

### ***Ongoing***

1. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in covid ICU: A pilot study, Neuroanesthesiology and critical care
2. Comparing safety and efficacy of indigenous goggles with fan versus standard goggles in health care worker in COVID ICU., Anesthesiology and Critical Care, Lab Medicine, Hospital Administration
3. Comparing safety and efficacy of indigenous goggles with fan versus standard goggles in health care worker in COVID ICU., Anesthesiology and Critical Care, Lab Medicine, Hospital Administration
4. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study, Neuroanesthesiology and critical care
5. Comparison of functional neurological outcome with propofol total intravenous anesthesia or sevoflurane balanced anesthesia in adult patients undergoing decompressive craniectomy for supratentorial acute ischemic infarct: A randomized, controlled pilot study, Neurology/ AIIMS, New Delhi.
6. Detection of the saline-filled cuff by ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study, Neuroanesthesiology and critical care
7. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, AIIMS+ IIT Delhi
8. Effect of decompressive craniectomy on jugular venous oximetry in patients with severe TBI, Neurosurgery, JPNATC, AIIMS
9. Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, randomized control trial, Department of Anaesthesiology, Health Sciences Centre, University of Manitoba, Winnipeg, Canada
10. Prospective study on the effectiveness of chlorhexidine gluconate impregnated patch (BIOPATCH<sup>®</sup>) in reducing the incidence of central line associated blood stream infection (CLABSI). Department of Microbiology, JPNATC, AIIMS
11. Surveillance of blood stream infections (BSI) at a referral Indian hospital Surveillance of blood stream infections (BSI) at a referral Indian hospital, Department of Microbiology, JPNTC, AIIMS

### ***Completed***

1. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU: A pilot study, Lab Medicine Biotechnology
2. Effect of ketamine infusion as neuroprotective agent on neurological outcome in patients with severe traumatic brain injury: A randomized, controlled, pilot study, Neurosurgery/Cardiology, AIIMS, New Delhi
3. Effect of stellate ganglion block on cardiac rhythm in patients with acute aneurysmal sub-arachnoid hemorrhage with vasospasm: A Holter-based preliminary study, Neurosurgery/ Cardiology, AIIMS, New Delhi
4. Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study, Lab Medicine, JPNATC, AIIMS
5. GlobalSurg-Covidsurg Week: Determining the optimal timing for surgery following SARS-COV-2 infection. A collaborative global study tracking the outcomes of surgical patients, Multicentric Study involving 116 countries. Nodal Centre is Birmingham UK



6. Postoperative Neurological Complications after a Cranial Surgery: A Multicenter Prospective Observational Study, AIIMS, New Delhi; NIMHANS Bangalore; PGI, Chandigarh (INDIA) University of Washington, Seattle, Washington, (USA)

## PUBLICATIONS

**Journals: 59**

**Abstracts: 1**

**Chapters in books: 9**

**Books and monographs: 7**

## PATIENT CARE

Anaesthetic management for 1175 neurosurgical procedures was performed. Anaesthetic management for 302 neuroradiological procedures (190 in Angiography lab and 112 in MRI suite) was performed. Intensive care management of 2513 ICU patients was performed. A total of 126 patients were seen in Pre-Anaesthesia Check-up (PAC) clinic OPD at NSC. A total of 82 patients (20 new and 62 old) were seen in pain clinic OPD, NSC and 96 nerve blocks were given in the pain clinic.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Arvind Chaturvedi** was Appointed as Expert member of inspection committee of Delhi University for Inspection of DM Neuroanaesthesiology course. In GIPMER Delhi; Appointed examiner of DM neuro anaesthesia Exam in AIIMS Rishikesh; Appointed examiner of DM neuro anaesthesia Exam in for Thesis Evaluation in NIMHANS Bangalore; Appointed examiner of MD anaesthesia Exam For thesis evaluation in PGI Chandigarh; Chaired prestigious Dr Gode Oration in Annual ISNACC 2021 (Virtual) 24-26 January, 2021. Organized by ISNACC national Branch; Reviewer of Sultan Quaboos University Medical Journal SQUMJ. Oman, JOACP, JNSA; Selected as MCI Inspector for Inspection of DM Neuroanaesthesiology course in India

**Professor Mihir Prakash Pandia** was Appointed examiner of DM neuro anaesthesia Exam in PGI Chandigarh; Appointed examiner of PDC neuro anaesthesia Exam in IMS BHU; Continuing as the Chairman of the research committee of ISNACC (Indian Society of Neuroanaesthesiology and Critical Care)

**Professor RS Chouhan** Co-chaired a scientific session in the 22nd Annual Conference of Indian Society of Neuroanaesthesiology and Critical Care (VIRTUAL) held on 24-26 January 2021. Talks were on – Venous thromboembolism in neurosurgical patients, Anaesthetic concerns in a patient with Vein of Galen Aneurysmal Malformation (VGAM), Sitting Neurosurgery; Our research paper “Effect of stellate ganglion block on cardiac rhythm in patients with acute aneurysmal sub-arachnoid hemorrhage with vasospasm: A Holter-based preliminary study” was awarded 2nd prize in BASUDEO-KAUSHALYA award (Neuro Anaesthesia category) in 1st International & 30th National Conference of RSACP held virtually from 6–7 November 2021.

**Professor Girija Prasad Rath** was nominated as the Editor-in-Chief of the SNACC Newsletter, the official mouth piece of the Society for Neuroscience in Anesthesiology and Critical Care (SNACC, USA). Also, nominated as the Chair of Global-Outreach Subcommittee and a member of the prestigious nomination committee of the SNACC. Continues to work as a Director for SNACC Board of Directors, Member of Scientific and Communication Committees of the SNACC. Participated in an International panel discussion (SNACC-JNA) on ‘Neuroanaesthesia and neurocritical care responses to the pandemic and lessons learned’ at the SNACC Annual Meeting 2020 (Virtual), USA. Also, participated in a pan-Indian panel discussion on the ‘Impact of Covid-19 on Neuroanaesthesia teaching and training in India’ during the 22nd Annual Conference of the Indian Society of Neuroanaesthesiology and Critical Care (ISNACC Virtual 2021). Continue to contribute as the EXCO member (India) for Asian Society of Neuroanaesthesia and Critical Care (ASNACC) and its web editor. Continue to hold the post of Executive Editor, Journal of Neuroanaesthesiology and Critical Care (JNACC), Editorial Board Member of Indian Journal of Anaesthesia (IJA), Neurology India, The Indian Anesthetists’ Forum, and Web Editor, Indian Society of Neuroanaesthesiology and Critical Care (ISNACC). Continue to serve as the International Advisory Board Member of Anesthesia Essays & Researches (AER) and Anesthesiology & Pain Medicine (AAPM), and peer-reviewer of reputed international journals such as *Minerva Anesthesiologica*, *Journal of Neurosurgical Anesthesiology*, *Neurocritical Care*, and *Journal of Clinical Anesthesia*.

**Dr Gyaninder Pal Singh** was Awarded the “Best Researcher Award” by SF International Research Award on New Science Inventions (NESIN-2020) on 9 December 2020; Examiner for MD Anaesthesiology, Delhi University. DM Neuroanaesthesiology, SCTIMST, Trivandrum. DM Neuroanaesthesiology, AIIMS Rishikesh; Evaluation of thesis: MD Anesthesiology, PGIMER, Chandigarh DM Neuroanaesthesiology, NIMHANS, Bangalore; Chaired the scientific sessions during 22nd Annual conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC2021- Virtual) from 24–26 January 2021, Chennai and 23rd Annual Conference of Delhi Neurological Association (Virtual) from 5–7 February 2021, New Delhi.

**Dr Ashish Bindra** was Moderator Panel: Neuroanaesthesia Practice: Road map ahead, COVID talks by Indian Society of Neuroanaesthesiology and Critical Care and NCSI, 26 April 2020, Online; Moderator for panel discussion: Practical points about antiepileptics, Neurocritical care society of India, 3 October 2020, Online; Thesis paper “First prize at conference of Neurocritical Care Society of India 2020; Thesis paper “Third prize at conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC) 2021; Organizing committee ISNACC 2021.

**Dr Niraj Kumar** was Perusing fellowship Program: (CMETI – Part Time Clinical Research Methodology and Evidence Based Medicine) at AIIMS, New Delhi for the session January 2019. Based Medicine; Instructor (Faculty) of –ATLS, ANC, ACCC, AIIMS – EM-SONO, AUTLS; Perioperative (ICU + OT) management of all kinds of COVID-19 patients; Conducted online Ultrasound series of education (Classroom - ISNACC society initiative) as course director.

**Dr Keshav Goyal** was Appointed as External Examiner of Madhya Pradesh medical Science University, Jabalpur (MP) for MD anesthesiology; Course director cum National Coordinator of 1st Acute Neuro Care (ANC) affiliated by National society (ISNACC) and NCSI 2020 at 1st NCSI Conference (Virtual); Member of Trainee Engagement Committee of SNACC, USA; Reviewer of International Journal of Respiratory and Pulmonary Medicine; Emergency Neurological Life Support (ENLS)-Train the trainer Course Instructor Recertification; Executive member of organizing committee of Acute Neuro care (ANC) at 1st NCSI; Course Director and Coordinator.

**Dr Navdeep Sokhal** introduced indigenous fogless goggles with fan to provide clear and fog free vision for healthcare workers working in designated COVID ICUs and COVID workplace and without compromising safety.

**Dr Surya Kumar Dube** was Reviewer for Indian Journal of Anaesthesia, Journal of Neuroanaesthesiology and Critical care, Clinics (Sao Paulo) and Instructor ATLS, BLS, ACCC.

**Dr Indu Kapoor** Featured in special article: ‘Images from the Frontlines of the COVID-19 Pandemic. Anesthesiology 2020; 133:724–739; Selected as member in Scientific Editorial board of book series titled ‘Physiology in Clinical Neurosciences-Brain and Spinal Cord Crosstalk’ published by Springer nature.

**Dr Vanitha Rajagopalan** completed the Online Comprehensive Course in Pain Management (both ultrasound and C-arm Guided) offered by Daradia Pain Hospital, Kolkata; Completed the Online Basic Pain Course offered by Mumbai Pain School; Completed the Certificate Course on Freelance Medical Writing offered by Turacoz Healthcare Solutions; Jointly organized the PG Quiz at ISNACC 2021 (online event); Reviewed articles for Journal of Neuroanaesthesiology and Critical Care, Journal of Anaesthesiology Clinical Pharmacology, Indian Journal of Clinical Anaesthesia, Neurology India and The International Journal of Clinical Practice.

**Dr Suman Sokhal** Conducted Quiz, 22nd Annual Conference of The Indian Society of Neuroanaesthesiology and Critical Care, 24-26 January 2021, Online

### Clinical Neuropsychology

#### **HIGHLIGHTS**

Neuropsychology, Neurosciences Center, has been providing services even during the Pandemic. The services have been physical as well as virtual. The team working at Neuropsychology along with support of Neurology, Neurosurgery and other specialities at Neurosciences Centre, has played a major role in delivering standard of care from neuropsychological perspective. Received National and International recognition for the work done by the students. All of this has been possible with the support of esteemed seniors, and colleagues of AIIMS, with the support of the Chief, especially our respected director/ Leader of the institute for giving us this opportunity. The enthusiasm and willingness of the students has played a major part in delivering ‘standard of care’. Outcome from such a service with the support of their teams further helped in winning multiple awards by the students of Clinical Neuropsychology (who won 3 international awards on their thesis work from Clinical Neuropsychology, Neurosciences Center, AIIMS, New Delhi. Nominated for the World Health Organization (WHO) TBI Rehabilitation Working Group Member: under the aegis: Rehabilitation 2030- a call for action [Nominated by the Indian Federation of Neurorehabilitation (IFNR)]; Nominated & Appointed as Member: Institute’s Ethics Committee. Institute of Home Economics, (University of Delhi), (2020-21) (Part of 6 member team). Additionally, amidst this pandemic, Neuropsychology, NS Centre has focused on the neuro-psycho-social needs of Covid-19 frontliners and worked extensively on collecting data regarding the pandemic’s impact on the mental health of the Covid-19 warriors.

#### **Lectured delivered**

##### **Ashima Nehra: 4**

1. Cognitive Rehabilitation in Stroke, Neurorehab webinar of Indian Federation of Neurorehabilitation, 12 April 2020, Online
2. Math Genius: Neuropsychological Management, Indian Epilepsy Society, Epilepsy Surgery Subsection Meeting, 16 August 2020, Online
3. Math Genius: Neuropsychological Management, Combined Clinical Rounds, All India Institute of Medical Sciences, 29 September 2020, All India Institute of Medical Sciences, New Delhi

4. Empirical Role of Psychological Science in Healthcare and Universal health coverage, 78th Annual Conference of ICP 2020 Virtual, 11-13 December 2020, Virtual Conference From Canada

## RESEARCH

### *Ongoing*

1. To study the Mental Health Status and Needs of Front-line Medical, Para-medical healthcare professionals in India to build preventive and curative models for enhancing their holistic well-being in times of Emergency National Crises: A cross-section study, Ashima Nehra, AIIMS, New Delhi, 1 (extendable by another 1 year), 2020-21, 5 lakhs

### **Departmental projects**

#### *Ongoing*

1. Development and efficacy of Neuropsychological Rehabilitation for Improving Cognition and Quality of life in Patients with Drug Refractory Epilepsy: A Randomized Controlled Trial
2. To develop and ascertain efficacy of an Indian Neuropsychological continuum of care (CoC) health care model for stroke survivors: A Randomized Control Clinical Trial (RCT)

#### *Completed*

1. Development of a Neurocognitive Remediation Package and Phase II Trial for Assessing its Efficacy in Cognitive Functioning among Patients with Schizophrenia

### **Collaborative projects**

#### *Ongoing*

1. A Population Based Prospective Cohort study to Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective AIIMS-ERASMUS COHORT STUDY. (An international collaborative project), Neurology, Cardiology, Community Medicine, Neuroradiology, Oral Health Sciences, Neuropsychology, Bio-Statistics etc.
2. Development And Efficacy of Comprehensive Neuropsychological Rehabilitation for Improving Cognition and Quality Of Life in persons with Drug Refractory Epilepsy: A Randomized Controlled Clinical Trial, Neuropsychology, Neurology, Neurosurgery, Neuroradiology, Bio-Statistics

#### *Completed*

1. Development of a Computerized Neurocognitive Remediation Package and Phase II Trial for Assessing its Efficacy in Cognitive Functioning among Patients with Schizophrenia, Neuropsychology, Neurology, Psychiatry, Bio-Statistics

## PUBLICATIONS

**Journals: 1**

**Chapters in books: 1**

## PATIENT CARE

Under the title: Patient care/supportive activities: please include information regarding:

- (a) facilities available in the department (including special clinics and/or special laboratory facilities)

**Outpatient service (OPD):** There are 2 Neuropsychology/Clinical Neuropsychology (CNP) OPDs/week (**during the Pandemic Times**), with 3 registries:

1. **Clinical Neuropsychology (CNP) Clinic :**
  - a. Tuesday and Thursday (Two days a week during Pandemic times):
2. **Specialized Clinics:**
  - a. Tuesday: Neuropsychological Rehabilitation (NR) Clinic

Neuropsychological Rehabilitation	Cognitive Retraining/Restructuring
	Basics Skill Training
	Functional Re-training
	Speech and Language Rehabilitation
	Psychosocial Therapy
	Guidance and Counselling
	Individual Therapy
	Family Therapy
	Vocational Guidance
	Holistic/eclectic Approach Therapy (depending on the patient's needs)

b. Wednesday: Cognitive Disorders and Memory (CDM) Clinic

Cognitive Disorders and Memory Clinic	Memory Assessment
	Screening for Cognitive Decline
	Cognitive Rehabilitation for Dementia/ Alzheimer's Dementia
	Cognitive Re-training for decline in Memory/Executive Functioning
	Management of Cognitive/ Memory Disorders
	Identify and treat pseudo-dementia
	Education: patients, carers, trainees, colleagues, and the general public.
	Family guidance
	Monitoring of progress and response to therapy

## REFERRALS

Patients are referred from Neurology, Paediatric Neurology, Neurosurgery, Psychiatry, JPN Trauma Centre, Neuroanaesthesia, Physical rehabilitation and medicine(PMR), Endocrinology, Medical superintendent's office (for medico legal cases), etc.

Referrals are given to establish a 'baseline' of skills/weaknesses in order to measure change in the future, to identify strengths & weaknesses in specific areas, to differentiate among illnesses, which can then direct appropriate treatment, to plan for treatment to use strengths to compensate for weaknesses, to assess everyday functional skills to plan for assistance or treatment, etc.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

1. Worked as a member of the Development Group for Traumatic Brain Injury, organized by Rehabilitation Programme, Non-communicable Disease Department, W.H.O. World Health Organization.
2. Selected for Emerging Psychologists Program of the 32nd International Congress of Psychology (ICP, 2020). To be held in Prague, Czech Republic (July 2021)

## Neuropathology

### HIGHLIGHTS

In the year 2020-2021, unit of Neuropathology has been able to maintain high standard academics and state of art clinical services. The unit is engaged in routine diagnostic services (total of 853 cases), teaching of undergraduate, postgraduate, DM, Mchand PhD students; as well as high quality research in various subspecialities of Neuropathology. New facilities have been added for the molecular diagnosis and cytogenetic work-up in routine work up in neurooncology, which include *in-situ* hybridization, capillary electrophoresis, real-time PCR etc. The diagnostic immunohistochemical panel has been expanded and a total of 6828 slides have been stained and studied during this period. The unit is regularly integrating molecular markers of clinical significance in the histopathological reports of neurooncology and myopathology. The Neuropathology faculties have received funding for 15 extramural projects. A total of 34 papers have been published in peer reviewed national and international journals. Research work was presented at various national and international platforms. Jyotsna Singh got 2nd Prize for Oral presentation entitled "Gene Expression Based Profiling of Pleomorphic Xanthoastrocytoma Highlights Two Prognostic Subgroups" in DNA CON 2021 held on 5-6 February at AII INDIA INSTITUTE OF MEDICAL SCIENCE New Delhi. Iman Dandapath got 1st prize for oral presentation entitled "Molecular Characterization of IDH Wild Type Diffuse Astrocytoma's: Potential Of The cIMPACT-NOW guidelines." in DNA CON 2021 held on 5- 6 February at AII INDIA INSTITUTE OF MEDICAL SCIENCE New Delhi.

## **CMEs/Workshops/Symposia/National and International Conferences**

Organizing Chair of 10th Annual Conference of the Indian Society of Neuro-Oncology (ISNOCON 2018) held at AIIMS, New Delhi from 6-8 April 2018. Also organized Pre-conference workshop on Molecular Neuro-Oncology.

## **Lectures delivered at CMEs, National and International conferences**

**Chitra Sarkar: 4**

**Mehar C Sharma: 8**

**Vaishali Suri: 2**

### **Chitra Sarkar**

1. General Pathology Of CNS: An overview
2. Slide seminar on CNS Tumors, Online Teaching Programme for Postgraduates in Pathology, 3-8 February 2021, Online, Mumbai
3. Pediatric Gliomas: How molecular genetics has reshaped clinical management, E-international conference of Brain Tumors, 4 February 2021, Online, Aligarh Muslim University
4. Basic Research, Meeting of the National Health Research Policy Committee, 5 February 2021, Online, New Delhi

### **Mehar C Sharma**

1. Histopathology of normal muscle, Juvenile IIM & Mimics, 18th National Conference of Pediatric Rheumatology Society of India. (Delhi Pediatric Rheumatology division), 3-4, October 2020, Online (Sir Ganga Ram Hospital), Delhi
2. Role of immunohistochemistry in muscle diseases, AIIMS -PGI Neurology update, 28 November 2020, AIIMS, Delhi
3. Recent advances in the diagnosis of pituitary tumors, DNACON, 5-7 February 2021, Online, Delhi
4. Clinico pathological correlation of neuronal & mixed glioneuronal Tumour, International Neuropathology update, 16 February 2021, Online (Fortis Hospital), Gurugram
5. Interesting case presentation (CPC), International Neuropathology update, 16 February 2021, Online (Fortis Hospital), Gurugram
6. Interesting Cases presentation, IAPNA- ICP, 4-6 February 2021, Online (Amrita Institute of Medical Sciences), Cochi, Kerala
7. Clinicopathological correlation (CPC), Neurology CPC, 23 February 2021, Online AIIMS, Delhi
8. Pathological aspects & Role of WHO Classification in prognostication of supratentorial tumors in children, Indian Society of Pediatric Neurosurgery, 18 April 2020, Online, Delhi

### **Vaishali Suri**

1. Diffuse Gliomas in Adults: setting the stage for 2020, Neuropathology society of India, 12 December 2020, Virtual, Delhi
2. Histopathology and clinically relevant molecular markers for prognostication, DNACON 2021, 5-7 February 2020, Virtual(AIIMS, Delhi), Delhi

## **List of oral papers/posters presented**

1. Dandapath I, Suri V, Sharma MC, Sarkar C, Molecular Characterization of Idh Wild Type Diffuse Astrocytoma's: Potential Of The Cimpact-Now Guidelines, Molecular Characterization of Idh Wild Type Diffuse Astrocytoma's: Potential Of The Cimpact-Now Guidelines, 5-7 February 2021, Virtual, Delhi
2. Singh J, Suri VS, Sharma MC, Sarkar CS, Gene Expression based profiling of Pleomorphic Xanthoastrocytoma Highlights Two Prognostic Subgroups, DNACON, 5-7 February 2021, Virtual, Delhi

## **RESEARCH**

### **Funded projects**

#### **Ongoing**

1. DHR-ICMR Advance Medical Oncology Diagnostic Services (DIAMONDS) under HTA Inpiot research project, Chitra Sarkar, DHR-ICMR, 3 years, 2020-23, Rs 1.7 crores
2. JC Bose Research Fellowship, Chitra Sarkar, Department of Science & Technology, 5 years, 2016-2020, Rs 15 lakhs per year
3. Clinicopathological and serological assessment of adult-onset idiopathic inflammatory myopathies(IIM) aimed at improved characterization of sporadic inclusion body myositis, M C Sharma, ICMR, 3 years, 2020-2023, 50 lakhs



4. Sequencing Target genes aimed at Neuromuscular disorders in India (STAND-INDIA), M C Sharma, ICMR, 3 years, 2018-2021, 50 lakhs
5. Tumor Immune landscape: PDL1 expression and evaluation of tumor immune interplay by investigating the immune cell infiltration in supratentorial ependymoma and its correlation with survival outcomes, M C Sharma, ICMR, 3 years, 2020-2023, 35 lakhs
6. Unravelling the functional relevance of Snail paralogs in the pathogenesis of pediatric ependymomas, M C Sharma, DST, 3 years, 2018-2020, 45 lakhs
7. Establish robust and economical blood-based panel of diagnostic biomarkers for early diagnosis, detection of tumor progression and its recurrence in gliomas, V Suri, ICMR, 3 years, 2021-2024, Rs 1 crore
8. Evaluation of potential diagnostic value of circRNA in meningiomas for risk stratification and its role in therapeutic intervention, V Suri, ICMR, 3 years, 2020-2023, Rs 78 lakhs
9. Integrative transcriptome analyses of different histological and molecular subgroups of meningiomas to identify prognostic signature and therapeutics, V. Suri, ICMR, 3 years, 2019-2022, Rs 62 lakhs
10. Targeted genomic-epigenomic analysis to develop a novel approach for routine molecular subgrouping and identification of actionable targets in meningioma, V. Suri, DST, 3 years, 2018-2021, Rs 40 lakhs approx.
11. To analyse the molecular profile of paediatric gliomas and establish robust and economical methods for molecular subgrouping and risk stratification, V. Suri, DBT, 3 years, 2021-2024, Rs 1 crore

### ***Completed***

1. A multi-centric study to develop comprehensive molecular genetic panels for glioblastoma personalized therapy, Chitra Sarkar, Department of Biotechnology, 5 years, 2016-2021, Rs 50 Lakhs (approx.)
2. Identification of non-coding RNA panel as novel biomarker for stratification of meningiomas and evaluation of its prognostic therapeutic significance, V Suri, Multi-Institutional Faculty Interdisciplinary Research Project with IIT Delhi, 3 years, 2018-2020, Rs 10 lakhs
3. Molecular signature of protumorigenic inflammation in the context of the WHO 2016 classification of glioma, V Suri, AIIMS inter departmental collaborative project, 3 years, 2018-2020, Rs 20 lakhs
4. Unraveling the role of miRNA clusters (C14MC & C19MC) in oligodendrogliomas: Study using genetic and functional approach with clinicopathological correlations, Dr. Chitra Sarkar, ICMR, 3 years, 2017-2020, Rs 10 lakhs per year

### **Departmental projects**

#### ***Ongoing***

1. Assess molecular and immune profile of PXA
2. Molecular profile of IDH wildtype and mutant gliomas
3. Assess molecular profile of meningiomas
4. To analyse immune microenvironment of different grades of gliomas
5. IDH mutation assessment by Sanger sequencing and ddPCR
6. Immunofluorescence for dysferlinopathy
7. Line immuno assay for myositis specific and myositis associated autoantibody detection
8. Immunoblot for dysferlin and calpain

#### ***Completed***

1. Clinicopathological study of infant gliomas (Dr. Chitra Sarkar)
2. DNA methylation array for molecular subgrouping of medulloblastomas (Dr Chitra Sarkar)
3. Targeted sequencing of IDH negative gliomas (Dr. Chitra Sarkar)

### **Collaborative projects**

#### ***Ongoing***

1. Establish robust and economical blood-based panel of diagnostic biomarkers for early diagnosis, detection of tumor progression and its recurrence in gliomas, IGIB, Delhi
2. Evaluation of potential diagnostic value of circRNA in meningiomas for risk stratification and its role in therapeutic intervention, IIT, New Delhi

3. Fat gene in gliomas, Department of Biochemistry
4. To analyse the molecular profile of paediatric gliomas and establish robust and economical methods for molecular subgrouping and risk stratification, NEIGRMS, GNRC Assam

## PUBLICATIONS

**Journal: 30**

## PATIENT CARE

In patient care/supportive activities include information regarding: (a) facilities available in the department (including special clinics and/or special laboratory facilities) (b) community services/camps etc.

### Neuropathology Lab

1 April 2020 - 31 March 2021

Total Specimen	540	Frozen Section	32
<b>Immunohistochemistry</b>			
Routine IHC	3851	Research IHC	2310
Muscle IHC	460	Total Muscle Received	56
Muscle Enzyme-histochemistry	151		
<b>Fluorescence in situ hybridization</b>			
Diagnostic	244	Research	228
<b>EM Facility</b>			
Total muscle sample	56	Total nerve sample	15
Immunoblot sample	17	Immuno Fluorescence	5

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Chitra Sarkar** Delivered 15th Professor B Ramamurthi Memorial Oration. Titled: Molecular paradigms in Neuro-Oncology: How far have we come? National Brain Research Centre, August 2020; Appointed as President, AIIMS, Guwahati by Ministry of Health & Family Welfare; Appointed as Ministry of Health & Family Welfare as Member of Core Committee of National Health Research Policy; Member of working committee of cIMPACT-NOW: WHO [The Consortium to inform Molecular and Practical Approaches to CNS Tumor Taxonomy is an international initiative to evaluate and incorporate developments in neuropathology. It a practical means to synchronize brain tumor classification with many discoveries that might be diagnostically useful in the field. This initiative is intended to complement the WHO classification process]; Invited to Co-author of two chapters in the 2020 WHO textbook on Classification of Tumors of the Central Nervous System, to be published in 2020 by International Agency for Research on Cancer, Lyon [5th edition] entitled: Glioblastoma; Paraganliomas; Invited to Co-author of a chapter in the 2020 WHO textbook on Classification of Pediatric Tumors to be published in 2020 by International Agency for Research on Cancer, Lyon [5th edition] entitled : Medulloepithelioma; Invited to Co-author of a chapter in the 2021 edition WHO textbook entitled: Endocrine and Neuroendocrine Tumors; Nominated as President Elect, Neuropathology Society of India; Appointed by DBT as Member of the Review Committee for review of Regional Rajiv Gandhi Centre for Biotechnology, Trivandrum; Member of ICMR Selection Committee of Emeritus Scientists; Appointed by DST (SERB) as member of committee for MFCS Promotion (Level-2); Member of Selection Committee of University of Delhi for faculty promotions in Pathology; Appointed as Ministry of Health & Family Welfare as Member of Committee on Central Health Service issues; Member of the Vaibhav Summit India Panel discussion on Cancer Genomics; Chairperson of CSIR committee for Headquarter coordinated projects; Appointed by DST (SERB) as member of the Selection Committee of “SUPRA” projects; Appointed by DST (SERB) Member of Selection Committee of “Power” projects; Member of Committee for Guidance document for Innovation and Entrepreneurship for Medical Professionals constituted by ICMR; Member of the Executive Committee of the National Science Centre; **Continuing as** President, AIIMS, Kalyani by Ministry of Health & Family Welfare; Member of the Committee constituted by Ministry of Health & Family Welfare and DHR to suggest recommendations regarding Bhopal Memorial Hospital and Research Centre (BMHRC). Member, Governing Body of Institute of Medical Sciences, Banaras Hindu University; Member, THSTI Society Committee; Selection committee member for Ranbaxy Awards; Member of the Governing Body and Scientific Advisory Committee of National Brain Research Centre, Manesar; Member of the Scientific Advisory Committee of Institute of Pathology, New Delhi.

## 11.1. B.B. Dikshit Library

### Chairperson, Library Committee

S Rajeshwari

### Library In-Charge

Shyam Singh Chauhan

(up to 25 October 2020)

### Chief Librarian

Shantanu Ganguly

(from 23 October 2020)

### BACKGROUND

BB Dikshit Library is the central library and knowledge hub, which is providing knowledge-based value-added services on Health and Clinical care to different stakeholders (Faculty, UG, PG, and Researcher) of all the teaching departments and centre for excellence. The library is open round the clock to access vast resources both in print and online mode. The library also has a rich collection of Hindi books in health care sector for readers, employees of AIIMS, New Delhi (both technical and non-technical). The library is divided into two floors. The *first floor* houses the printed books with a seating capacity of 300 users. The *ground floor* has the collection of printed journals and newsletters, bound volumes and book bank with a seating capacity of 100 users. On an average, 350 readers visit the library every day. The library is well equipped with modern facilities to support biomedical education and research. The library has predominantly e-resources (80%), which are provided seamlessly through remote access platform with anytime anywhere access for doctors and faculty members for their scholarly research. A brief overview of the resource collection is given below:

### Major Resource Collection

Print Resources	Total Nos
Total printed books	91884
Total Hindi books	2965
Total bound volumes of journals	84391
Thesis	7634

E-Resources	Descriptions
E-Journals	1416 Scholarly Journals, Dentistry and Oral Sciences Source (DOSS Aggregator)
E-Books	162 Access Medicine, Oxford Medicine Online (83), OVID (103 E-Books)
Point of Care databases	UpToDate (Anytime anywhere), BMJ Best Practice, BMJ Case Reports, Acland Anatomy, MedOne Surgery, NEJM Journal Watch
E-Learning packages	JAMA Evidence, BMJ Research to Publications, HSTalk Lecture Series, BMJ Learning
Abstracting and Indexing databases	EMBASE, Web of Science (Citation Analysis Database), Journal Citation Report, Scopus (Citation Analysis Database)
Access Facility Software on Services	LibSys Premia (Ver.10) Library automation EBSCO Discovery service (Single Point Search for all subscribed E-Resources) All E-Resources are accessed through IP enable in the Campus RemoteXs, OpenAthens facility for out-of-campus access
Plagiarism Verification service	iThenticate web enabled Anti-Plagiarism Tool

These online databases, E-Journals and E-Learning Packages can be accessed within the library, on the campus or from outside the campus, using the Web-scale Discovery Service (Single Point Search), IP enabled access and RemoteXs facility. During the year, 288 new RemoteXs accounts were created for remote access facility year 2020-21. There are select society-based journals, which can be accessed through username and password. Necessary access to health care knowledge services is disseminated through the library webpage: <http://www.aiims.edu/en/library.html>. The Single-Point Meta-Search to faculty members and academic resident

doctors is provided through: <http://elibraryaiimsdelhi.remotexs.in> to access E-resources even outside the campus and other parts of the country. The library also provides research-based services to their stakeholders for academic integrity, such as plagiarism verification facility. The total number of submissions of documents during the year 2020-21 was 4481. The library has its own search engine called 'Single Point Search' web-scale discovery service which also acts as a tool for a bibliographic management system for users. The Library Committee is an advisory body for the management of the library. It advises the Chief Librarian regarding the procurement of books and journals, budgetary allocation and to improve the library operations and services and workout mechanism to get institutional membership of all journals for online access and also develop collaboration with other libraries across the globe for online activities. The committee meets at least once in every three months or as and when required.

The library has an in-house information communication and management system comprising of 3 servers and 49 computers. The library has its own Wi-Fi service and about 1200 users benefited during the year. The library uses LibSys Premia automation software system that supports data entry and retrieval of books and other documents. All documentation/bibliographic services, as well as certain library operations have been computerized, using integrated library management software. The circulation section of the library is computerized through RFID smart card system and online issue return of books with automatic reminder systems is integrated with the user's email. The total RFID Smart Cards issued to the library's readers are 463. The library provides Current Awareness Service and Reference and Referral Services. The library publishes E-Resources Bulletin, AIIMS Institutional Repository Bulletin and the New Books Bulletin. It also provides services such as Web-based Open Access Public Catalogue (Web OPAC), Reprography and printout of academic literature. Library imparts orientation and information literacy programs to students, research scholars and doctors regularly.

This year the library spent around Rs 18.14 crores for procurement of E-Journals, Databases, Book and other documents, IT equipment, services, etc. The Library added about 608 Thesis (print and CD form), 53 Hindi books and 22 gifted books during the year. Inter Library Loan service was also provided through DELNET. The library has Electronic Thesis and Dissertation (ETD) facility through online platform. Now, the thesis and dissertation are available for library's readers in printed, CD formats and online platform (24x7) through <http://bbdletd.aiims.edu/>.

#### **Lectures delivered:**

**Shantanu Ganguly: 8      Jahangir Khan: 1**

#### **Shantanu Ganguly**

1. Application of Knowledge Mapping Techniques in Knowledge Management: A Health Care Services Perspective, 12 December 2020, 5th International Online Conference of Asian Libraries (ICAL 2020) organised by Asian Library Association
2. Content Marketing: An Indispensable Aspect for Research Visibility, 16 December 2020, Organised by M/s Balani Infotech Pvt Ltd
3. Research Communication, 18 December 2020, Organised by Indian Council of Medical Research, Health Research Conclave 2020, India International Science Festival 2020
4. Business Plan: Need, Importance, Content and Format, 4 February 2021, Organized by TERI (The Energy and Resource Institute), New Delhi for the Women Entrepreneurship Development Programme (WEDP)
5. Digital Transformation of the Library, 6 February 2021, Organised by Gopal Chandra Memorial College of Education, Kolkata.
6. Knowledge Management, 20 February 2021 Organised by Universitas Islam Sunan Kalijaga Library, Indonesia and Special Library Association, USA
7. Systematic Approach to Marketing and Promotion of Library Services, 5 January 2021, Organised by Birla Institute of Technology and Sciences (BITS), Pilani
8. IRResearch Communication: A Holistic View, 16 March 2021, Organised by JC Bose University of Science and Technology, YMCA, Faridabad

#### **Jahangir Khan**

1. Management of library services during COVID -19 and after: The path Ahead, Panel discussion, Medical Library Association of India (MLAI), Webinar version-9, 7 July 2020

#### **SIGNIFICANT EVENTS**

**Dr Shantanu Ganguly** was Member, Advisory Editorial Board appointed by Board of Executives of Journal of Academy of Hospital Administration (JAHA).

**Neetu Priya** was Member, Institutional Annual Report Committee, AIIMS, New Delhi.

## 11.2. Cafeteria

### **Chairperson**

Subhasish Panda  
Deputy Director (Administration)

### **Member Secretary**

Rakesh Kumar Sharma  
Senior Stores Officer

### **Accounts Officer**

Meenakshi Dabral

### **General Manager**

KK Sharma

AIIMS Cafeteria has been established under the category of Departmental Canteen with the objective of providing wholesome food prepared under healthy hygienic condition at reasonable price to the Institute employees. The cafeteria caters to the needs of more than 15,000 employees of the Institute including Faculty Members, Doctors, Nursing Staff, Students and other staff. A cafeteria service is being provided round-the-clock at different places/centres under the supervision of the cafeteria management committee. Cafeteria also meets the need of hospitality service of all higher offices of AIIMS during important official meeting, workshops, symposia, etc.

Considering massive expansion in the requirement of catering services at the Institute as a result of additional AIIMS staff strength at upcoming blocks in AIIMS campus, patients & their relatives the need of highly skilled professional services has been felt. The area of Cafeteria services has been identified in two parts and the services were outsourced to professional agencies through an open QCBS tendering process.

Currently the Main cafeteria is again being run by in-house staff of AIIMS. M/s JS Hospitality Services Pvt Ltd was awarded the contract to provide kitchen and cafeteria services in the other facilities of AIIMS. Cafeteria/kitchen services currently are being provided at 11 outlets in different parts of the campus.

### **Presently the entire Café services are managed at the Institute in the following manner**

1. Under Zone-1                      AIIMS Cafeteria
2. Under Zone-2                      M/s JS Hospitality Services Pvt Ltd

### **STAFF STRENGTH**

24 employees are appointed in the Cafeteria Department on regular basis and 101 employees are on contractual basis.

### **ANNUAL TURNOVER**

The total turnover of the Cafeteria Department is approximately ₹1.25 crores.



## 11.3. Central Animal Facility

**Professor-In-Charge**  
SS Chauhan

**Senior Veterinary Officer**  
PK Yadav

During the year, only Rats, Mice, Rabbits, Guinea-Pigs and Hamsters were maintained in the central animal facility (CAF).

### **Small Animal (Rodents):**

The following average number of laboratory animals were maintained during the year:

1. Rats (Wistar):	2044
2. Rats (Sprague Dawley):	469
3. Mice (Swiss):	947
4. Mice Balb/c:	877
5. Mice C57 BL/6	441
6. Rabbits (New Zealand):	104
7. Guinea Pigs (Dunkin Hartley):	37

A total of 2187 small animals (Rats 1540, Mice Swiss albino 441, Mice Balb/c 77, Mice C57BL/6 94, Rabbits 25 and Guinea-Pigs 10) were supplied to various departments. A total of 1892 animals (Rat 1247, Mouse 635 and Rabbits 10) were sold to other academic and research institutions in Delhi and outside Delhi.

### **Experimental Surgery**

One hundred and seventy-three (173) surgical procedures were performed by faculty, investigators and students from various departments in the CAF. The departments included Anatomy, Biochemistry, Biomedical Engineering in collaboration with IIT New Delhi, Biophysics, Biotechnology, Gastroenterology, Laboratory Medicine, Neurosurgery, Nuclear Magnetic Resonance, Paediatric Surgery, Pharmacology, Reproductive Biology and Stem Cell Facility.

### **Institutional Animal Ethics Committee**

The Institutional Animal Ethics Committee (IAEC) is approved by the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) under the Ministry of Fisheries, Animal Husbandry and Dairying (Govt. of India). The AIIMS CPCSEA registration No. is 10/GO/ReBiBt/S/99/CPCSEA “Research for Education Purpose, Breeding for in house use and Breeding for the purpose of trade of small animals (Rat, Mice, Rabbit, Guinea Pigs and Hamsters)”. The Institutional Animal Ethics Committee (IAEC) cleared new 25 projects and 2 projects were given extension for studies on small animals (Rodents) of various investigators of the Institute. Dr SS Chauhan was Chairman of the IAEC and Dr PK Yadav was Member-Secretary of the IAEC.

### **Services provided**

The CAF has been maintaining animals belonging to the departments of Anatomy, Biochemistry, Biomedical Engineering Unit in collaboration with IIT New Delhi, Biophysics, Biotechnology, Gastroenterology, Laboratory Medicine, Neurosurgery, Nuclear Magnetic Resonance, Paediatric Surgery, Pharmacology, Reproductive Biology, Microbiology and Stem Cell Facility. This facility routinely maintained the following experimental laboratory animals, i.e. Rats 121, Mice 194, Rabbits 1 and Guinea-Pigs 2 belonging to the above departments throughout the year.

The facilities for research with immunodeficient animals (Nude and Transgenic Mice) are in progress and will be functional at the earliest.

The IAEC has given permission to the Departments of Physiology, Pharmacology, Ocular Pharmacology and Pharmacy at the Dr RP Centre for Ophthalmic Sciences to maintain laboratory animals in the department. These departments maintain laboratory animals in their department under the supervision of the CAF.

### **Educational programmes attended**

#### **PK Yadav**

1. Attended the Online Training International Webinar on ‘Veterolegal Postmortem Examination’, 23-24 September 2020, Department of Veterinary Pathology, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Science University, Orathanadu, Thanjavur District, Tamil Nadu.

2. Attended the online National Webinar on 'Biosafety issues related to COVID-19 testing and zoonotic diseases,' 28 September 2020, Department of Veterinary Public health, College of Veterinary Science and Animal Husbandry, DUVASU, Mathura, Uttar Pradesh.
3. Attended the online Industrial Training program on 'Use of laboratory animal in teaching testing and research' 11 October 2020, Trichinopoly, Nehru Street, Burma Colony, Kattur (Post), Tiruchirappalli, Tamil Nadu.
4. Attended the online Industrial Training program on "GLP inspections and study director and study personnel responsibilities, 13 October 2020, Trichinopoly, Nehru Street, Burma Colony, Kattur (Post), Tiruchirappalli, Tamil Nadu.

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

Dr PK Yadav, Senior Veterinary Officer at Central Animal Facility, AIIMS, New Delhi was nominated as Vice-President of Veterinary Council of India, under the Ministry of Fisheries, Animal Husbandry and Dairying, Department of Animal Husbandry and Dairying, Government of India.

## 11.4 Central Workshop

### Faculty Coordinator

Dr Ganga Prasad

(Professor, Department of Anaesthesiology, Pain Medicine and Critical Care)

### Chief Technical Officer

Kalu Ram, Harinder Pal

### Senior Technical Officer

Nitin Srivastava  
(Electrical & Electronics)

Manpreet Singh Sudan  
(Electronics)

### OBJECTIVES:

It is necessary to have well-functioning equipment for smooth delivery of quality health services in a hospital. However, many patient-care centers purchase or procure expensive and delicate equipment which, because of poor maintenance often break down. If there is no system in place to report breakdowns and to plan or carry out repairs, equipment can remain unusable for long period of time. An effective repair system not only minimizes the time period when the equipment is unusable but also decreases the financial burden.

The Central Workshop was established at the All India Institute of Medical Sciences, New Delhi in 1964 to repair and maintain the medical equipment, including surgical instruments and diagnostic devices. Central Workshop not only carries out the repair and maintenance of various equipment but also fabricates items to be used for medical education and scientific research. Thus, it plays an important role in aiding smooth and complete patient care at AIIMS. It also provides technical guidance to various procurement committees of the Institute.

### Strength of employees

A skilled team of technicians and officers is available at the department to carry out the above stated operations. The team provides skilled support to keep various equipment in the hospital in a good working condition. There are various sections in the Central Workshop headed by a Senior Technical Officer/Technical Officer with supporting staff members.

### The strength of group B and C staff in the Central Workshop is as follows:

- Technical Officer - 4
- Technician (Grade I) - 4
- Technician (Grade II) - 7
- Workshop Assistant - 3
- Officer Clerk (JAA) - 1
- Store Clerk (JAA) - 1
- Operator (E&M) - 4
- Khalasi - 1

### Services Available:

The Central Workshop provides following services to the Main Hospital, Centers, NDDTC Ghaziabad and CRHSP Ballabgarh:

### Repair and Maintenance

There are different sections in the Central Workshop to carry out repair and maintenance of various equipment. A total of 5656 jobs/works have been received and completed by the Central Workshop during the year.

Some section wise examples of repaired items are given below:

S. No.	Section	Number of Jobs	Item Description
01	Electronics	911	Patient Monitors, Infusion Pumps, Regulated Power Supplies, Electronic Weighing machines, Light Sources, EEG Machines, Sealing Machines, Ultrasonic Nebulizer, DVT Pumps, CVT/Stabilizers, Induction Hot Plate, Nebulizers, Public Address Systems, Operation Table (Remote controlled), Microscopes, Microwave Ovens, Color Televisions, Studio Light, Patient Warmer, LED View Box, Elisa Washer & Reader, Reaction timer, Air Mattress Pump, etc.
02	Electrical	658	Autoclave machines, Gynae examination/Gooze Neck/Bull eye lamps, Boiler, Centrifuge machines, Suction machines, Fly killer machines, Fumigator, Gauge/Plaster Cutters, Grinders, Hot Case, Hot Air Ovens, Hot display counter, Hot Plates, Incubators, Laminar Flow, Mayo stand, Mixer Grinder, Magnetic stirrer, Needle Destroyers, OT Lights, Spot Light, Steam Bath, Sterilizers, UV Lights, Vacuum Cleaners, X-ray View Box, Vortex Shaker, Water Bath, Wax Bath, Electric Kettle, etc.
03	Mechanical	2558	Surgical Instruments, Tracheostomy Tube, Spray Pumps, Vapor jet Cleaning Machines, Scissors (Gauge Cutting), Bed Side Lockers, IV Stands, Patient Trolleys, Patient Beds, Wheel Chairs, Loading Trolleys, Food Trolleys, Side Screens, Instrument Trolleys, Basin Stand, Foot Step, Surgical Drums, Push Cart, Patient Examination Tables, Hydraulic Trolleys, Test Tube Stands, Revolving Stools, etc.
04	Fine Instrument	916	Digital B.P Instrument, Micro Balances, Dial B.P. Instrument, Stethoscopes, Weighing Machine, Compressors, Flow Meters, Oxygen Regulators, Hydraulic Tables, Laryngoscopes etc.
05	Refrigeration	195	Visi Coolers, Deep Freezers, Chilling Unit, Ice Cream Cabinet, Refrigerators, Cold Display Counters, Minicold, Refrigerated BOD Incubator etc.
06	Painting	418	All office and hospital furniture items like Beds, IV stands, all type of Trolleys, Wheel chairs, Benches, Footsteps, Patient side lockers, Pigeon Lockers, Patient examination Tables, Push Carts, Almirahs, Racks etc.
	<b>Total Jobs</b>	<b>5656</b>	

#### Fabrication and Guidance:

Despite the gradually increasing load of repair and maintenance activities, Central Workshop has been able to help in the activities of design and fabrication of gadgets useful for patient care or scientific research, as per specifications provided by the various departments.

**Total 1297 (One Thousand Two Hundred Ninety-Seven only)** items have been fabricated by the Central Workshop during the year 2020-21. Details of the fabricated items are as below:

S.No.	Item Description	Quantity	Department
01	Handle for Surgical Instruments	12	Ortho OT, JPNATC OT
02	Temp Chart Holder	30	Main Hospital
03	Intubation Box Covid-19	1	TC Emergency
04	MIRA Robot Covid-19	2	Computer Facility
05	Sampling Sheet Covid-19	22	EHS, RPC, IRCH
06	Endoscopy Holder	3	ENT
07	Phone Stand	1	Computer Facility

S.No.	Item Description	Quantity	Department
08	Tablet Stand	1	Computer Facility
09	Copper Stillet	32	MOT/CT6
10	Aluminum Clamp	40	Pathology
11	Sample Tray	3	Main hospital
12	Studio Light Hanger	5	SET Facility
13	Aluminum block	205	IRCH
14	Hooks	2	Surgery
15	Wooden Splint	930	TC Emergency
16	Illumination Stand	1	Pathology
17	Sample Box	1	Gynecology
18	Electronic set up for laparoscopic training	1	Surgery
19	Sweat Testing machine	5	Surgery
	Total	1297	

### 1) Short-term training

The Department is actively involved in providing short term training (4-6 weeks) to the Diploma/undergraduate students of various engineering colleges.

### 2) Teaching Activity

Department has been involved in teaching activity of BSc OT technology students. The classes and demonstration have been taken on various electrical and mechanical topics as per the curriculum.

### Achievements

1. The Central workshop has received appreciation letters from the Department of Pathology, AIIMS, New Delhi for the technical support provided in the design & fabrication of Illumination Stand for gross Photography of Pathology specimen.
2. The Central Workshop has also provided valuable service in designing and fabrication of items useful in Covid healthcare like Intubation box, Endoscopy Holder, Phone and tablet stand, MIRA Robot, and Sampling Sheets with gloves attached which help healthcare workers in taking samples of patients.



## 11.5 Computer Facility

### Professor-In-Charge

A Shariff

### Deputy Director

SN Ragu Kumar

### Systems Analyst

Satish Prasad

SK Meher Sanjay Gupta

### Senior Programmers

Hari Shanker

Shyamal Barua

Pawan Sharma

Tripta Sharma

Sanjeev Kumar

Amit Bhati

## HIGHLIGHTS

Services and Education	IT Infrastructure and Network
<ul style="list-style-type: none"> <li>• Hospital Information System</li> <li>• Laboratory Information System</li> <li>• RIS/PACS</li> <li>• In house Modules:                             <ul style="list-style-type: none"> <li>▪ Administration and Back Office</li> <li>▪ Clinical</li> </ul> </li> <li>• Employees Health Services Application</li> <li>• AIIMS website: www.aiims.edu</li> <li>• Own email and SMS services</li> <li>• Computer Education classes for Undergraduate and Postgraduate Nursing students</li> </ul>	<ul style="list-style-type: none"> <li>• Maintaining 9500+ nodes</li> <li>• NKN connectivity for high speed Internet connection</li> <li>• Wi-Fi Coverage in buildings</li> <li>• State of the art Data Centre</li> <li>• State of the art IT Security</li> <li>• State of art 3 tier Networking Architecture</li> <li>• UTM/Firewall</li> </ul>

## SOFTWARE SERVICES AND EDUCATION

### Hospital Information System

Hospital Information System (HIS) is implemented using eHospital@NIC software through which following modules are managed:

- Online Appointment
- OPD Registration (New and Follow up)
- Admission, Discharge and Transfers
- Medical Record Section
- Patient Billing
- Inventory Management Module
- Laboratory Module
- Dietary services
- Blood Bank

HIS is fully compliant with Snomed CT.

### Online Appointments Stats

New Patients	Follow Up Patients
102050	116043

## OPD REGISTRATIONS (NEW AND FOLLOW UP) STATS

Centre Name	New Registrations (Physical)	Follow up Registrations (Physical)	New Registrations (Tele consultation)	Follow up Registrations (Tele consultation)
Main Hospital	104891	177240	224	36906
CN Centre	13224	36494	1261	23428
Dr. R.P. Centre	36616	67020	14	1236
CDER	21236	26749	892	612
IRCH	21185	14548	0	0

## Admission, Discharge And Transfers Stats

Admissions	Transfers	Discharges
138133	60763	138587

## Laboratory Information System

Laboratory Information System is implemented through integration of Laboratory Equipment and eHospital software following international HL7 standards. Laboratory equipment's connected to LIS are:

S. No.	Laboratory Location	Equipment Name	Number	Machine Type
1	CNC	Beckman 5 Plot cell Counter	1	Uni-directional
2	CNC	IRIS iCount3	1	Uni-directional
3	CNC	Immulate1000	1	Uni-directional
4	CNC	Bio-Rad10	1	Uni-directional
5	CNC	Alifex R20 ESR Machine	1	Uni-directional
6	CNC	Beckman 3Plot cell Counter	1	Uni-directional
7	RPC Hematology (7th Floor)	Beckman Coulter 5 Plot Act Diff Cell Counter	1	Uni-directional
8	RPC Hematology (7th Floor)	Sysmex KX21	1	Uni-directional
9	RPC Hematology (6th Floor)	Beckman AU680	1	Bi-directional
10	Endocrinology-1	Bio-rad D10	1	Uni-directional
11	CCF Ground Floor	Cobas 6000	1	Bi-directional
12	CCF Ground Floor	Urin Analyzer	1	Uni-directional
13	Renal	Cobas C3 11	1	Bi-directional
14	Renal	Abott Architect1 000	1	Bi-directional
15	Renal	IONS	2	Uni-directional
16	Emergency Department	AQT 90	1	Uni-directional
17	Emergency Department	ABL 800	1	Uni-directional
18	Emergency Department	Pentra XL	1	Uni-directional
19	New Private Ward 2nd Floor	Mini Cap	1	Uni-directional
20	Pediatric Endocrinology	Cobas e41 1	1	Bi-directional

S. No.	Laboratory Location	Equipment Name	Number	Machine Type
21	CNC	Beckman Coulter AU680	1	Bi-directional
22	CNC	Beckman Coulter 480	1	Bi-directional
23	Reproductive Biology	Abbott Architect 1000	1	Bi-directional
24	IRCH 1st Floor	MS4 Cell Counter	1	Uni-directional
25	IRCH 1st Floor	MS9 Cell Counter	1	Uni-directional
26	IRCH 2nd Floor	MS4 Cell Counter	2	Uni-directional
27	IRCH 2nd Floor	MS9 Cell Counter	2	Uni-directional
28	Lab Medicine Room No-2	Comiline	2	Uni-directional
29	Lab Medicine Room No-2	Caretium	2	Uni-directional
30	CNC R.No.53 GF	Hitachi Modular	1	Bi-directional
31	CCF Ground Floor	Beckman Coulter Access2	1	Bi-directional
32	Lab Medicine R.No.20	Hitachi Modular	2	Bi-directional
33	Endocrinology-01	Cobas Integra	1	Bi-directional
34	CNC	Sta Compact	2	Bi-directional
35	RPC 6th Floor	Beckman Coulter AU680	1	Bi-directional
36	RPC 6th Floor	Access2	1	Bi-directional
37	New Private Ward 2nd Floor	Sta Compact	1	Bi-directional
38	Reproductive Biology	Architect 1000	1	Bi-directional
39	Reproductive Biology	Architect 4000	1	Bi-directional
40	Reproductive Biology	Architect 2000	1	Bi-directional (IoT based interfacing)
41	Endo-02	Cobase 411	4	Bi-directional
42	Endo-02	Liaison	2	Bi-directional
43	Endo-02	Cobase 411	1	Bi-directional (IoT based interfacing)
44	Endo-02	Liasion XL	1	Bi-directional
45	CNC	Advia	1	Bi-directional
46	CNC	AdviaCentura XP	1	Bi-directional
47	CNC	Beckman Coulter Act5	1	Bi-directional
48	Biochemistry	Vitros Analyzer	1	Bi-directional
49	Endo-01	Thosh G8	1	Uni-directional
50	Lab medicine Room no-2	EliteAcl	1	Bi-directional (IoT based interfacing)
		<b>Uni-directional</b>	<b>27</b>	
		<b>Bi-directional</b>	<b>33</b>	
		<b>Total number</b>	<b>60</b>	

## RIS AND PACS

### RIS

Appointment of various radiological investigations is managed through eHospital RIS system. Results after investigations are also pushed back to HIS system using HL7. Various investigations appointment scheduled via RIS are as listed under:

- Plain X-ray
- CT scan
- MRI scan
- Ultrasonography
- PET scan
- Ophthalmic radiology
- Mammography
- Angiography
- Dental X-ray

These investigations are offered across multiple locations in various centres of AIIMS.

### PACS

AIIMS has implemented a common centralized PACS Server with web-based visualizer: Oviyam. This system integrates with the standalone departmental PACS systems (Siemens, GE Centricity, Philips, Sonosite).

**MODALITIES connected to Open source PACS at AIIMS:** Total Number of Modalities called AET (application entity title) configured is 87. These have been configured from various departments and locations like Main AIIMS, JPNATC, NCI JHJJAR to store the studies in PACS server, from 2014 onwards.

**PACS integration with HIS e-Hospital:** It is integrated with HIS to receive patient demographics details using HL7 standards. This helps to send the requisition for radiological investigations such as X-Ray, CT scan, MRI scan, etc. via online to RIS systems. PACS integration had been done with different modalities.

**Up gradation:** OPEN PACS dcm4chee PACS version has been upgraded from version 2.17.2 to 2.18.1 due to some bug fixes and performance improvement.

**Oviyam viewer:** Module added to get studies from GE-PACS directly using DICOM C-et/C-Move.

**Auto forwarding of studies** from JPNATC PACS to AIIMS PACS is configured. Oviyam (viewer) software update due to Chrome Update 70 (Some Browser features are removed in update 70 and an alternative workaround is done)

**PDF2DICOM application** installed to upload Spirometry reports which convert PDF, JPG, JPEG images to Dicom images and push into PACS server.

### Different studies stored/archived in Open PACS during the year

S. No.	Modality	Number of studies	Location of modality
1	CR (Computed radiography)	44391	CNC, IRCH, Main AIIMS, RPC, Trauma OPD, Trauma Centre
2	CR\SR	10	Main AIIMS, Trauma OPD
3	CT (Computed tomography)	10092	New Private Ward, Main Radiology, Main AIIMS, IRCH, NCI AIIMS, RPC, Trauma Centre
4	CT/OT/SR	5	CT8 Radiology workstation, Main AIIMS
5	CT/PR/SR	9	Main AIIMS, NCI AIIMS

S. No.	Modality	Number of studies	Location of modality
6	CT/REG	29	NCI AIIMS, Main AIIMS, IRCH
7	CT\SR	24263	CT8 Radiology workstation, Main AIIMS, NCI AIIMS, IRCH, Trauma Centre
8	DX (Digital radiography X-ray)	40169	IRCH, CT8 Radiology workstation, Main AIIMS, IRCH, New RAK OPD, NCI AIIMS, RPC
9	DX/SR	4	New RAK OPD, Main AIIMS
10	KO/MR	2	Main AIIMS
11	Mammography	865	IRCH, Main AIIMS
12	Magnetic Resonance	1860	IRCH, Main AIIMS
13	Other	619	CDER X-Ray, Main AIIMS, NCI JHAJJAR
14	PR	104	IRCH
15	PT/CT	68	Main AIIMS
16	REG/MR/SR	1	Main AIIMS
17	RF/CR	406	IRCH, Main AIIMS, Trauma OPD
18	SEG/CT/SR	541	CDER X-Ray, Main AIIMS, NCI AIIMS, Trauma centre, IRCH
19	US (Ultrasound)	4775	IRCH, NCI, Main AIIMS
20	XA (X-ray angiography)	16	Main AIIMS

**Total studies received in OPEN PACS: 128,227**

**Average PACS Access time:** Total OPEN PACS access time for 12 months is 1572.083 hours which was accessed over LAN connections and Wi-Fi. Average 1 month PACS data accessed is  $1,572/12=131$  hours per month. Each day's average access time is 4.37 hours approximately.

### In House Modules

Computer facility has a team of programmers which continuously maintains, upgrade and develops various in house modules using Dot Net technology. Of late, Open source technology is encouraged and used for the purpose of software development which involves Python programming language, Tryton framework, and PostgreSQL database.

### Administration and Back Office Modules

For administrative and back office automation, various in-house modules maintained and implemented in the Institute are listed below:

- Payroll System
  - GPF System: Online GPS statement
  - Tax module: Online Form 16
  - Pension System
- Hostel Allotment and Registration system
- Online Pay Slips
- Vigilance System
- Letter of Intent and Award system for Engineering Services Department
- Academics Teaching Schedule and automated mail
- Online Poison Information
- Online Organ Donation Form
- Online Transport System



- Electronic Annual Performance Assessment and Report (eAPAR)
  - 11,264 forms were generated and completed on Tryton based eAPAR system.
  - More than 500 tickets were solved by various helpdesk personnel working and supporting AIIMS staff from home.
- Cheque and Reconciliation
  - 5937 Cheques were printed from our system.
- Digital management of Vishram Sadan started for all Sadans
- Claims: Developed and implemented a system for Children's Education Allowance, Over Time Allowance, Conveyance Allowance, Telephone Bill, Newspaper Bill, Honorarium, etc.
- Developed system for Integration with SBI Corporate Internet Banking for making payments without the use of physical Cheque.
- Security Audit: Started security audit for Tryton-based applications with STQC Directorate.
- Computer facility team is also involved in implementation of eOffice@NIC software for online tracking of file movements in the entire Institute.

### Clinical Modules

In clinical side automation, various in-house modules maintained and implemented are listed below:

- PDS (Patient Display System) in Emergency: 55,864 patients details have been registered for Emergency, New Emergency and Paediatrics Emergency.
- Quality Assurance Module (QAM): 531 entries have been recorded for scheduling conferences, lectures, faculty meetings and also for doctor's grading purpose.
- QAM/HA: 26 entries have been made for grading purpose by HA.
- RPC PDS: 2697 patients' details have been registered in RPC PDS system.
- OT scheduling: 28,883 OT scheduling has been done for different departments.
- Equipment checklist RPC: 640 checklists have been created for equipments in RPC.
- E Birth Certificate: 1629 birth certificates have been generated through this module.
- E blood request: Blood requests are raised for arranging blood for patients.
- Use of SNOMED CT: We have integrated SNOMED CT in this module in fields like Diagnosis etc. The total number of transactions recorded is 2597.
- E Cath list: 388 scheduling has been done for Cath Laboratory.
- E MLC: 9557 medical records have been maintained for MLC cases.
- Use of SNOMED CT: It is an online module for Doctors to prepare eMLC. SNOMED CT is integrated in this module in fields like Alleged H/O, Diagnosis. Total number of transactions recorded is 8,406.
- E MLC RPC: 16 medical records have been maintained for MLC cases at RPC.
- Penicillin Register: 119 registrations have been done for scheduling and alerting regarding penicillin intakes.
- Gamma Knife Register: 49 registrations have been done for Gamma Knife procedure.
- Online admission slip: A total of 9464 admission slips comprising patients of both OPD and Emergency have been provided in a real platform based upon the availability of beds under different department heads. SNOMED CT is integrated in this module in fields like Diagnosis etc. and the total number of transactions recorded is 2025.
- QR code in medical and fitness certificate: 8201 certificates have been generated for AIIMS and other centers employees.
- E-grievance module: 29 complaints have been made through this.
- E-Death Note: 4858 death certificates have been generated through this application. SNOMED CT is integrated in this module in fields like Immediate cause: (a), Antecedent cause: (b), Diagnosis etc. Total number of SNOMED CT transactions recorded is 1,691.
- Integration of SNOMED CT with eHospital (NIC): SNOMED CT is integrated through Web API of eHospital. It is integrated with two modules i.e. Admission and Discharge. Total number of transactions at the time of admission in eHospital is 1,909. Total number of transactions at the time of discharge in eHospital is 34,203.
- Anticoagulant Register: It is an online register to enter Lab values of patients like PT/INR for the use of tele consultations. Authenticated patients can enter their Lab values themselves in this application by OTP authentication and fresh prescription will be provided by the doctors.
- Bone Bank: It is an application for entering patients' bone details which will be preserved for later use. It is developed for Neuro and Ortho Departments.

- Gynaecology eMLC: It is used for registering female MLC cases. In this module all the forms are printed out electronically.
- Heart Transplant: It is used for registering patient details for heart transplantation for matching of heart for transplant.
- Breast Cancer: It is used for registering Breast Cancer details. It is used in Surgery Department.
- Medicine module: Medicine module is for capturing the admission note, consultant note, progress note, discharge summary of the summary. We have integrated SNOMED CT in this module in fields like Diagnosis, Investigations, Vitals, operative notes etc.
- Student wellness: It is used for capturing student mental health details.
- Tele Medicine Dashboard for Tele consultation and online prescriptions
  - More than 10 departments used Tryton based telemedicine dashboard to provide ePrescriptions.
  - 10,000 ePrescriptions have been generated till now
- Pharmacy Dashboard: Online system for a paperless realization of Prescriptions at HLL Generic Pharmacy.
- Customized Clinical Modules have been developed for various departments and are running successfully for the following departments:
  - Medicine
  - Surgery
  - Skin
  - Geriatric Medicine
- Covid Robot: Developed indigenous robot for distribution of medicines in Covid ward. Launched by Health Minister Dr Harsh Vardhan and featured in documentary showcased on the Discovery Channel.

#### **EMPLOYEES HEALTH SERVICES APPLICATION**

Employees Health Services (EHS) Software system is developed by NIC and it is used for recording and maintaining Employees health prescriptions generated in the EHS OPD. This system maintains all the employees' records and their dependents details that are eligible for EHS benefits in the EHS OPD.

The system registers each EHS patient in the OPD and records their medicines prescribed online in the system. Medicines are also dispensed online via EHS Pharmacy counters. Medicines which are not available in the EHS pharmacy are sent for Local Purchase (LP). LP Indents are automatically generated twice by this system and submitted in the online mode to the LP vendor. EHS Registration and Prescription data for FY 2020-21 is:

- Total registrations: 2,86,190
- Total online prescriptions: 2,66,883

#### **AIIMS WEBSITE**

- Computer facility maintains AIIMS websites hosted at aiims.edu and various other services pertaining to it.
- Continued maintenance of above website.
- The total number of pages updated, created and uploaded on AIIMS website approx. 8500.
- The total number of visitors to AIIMS website was approx. 78 lakhs.

#### **EMAIL AND SMS SERVICES**

- Migrated aiims.edu email ids to Google workspace (GSuite)
- Maintaining email id on aiims.edu domain and aiims.ac.in domain
- Created approx. 850 new email ids on aiims.edu domain for faculty members, scientists, officers and students of AIIMS.
- Regular E-mails sent to all faculties regarding various conference, seminars etc.
- Mobile Seva CDAC SMS Gateway services are used by the Institute for providing SMSes regarding:
  - Patient's related services such as appointment details, Lab reports OTP etc.
  - Examinations Section
  - Academic Section
  - Blood Bank
  - Organ Donors details

## IT INFRASTRUCTURE AND NETWORK

- Computer Facility provides network management facilities including high speed internet connectivity to various users of AIIMS through NKN connectivity from NIC.
- Started State of the art new networking at new blocks: NCI, Jhajjar, New OPD and New Burn and Plastic Surgery Block and it is being provided for MCH, New Surgical, NAC and VVIP Blocks at AIIMS.
- Facilitated COVID 19 National Tele Consultancy Centre (CoNTeC) and call centre at AIIMS.
- Provided fail free round the clock network & services during COVID-19 Pandemic.
- Provided NKN connectivity at various important locations of AIIMS for smooth conducting of online conferences, webinars, meetings, classes, etc.
- Approximate 100 new internet connections have been provided to faculty members, officers and staff of AIIMS.
- Provided high speed NKN internet connectivity for various Seminars/Conferences/Video conference:
  - LAN/Wi-Fi facility provided for National CME/Symposium/Workshop/Conferences held in AIIMS, New Delhi.
  - High speed internet connectivity provided for “Live surgery transmission from OT 5th floor to LT VI, 6th floor, RPC”.
  - Technical support provided for Mission DELHI Project (Delhi Emergency Life Heart Attack Mission), Dept of Cardiology.
  - High speed internet connection provided for LIVE WEBINAR in various departments /Centre at AIIMS, New Delhi.
  - Wi-Fi facility provided for National Conference organised by Dept. Neurology Conference Hall.
  - High speed internet connection provided for various events at SET facility, Convergence Block.
- Continued management of Unified Threat Management (UTM) firewall done for security of computer networks and application for management at gateway level Anti-Virus, Anti-Spam, IPS/IDS and content filtering.
- Continued management of the wireless networking zones at around 18 hostel locations, creating Wi-Fi zones for internet, information and online journals access to students and resident doctors. So far approx. 9400 students have availed this facility. Currently 1250 users are registered for this facility.
- Continued BBDL OPAC Services and enhancement of library online resources subscribed through BB Dixit library through AIIMS website.
- Continued management of Wi-Fi zone at B.B. Dixit Library for internet and online journal access for students.
- High speed internet facility through NKN lease line for faculty and students is being maintained on 24/7 basis on the AIIMS network at around 9500 nodes.
- Maintenance of Web server, Proxy server and Mail Server 24x7x365 days.
- Facility management and call maintenance for internet and network user’s complaints and resolution 24x7x365 days through help-desk of Computer Facility.
- VPN based access mechanism for e-Hospital Module; CPRS access from outside AIIMS continued management for Ballabgarh, AIIMS centers.
- Continued management of IPSec tunnel for connecting NDDTC, JPNATC.
- MAC ID based authentication provided to AIIMS faculty, scientists, Assistant and Deputy Nursing Superintendents for Wi-Fi based access to e-hospital software’s and internet at wards, OPD, ICU and OTs etc.
- Created approx. 200 IDs for VPN/online journal access.
- Activated and configured IP for internet connections.
- Provision of external IP address for the GE Centricity RIS-PACS for department of Neurosciences Centre.
- Firewall rules created for allowing YouTube and Facebook for LAN and Wi-Fi users.
- Firewall rules created for LAN to WAN and WAN to LAN for various activities.
- Firewall rules created for SSH access to various servers at AIIMS.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**SN Ragu Kumar** was Member of various Technical Specification Committees for development of IT Infrastructure for AIIMS and all its Centres and Upcoming Centres, conducted Orientation program for newly selected MBBS students, AIIMS, New Delhi.

**Satish Prasad** was Nodal Officer for eOffice Project (NIC) and coordinated and trained personnel for the use of eOffice; Course coordinator and took classes of MSc, BSc and Post Certificate students for IT classes of College of Nursing, BSc. Dental Operating Room Assistant course, BSc Dental Hygiene course, BSc OT Technology.

**SK Meher** was involved in teaching activities of undergraduate and postgraduate students of Nursing and Biotechnology; supervising and giving support of the core modules, LIS module, Blood Bank, RIS, PACS and different clinical module developed in-house and eHospital in AIIMS and all the centres; played a major role for integration of robotic lab in Jhajjar, Smart Lab in Main new OPD Block and Open PACS of NCI, Jhajjar and also part of implementation team for implementation of Siemens PACS and its integration with eHospital and openPACS in Jhajjar; planned a strategy for migration of Open PACS data to new servers in CF data center; setting up a Data centre and Design, Deployment and implementation of computer networking and Wi-Fi for NCI, Jhajjar (Haryana) and supporting P2P connectivity from NCI, Jhajjar to AIIMS, New Delhi; Chairman of technical committee for purchase of IT equipments in ICMR, New Delhi; Chairman of the selection committee for recruitment of IT staffs for in the ICMR projects; Chairman for the committee for the cyber security policy and the requirement and also in up gradation and new requirement of networking in ICMR, New Delhi and other branches in India; Currently working in AI in oncology project funded by MEIT and nodal officer for SNOMED CT project (under MOHFW) implementation in AIIMS, New Delhi; Gave a talk on 'Business transformation during Covid time' organized by VAR India virtual conference; "Setup a good Telehealth application is a key priority" published in VAR magazine; Keynote speaker in 18th INFORECH FORUM on "Accelerating Your Business Transformation Strategy in Healthcare"; Awarded top 10 Eminent CIO's of India in 2020 by VarIndia. "A successful CIO will have the vision to create a solution that meet the real need of clinician" article was published in Brand book 2020 of VARINDIA; Another article "How are the possible AI in Healthcare product to be developed by startup company" was published in Odisha Corporate Foundation; Awarded "the Covid19 Superhero CIO Award" given by Enterprise IT World; Eminent Speaker of "Enterprise Information Security in a Digital World: Current Trends & Challenges" at National Enterprise Tech Connect, B2B Infomedia, New Delhi; Deputy Editor and Editorial Board Member of BMJ Health & Care Informatics editorial board 2020-2023, Board member of International Society for Gerontechnology 2019-2022; Member, Scientific committee and also served as JURY member in 6th India International Science Festival (theme "Pandemic Crisis and Challenges". IISF 2020) held on 22-25 December 2020.

**Sanjay Gupta** supervised COVID 19 National Tele Consultancy Centre (CoNTeC) and call Center at AIIMS; conducted Online elections of SYS like earlier done for Officers' Association, FAIMS, SYS and RDA using Information Kiosks at AIIMS.

**Hari Shanker** conducted orientation program for MBBS students, AIIMS and took classes for MSc and BSc Nursing students.

**Shyamal Barua, Senior Programmer** was acting as nodal officer for GeM and e-procurement implementation. Total users on board in GeM till now are 220.

**Tripta Sharma** was involved in teaching activities of undergraduate and postgraduate students.

**Amit Bhati** was Member of committee for procurement of various IT equipment for Exam Section; Committee Member for the common items to be procured through GeM Cell (Store Section, DO); Acting as Nodal officer (Computer Facility) for prevention and management of fire incidents.

## 11.6. Electron Microscope Facility

**Professor**

TC Nag

**Associate Professor**

Subhash C Yadav

**Assistant Professor**

Prabhakar Singh

**Senior Technical Officer**

Sandeep Arya

**Technical Officer**

Chanda Panwar

### EDUCATION

EM classes (theory as well as practical, Fridays only) for Anatomy postgraduates were conducted from 4 January- 13 March 2021.

### CME/Workshops/symposium/National and International Conferences

1. The 36th National Training Program in Electron Microscopy for Scientific Investigators was held from 24 November to 5 December 2020. Six candidates from Delhi participated
2. Mr N Ramdas Iyer, Senior Curator and Head, National Science Centre, New Delhi visited EM Facility along with his team on 17 December 2020 to explore the features of the microscope and its uses in research

### Lectures delivered: 1

#### TC Nag

1. Use of microscopy in cell biological research, National Webinar on Intriguing Concepts and Applications in Zoology, 28 September 2020, Bidhannagar College, Kolkata, Virtual

### RESEARCH

#### Funded projects

##### Ongoing

1. Cryo electron tomography (ET) and correlation microscopy for understanding cellular infectivity and internalization of COVID-19 from human samples, Subhash C Yadav, IUSSTF, 2 years, 2020-2022, Rs 50 lakhs
2. Decipher mechanistic basis of the intracellular trafficking of the optically active nanoparticles using super resolution microscopy, Subhash C Yadav, Nano Mission, 2 years, 2019-2021, Rs 34 lakhs
3. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum of post-renal transplant patients, Subhash C Yadav, ICMR, 3 years, 2019-2022, Rs 35.84 lakhs
4. Development of quick and specific detection system of EWS-FLI-1 fusion protein, Subhash C Yadav, DBT, 3 years, 2019-2022, Rs 80 lakhs
5. Establishment of laser confocal microscope facility for biomedical live cell imaging and for nano-particulate drug delivery, Subhash C Yadav, DST-FIST, 5 years, 2018-2023, Rs 165 lakhs
6. External delivery of cisplatin using human papilloma virus (HPV 16) based nanocarriers for treatment of cervical cancer, Subhash C Yadav, AIIMS-IITD, 2 years, 2019-2021, Rs 10 lakhs
7. Magnetic nanoparticles and quantum dots coupled visual confirmation of cervical cancer cells from cytology sample: A cost effective, quick and suitable test for rural Indian setup, Subhash C Yadav, SERB, 3 years, 2018-2021, Rs 38.68 lakhs
8. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells after experimental iron overload in rats, TC Nag, ICMR, 3 years, 2019-22, Rs 30 lacs
9. Study of structural reorganization of cholinergic neurites in a rat model of focal cerebral ischemia, Prabhakar Singh, AIIMS, 2 years, 2020-2022, Rs 10 lakhs



### Completed

1. Decipher mechanistic basis of the intracellular trafficking of the optically active nanoparticles using super resolution microscopy, Subhash C Yadav, Nano Mission, 2 years, 2019-2021, Rs 34 lakhs
2. Magnetic nanoparticles and quantum dots coupled visual confirmation of cervical cancer cells from cytology sample: A cost effective, quick and suitable test for rural Indian setup, Subhash C Yadav, SERB, 3 years, 2018-2021, Rs 38.68 lakhs

### Departmental projects

#### Ongoing

1. Light-induced oxidative stress and endogenous neuroprotective mechanisms in post-hatch chick retina
2. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells in a rat model of experimental iron overload

#### Completed

1. Remodeling in horizontal cells following light-induced retinal damage in rat
2. Study of microglia in the retina of rats exposed to bright light after selective Müller cell damage

### Collaborative projects

#### Completed

1. Decipher mechanistic basis of the intracellular trafficking of the optically active nanoparticles using super resolution microscopy, School of Biotechnology, JNU, New Delhi
2. Development of herbal formulation from seabuckthorn: Molecular and pharmacological investigation on efficacy of combination of seabuckthorn oil and ramipril vis-à-vis ramipril alone in experimental models of myocardial infarction in streptozotocin-induced diabetic rats, Pharmacology
3. Fluorosis mitigation in community of Bihar through intervention and counseling, Intra-Departmental (Centre for Ecotoxicology Facility)
4. Pharmacological and molecular approaches to investigate the effect of *Adhatoda vasica* in experimental models of bleomycin induced pulmonary fibrosis, Pharmacology

## PUBLICATIONS

**Journals: 13**

**Chapters in books: 2**

1. Mridha AR, Yadav SC. Sample preparation for scanning electron microscopy of giant cells from giant cell tumor of bone. In: Deep G (ed). *Cancer biomarkers: Methods and protocols*. 1st Edition USA:Springer; 2020-21
2. Nag TC, Gupta S. Electron microscopy of the choroidal neovascularization. In: Chhablani J (ed). *Choroidal neovascularization*. 1st Edition Singapore: Springer Nature Singapore Pvt Ltd; 2020:47–56

## PATIENT CARE

### Special laboratory facilities

During the year, special laboratory facilities provided for research and patient care are as follows:

S. No.	Facility	User number		Specimens analyzed	
		Internal	External	Internal	External
1.	Transmission Electron Microscope	96	126	388	669
2.	Scanning electron microscope	9	44	90	248

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor TC Nag** examined one PhD thesis (West Bengal State University) during this period. He was nominated member to the Research Advisory Committee, Cooch Behar Panchanan Barma University, Cooch Behar (WB), and was a core member of ICMR purchase committee. He reviewed 51 manuscripts for i.e. *Acta Histochem*, *Aging Dis*, *Aging Res Rev*, *Arch Physiol*

Biochem, Biofactor, Biomed Pharmacother, Drug Chem Toxicol, IBRO reports, J Biochem Mol Toxicol, Food Sci Nutri, Front Mol Neurosci, Front Pharmacol, J Microsc Ultrastruct, J Cell Mol Med, J Neurosci Res, J Pharmac Pharmacol, Microsc Res Tech, 3-Biotech, Oxid Med Cell Longiv, Phytomedicine and Redox Biol.

**Dr Subhash C Yadav** reviewed 7 manuscripts from Nanoscale, Colloids and Surfaces B, Colloids and surface A. He was nominated a Judge for the Scientific Presentations on RCB Day, March 2020 at the Regional Centre for Biotechnology, Faridabad.

**Dr Nag and Yadav** jointly edited one special issue “Electron Microscopy in Biomedical Research” of Indian Journal of Biochemistry and Biophysics, which will be published in June 2021.

## 11.7. Hostel Section

### Superintendent of Hostels

Sandeep Agarwala

### Deputy Superintendents of Hostels

SK Maulik (up to 30 June 2020)  
Rakesh Kumar  
Tanuj Dada  
Kamlesh Kumari Sharma

Neerja Bhatla  
KH Reeta  
Partha Halder

Raj Kumar Yadav  
Vijay Sharma  
Kapil Yadav  
Bhupinder Kaur

### Senior Stores Officer (Hostels)

Rakesh Kumar Sharma

### Administrative Officer (Hostels)

BK Singh

### Accounts Officer (Hostels)

Mrs Rakesh Kumari Sharma

### Senior Warden (Hostels)

Shashi Prakash Pandey

### Wardens

Mohan Sharma

Seema Pruthi

### Deputy Warden

Satprakash Kalia

Suchita Kumari

Sukhpal Mallick

### Assistant Warden

Tripta Sharma

Rani Varghese

### Junior Warden

Babu Lal Meena  
Rajesh Rawat

Dinesh Desai

Nirmala  
Sunil Devi

### Ministerial and Contractual Staff

There are six ministerial and 10 contractual staff in the hostel

### Subordinate Staff

Eleven male office Attendants and Twenty seven female Office Attendants are posted in different Hostels under Hostel Section. AIIMS has several halls of residence with a capacity of over 2011 (approximate) single/double rooms, 262 married accommodations, 421 accommodations for nursing students/staff nurses and 24 guest rooms. These are spread over different hostels and residences in the AIIMS Main Campus, Masjid Moth, AV Nagar Hostel and JPNATC Hostel (Raj Nagar). Eight guest rooms have been reserved for visiting international observers/exchange students.

### Shops and Establishments

New contractors were appointed through tenders for messes in all the Hostels. Nescafe (Fully Air Conditioned) has been opened in Hostel No.7 Gents hostel campus and inaugurated by Director, AIIMS on 26 February 2021.

### Student's Wellness Centre

#### (i) Main Campus

- Student wellness Centre services are available at room no 11, (Opposite Hostel no. 7/ Ashwini Hostel), Gents Hostel, AIIMS.
- Common Room I, Hostel no. 9, Parvati Hostel.

#### (ii) Masjid Moth Campus

Common Room (2/II), Second Floor, Hostel No. 19 (Patanjali Hostel), Masjid Moth.

#### (iii) Trauma Centre Campus: In the Trauma Centre.

## SIGNIFICANT EVENTS

### 1. Hostel Allotment

The functioning of Hostel has been streamlined and the allotments are decentralised. The working arrangement of the Hostel Section is as below:

**(i) Hostel Allotment Division-I - PG (Male), Married Accommodation and Nursing Students.**

Functions from Hostel No. 14 (Atreya Hostel) Masjid Moth Campus.

**(ii) Hostel Allotment Division-II- Female UG and PG.**

Functions from Hostel No. 10 (Saraswati Hostel) Ladies Hostels, Ansari Nagar.

**(iii) Hostel Allotment Division-III – UG.**

Functions from Hostel Section, Hostel No.7, Gents Hostels, Ansari Nagar.

### 2. Civil Work

#### Renovation

1. Hostel No. 3 (Sushruta Hostel) common lav no. 7, 8 and 9, Hostel No. 5 (Nagarjuna Hostel) common lav no. 1, 3 and 5, Hostel No. 7 (Ashwini Hostel) common lav no. 13, 15 and 17, Hostel No. 8 (Bharadwaj Hostel) common lav no. 14, 16 and 18, Hostel No. 9 (Parvati Hostel) common lav no. 1, 2, 3, 4, 11 and 12, Hostel No. 10. (Saraswati Hostel) common lav no.13, 14 and 15 got renovated.
2. Hostel No. 10 (Saraswati Hostel) TV room has been renovated.
3. Hostel No. 11 (Akshara Hostel) - All the rooms (1st floor to 3rd floor) have been renovated, and converted to double / triple seater for UG MBBS female students.
4. Hostel No. 7 (Ashwini Hostel): All 107 rooms have been converted to double seater rooms for UG MBBS boys.
5. Hostel No 9 (Parvati Hostel): Room no. 63 to 68 converted into double seater and one room 63 (A) double seater and one room 64 (A) five seater room ( total 19 seats) to be reserved for MBBS Students 2021 batch.
6. Hostel No. 14 (Atreya Hostel): 1st and 2nd Floor converted to rooms for PG women (50 Rooms).
7. Hostel No. 12 (Dhanwantri Hostel) - Old water tank demolished and new water tank installed.
8. Hostel No. 14 (Atreya Hostel) - 6 Guest Rooms, all the shafts, common lav on the ground floor and 2 married rooms got renovated.
9. Hostel No. 14 (Atreya Hostel) - In single room corridor – 1st floor to 7th floor window grill has been installed.
10. Hostel No. 14 (Atreya Hostel) and Hostel No. 15 (Medha Hostel) - Fire exit staircases got renovated.
11. Hostel No. 14 (Atreya Hostel) and Hostel No. 15 (Medha Hostel) - Terrace water proofing work has been done.
12. Hostel No. 15 (Medha Hostel) - 3 Guest Rooms, 2 Sick Rooms and all the shafts from ground floor to 7th floor got renovated.
13. Hostel No. 16 (Agnivesa Hostel) - Ground floor to 10th floor covered with grill and wall has been built around the hostel.
14. Hostel No. 16 (Agnivesa Hostel) and Hostel No. 17 (Ambuja Hostel) - Both offices are renovated and Hostel's white washing work has been done.
15. Hostel No. 17 (Ambuja Hostel) – Wooden cupboard made in the kitchen.
16. Hostel No. 17 (Ambuja Hostel) – Two wheeler parking is made in the back side of the hostel.
17. Hostel No 18 (Kashyap Hostel) - Entire open area's window has been covered with grill.
18. Hostel No 19 (Patanjali Hostel) Ground floor to 10th floor grill work has been done.
19. Hostel No. 18 and 19 – Fire escape markers installed.

### 3. Electrical Work

1. Hostel No. 9 (Parvati Hostel) common lav no. 1, 2, 3, 4, 11 and 12 and Hostel No. 10 (Saraswati Hostel) – room no. 39, 40, 49 and 50 electrical work has been done.
2. Hostel No 11 (Akshara Hostel) all the rooms (1st floor to 3rd floor) electrical work has been done.
3. Hostel No.14 (Atreya Hostel) – Dry Generator has been installed for Hostel No.14 and 15.
4. Hostel No.14 (Atreya Hostel) - Transformer' installation work is going on for Hostel No.14 and 15.
5. Hostel No. 15 (Medha Hostel) - Ground floor to 7th floor S. side corridors LED lights have been replaced.
6. Hostel No 16 (Agnivesa Hostel) and Hostel No 17 (Ambuja Hostel) – Rooms and corridor's LED lights have been replaced.
7. Hostel No 19 (Patanjali Hostel) - The installation of an alarm system in the water tank on the terrace to be done.

#### **4. Miscellaneous**

1. Hostel No. 10 (Saraswati Hostel) room no. 8 converted into Hostel Allotment Division-II- Female UG and PG
2. Hostel No.11 (Akshara Hostel) room no.110 converted into Visitor Room and TV also provided in this room.
3. Hostel No. 14 (Atreya Hostel) - One more room added as extension of office for Hostel Allotment Division-I -PG (Male), Married Accommodation and Nursing Students.
4. Hostel No. 15 (Medha Hostel) – Dressing tables provided in 150 rooms and student’s rooms are furnished, 7 blankets are provided in the Guest Rooms and 20 steel benches are provided in the balcony.
5. Sensor Sanitizer dispensing systems installed in all the Hostels.
6. Modified hostel accommodation rules implemented.



## 11.8. Ethics Committee

The total number of project proposals and thesis protocols submitted and discussed in the Ethics committee for academic year 2020-21 are mentioned below:-

### *Meetings:*

#### **The number of meetings were:**

- Institute Ethics Committee: **16**
- Institute Ethics Committee for Post Graduate Research for Basic & Clinical Science: **12**

#### **The number of projects reviewed were:**

- New proposals: **1610**
- Review projects: **757**
- Old projects: **383**

#### **The number of projects reviewed for Postgraduate research for basic and clinical sciences were as follows:**

- New thesis: **1048**
- Review thesis: **494**
- Old thesis: **204**

In addition, the Institute Ethics Committee continued to receive notifications of serious adverse reactions, serious adverse events, annual progress reports and completion reports, etc.

The Institute Ethics Committee's Standard Operating Procedures (SOPs) were modified as per the need and are available on the AIIMS website.

### **SIGNIFICANT EVENTS**

The Institute Ethics Committee and Institute Ethics Committee for Postgraduate Research for Basic & Clinical Science were registered with DCGI and FWA.

## 11.9. K.L. Wig Centre for Medical Education, Technology and Innovation (CMETi)

### Chief

Peush Sahni

### Professor-In-Charge

(For Faculty Development of Basic Sciences)

K.K. Deepak

### Professor-In-Charge

(For Faculty Development of Clinical Faculty of Medicine & Allied discipline)

A.K. Deorari

### Professor-In-Charge

(For Faculty Development of Surgical disciplines)

Anurag Srivastava (up to December 2020)

### Education Media Generalist

Yogesh Kumar

### Administrative officer

Kushal Kumar (up to February 2021)

Lalit Oraon (from March 2021)

### Faculty Members for

#### Fellowship in Clinical Research Methodology & Evidence Based Medicine

1. Dr Peush Sahni
2. Dr Anurag Srivastava
3. Dr S.N. Dwivedi
4. Dr Shashi Kant
5. Dr K. Anand
6. Dr Govind Makaria
7. Dr V. Sreenivas
8. Dr Deepti Vibha
9. Dr Nalin Mehta
10. Dr Tulika Seth
11. Dr Rajeev Kumar
12. Dr Rakesh Lodha
13. Dr Neerja Bhatla
14. Dr Navneet Wig

## HIGHLIGHTS

During the Covid-19 pandemic the focus of CMETi shifted to Covid-19 related training videos, webinars, and TV spots. 168 videos produced by CMETi were used countrywide through the website of the Ministry of Health and Family Welfare, Government of India, AIIMS Website, Saral platform, and YouTube.

## EDUCATION

### National Combined Grand Rounds

In an effort to share experience and initiate discussions on management of common issues related to Covid-19, AIIMS, New Delhi in conjunction with Niti Aayog and Ministry of Health and Family Welfare, Government of India launched the National Clinical Grand Rounds (NCGR) on Covid-19.

These NCGR's included the presentation of clinical cases by physicians directly involved in their management. Challenges faced in the management were discussed by a panel of eminent experts from across the country and outside India including AIIMS faculty. Each case discussion was followed by a short presentation on clinically relevant topics in managing Covid-19. Each NCGR also included a question and answer session where physicians, who log in to view the session on YouTube, could ask the patient management-related questions to the panel of experts. All the sessions were moderated by Prof. Randeep Guleria, Director, AIIMS, New Delhi.

CMETi team managed these events using open-source software like OBS, Skype and Google meets.

S No		Title	National /International Faculty	AIIMS Faculty
1.	22 July 2020	Patient with SARI but negative initial test, Clinical Approach to Lab Test		S Rajeshwari; Ashu Seith Bhalla; Lalit Dar
2.	29 July 2020	Use of Antiviral and Anti-IL6 Drugs, Mechanism, Indications and Precautions	Dhruv Chaudhary, PGIMS Rohtak; Harish Moorjani, Clinical Assistant Professor of Medicine, New York Medical College, New York	Anjan Trikha; Anant Mohan
3.	5 August 2020	Use of Convalescent Plasma and Oxygen Therapy		Anjan Trikha; Manish Soneja; Kapil Dev Soni
4.	19 August 2020	Children with COVID-19	Atul Jindal, Additional Professor of Pediatrics, AIIMS Raipur; Jayashree M, Professor of Pediatrics, PGIMER, Chandigarh; V Shankar, Professor of Critical Care Medicine, CHOP, Philadelphia	AK Deorari, Sushil Kabra, Rakesh Lodha, Jhuma Sankar
5.	26 August 2020	Extra-Pulmonary Manifestations of COVID-19	Uma Malhotra, ID Specialist, Virginia Mason Medical Center, Seattle, USA	MV Padma, Ambuj Roy, Neeraj Nischal
6.	2 September 2020	COVID-19 in Pregnancy and the Neonate	Neena Raina, WHO representative; Naveen Kumar, Professor of Neonatology, PGI Chandigarh; Manju Puri, Head Obstetrics and Gynaecology, Lady Hardinge MC, Delhi	AK Deorari; Sunesh Kumar; Neerja Bhatla
7.	9 September 2020	Management of COVID-19 Sequelae	Mangala Narasimhan, Professor of Medicine, Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, USA; Pratima Murthy, Professor and Head of Psychiatry, NIMHANS, Bengaluru	Anita Saxena; Anant Mohan; Ambuj Roy; Saurabh Mittal
8.	16 September 2020	Diabetes/Heart Disease/Mental illness with COVID-19		Anita Saxena; Nikhil Tandon; Rakesh Chadda; Koushik Sinha Deb; Animesh Ray; Yashdeep Gupta
9.	23 September 2020	Urgent/Semi-Urgent Surgery in a COVID-19 Positive Patient		Anurag Srivastava; Rajeshwari; SVS Deo; Sushma Bhatnagar
10.	30 September 2020	Severe COVID-19 requiring Ventilators	Hrishikesh S Kulkarni, Pulmonary & Critical care Medicine, Washington University School of Medicine; Girendra Sadara, Consultant Critical Care, UK; Wirral University Teaching Hospital	Naveet Wig; Anjan Trikha
11.	7 October 2020	COVID-19 with other infections: Dengue, Active tuberculosis, mucormycosis	Rohit Sarin, Ex-Director, NITRD, New Delhi	Arti Kapil, Anant Mohan, Manish Soneja, Saurabh Mittal, Ved Prakash Meena; Pavan Tiwari
12.	14 October 2020	Cancer patients with COVID-19: complications, radiation, chemotherapy, surgery		Lalit Kumar; SVS Deo; Sushma Bhatnagar; DN Sharma; Atul Sharma

S No		Title	National /International Faculty	AIIMS Faculty
13.	21 October 2020	Moderate to Severe COVID-19 Update on Therapies and Vaccine		Anant Mohan; Anjan Trikha; Naveet Wig; Sanjay Rai; Manish Soneja; Richa Aggarwal; Sujoy HS
14.	4 November 2020	Using CBNAAT and Rapid Antigen Tests for COVID-19 Diagnosis Summary topic: Update on COVID-19 Tests and Their Clinical Implications		Rama Chaudhary; Anant Mohan; Urvashi B Singh; Poorva Mathur; Pawan Tiwari; Anjan Dhua
15.	18 November 2020	Managing COVID-19 Patients in Home-Isolation	Alok Nath, SGPGIMS, Lucknow; Dhruv Chaudhary, PGIMS, Rohtak	Anant Mohan; Vijay Hadda; Hariharan
16.	2 December 2020	Extrapulmonary Manifestations of COVID-19 in Adults and Children		Anoop Saraya; SK Kabra; Rakesh Lodha; Shalimar; Neeraj Nischal; Saurabh Kedia; Vijaya Kumar
17.	16 December 2020	Managing COVID-19 Around the World: Shared Experiences in India and the UK	Monica Lakhanpaul, Mervyn Singer, David Brealey, all from UCL, London, UK	Naveet Wig; Anant Mohan
18.	6 January 2021	Mutations and Vaccines for COVID-19	Gagandeep Kang, Professor of Microbiology, CMC Vellore; Uma Malhotra, Clinical Associate Professor, University of Washington, Seattle, USA; Harish Moorjani, Clinical Assistant Professor of Medicine, New York Medical College, New York	VK Paul; Arvind Bagga
19.	27 January 2021	Managing Long-COVID	Raja Dhar, Consultant Pulmonary Medicine, Fortis Hospital, Kolkata	Anant Mohan; Neeraj Nischal; Saurabh Mittal; Hariharan Iyer
20.	10 March 2020	Lung complications of COVID-19 and impact of vaccines: shared experiences in India and the UK	Monica Lakhanpaul, Professor of Integrated Child Health, Pro Vice Provost South Asia; Jeremy Brown, Academic Respiratory Consultant; Jo Porter, Professor in Respiratory Medicine; Arjun Nair; Emma Denny; all UCL, London, UK	Anant Mohan; Neeraj Nischal; Pawan Tiwari

### 65th Institute Day Exhibition

CMET helped organize the Institute Day Exhibition from 25th to 27th September 2019. The theme of the Exhibition was: **“AIIMS in the time of Covid-19”**. 50 e-Posters and 50 physical posters of 36x56 inch were prepared by various departments, and 6 video stations were also on display. The exhibition was inaugurated by the Honourable Minister for Health and Family Welfare, in the presence of Honourable Minister of State, Ministry of Health and Family Welfare, Shri Ashwani Kumar Choubey and Director, AIIMS, Professor Randeep Guleria.

A virtual silver jubilee oration presented by Dr Digamber Behra (from PGIMER, Chandigarh) was also live telecast on YouTube along with the Institute Day prize distribution.

A virtual cultural evening with 11 videos, skits, songs, dance presented by AIIMS faculty, residents, nurses, and staff were recorded and edited by the CMETi team for the virtual cultural evening to be telecast on YouTube.

### 47th Annual Convocation

The AIIMS annual convocation was organized in hybrid mode on 11th January 2021, with the help of open source software's OBS and Google meet and live telecast on YouTube. On a single screen along with chief guests, director and dean, photographs

of the degree awardees' and the degrees were shown while dean presented the candidates and candidates were live through Google meet. 48 such Google meets were created to cover 1440 candidates.

### Virtual Orations

CMETi team provided technical support for the organization of the following virtual orations

1. 5th Dr Urmil B.K. Kapoor Oration by Prof Sudeep Gupta, Director, Medical Oncology, ACTREC Mumbai, 26th November 2020.
2. Dr Surinder Man Singh Memorial Oration by Prof Gopal Badlani, Professor and Vice Chair, Clinical Affairs, Urology, 28th January 2021
3. 5th Dr O.P. Ghai Memorial Oration by Dr V.K. Paul, Member Niti Aayog India, 12th March 2021

### Wellness Mantras for Health Care Workers

Technical support was provided to organise a webinar entitled “Wellness Mantras for Health Care workers”. The presenters were Dr. Sanjiv Chopra and Dr. Deepak Chopra, Alumni of AIIMS, New Delhi followed by a question answer session moderated by Director, AIIMS, Professor Randeep Guleria

### 74th Independence Day Celebration at AIIMS

Live telecast of the event was done from the central quadrangle of AIIMS on YouTube using a multi camera setup.

### RP Centre Day Exhibition

This was organized on 10 March 2021. CMETi designed and printed 20 posters highlighting the research and other achievement of RP Centre, AIIMS, New Delhi.

### Covid-19 pandemic

In the initial days of the Covid-19 pandemic a series of sessions were recorded to educate residents about Covid-19 for the department of medicine. These were titled Basics of Covid-19. The following sessions were recorded.

S. No.	Topic	Presenter	Faculty Preceptor
1.	Introduction	Dr Satish Swain	Dr Piyush Ranjan
2.	Epidemiology	Dr Dinesh Walia	Dr Neeraj Nishchal
3.	Clinical Presentation	Dr Ashish Gupta	Dr Pankaj Jorawal
4.	Diagnosis	Dr Archana Sasi	Dr Ranveer Jadon
5.	Complications	Dr Jagdeesh Manikanta	Dr Ved Prakash
6.	Management	Dr Mouna B M	Dr Animesh Ray
7.	Prevention	Dr Benin Rajesh R A	Dr Prayas Sethi

During the lockdown, CMETi produced 20 videos, on various subjects related to Covid-19

1. Expert Advise - Stay at Home Stay Safe (Hindi)
2. Expert Advise - Stay at Home Stay Safe (English)
3. Steps of Hand rub (English)
4. Steps of Hand rub (Hindi)
5. Steps of Hand wash (English)
6. Steps of Hand wash (Hindi)
7. PPEs Donning and Doffing
8. Social Cough Etiquette (English)
9. Social Cough Etiquette (Hindi)
10. Local Production of Hand rub (English)
11. Local Production of Hand rub (Hindi)
12. Local production of Face Shields (English)
13. Local production of Face Shields (Hindi)
14. PPE Doffing Guidelines - COVID 19
15. PPE Donning Guidelines - COVID 19



16. Coping with Stress during COVID19 and Lockdown
17. Surveillance for COVID19 Management - Planning
18. Surveillance for COVID19 Management - Visit
19. Candle Lighting against Coronavirus
20. Tribute to Corona Warriors of AIIMS by Indian Air Force

### **Videos produced**

CMETi produced 18 videos for CDER, College of Nursing and other departments. These were:

1. Dental Trauma
2. Electronic working length Determination (Dental)
3. Occupied Bed Making
4. Oral Care
5. Interview with Dr. P.N. Tandon
6. Advocacy Skill Quit Tobacco
7. Refusal Skill Quit Tobacco
8. Bag Technique For Covid-19 Health Visitor
9. Bed Bath Technique
10. Simple & Special Mouth Care On Bed
11. Biomedical Waste Disposal
12. Total Parental Nutrition
13. Bandaging Sling & Knot Technique
14. Care of Spills
15. Chest & Abdominal Bandaging
16. Rapid Blood Sugar Monitoring
17. Dental Amalgam Fixing
18. Brushing Technique

During the lockdown the following 20 videos recordings were done by CMETi team.

1. Corona-19 Tips for Children (Hindi)
2. Advise for people having chronic diseases: Expert opinions (Hindi)
3. How to safely stop drinking during lockdown
4. How to leave tobacco safely during lockdown (Hindi)
5. PPE use in different areas of the hospital.
6. Stay at home
7. Poem on organ donation
8. Managing mental stress and depression.
9. Mental Health Issues among Single Men during COVID19 and Lockdown
10. Mental Health Issues among Adolescents during COVID19 and Lockdown
11. Mental Health Issues among Pregnant Women during COVID19 and Lockdown
12. HCQ & COVID-19
13. Elderly and COVID-19 (Hindi)
14. Stigma against COVID 19 Patients (English)
15. Stigma against COVID 19 Patients (Hindi)
16. Home Isolation (Hindi)
17. Home Isolation (English)
18. COVID Appropriate Behavior
19. Infodemics
20. How to wear masks

## Video lectures

The following video lectures were produced by CMETi for the Foundation course of the Academic and Research sections

Sr. No.	Topic	Speaker
1.	Motivation for research	Dr Randeep Guleria
2.	How to get most from your mentor?	Dr Shinjini Bhatnagar
3.	Contents of Research Protocol	Dr R.M. Pandey
4.	How to frame a research question?	Dr V.K. Paul
5.	Understanding variables in health research	Dr. Pratap Sharan
6.	Selecting a Study Design	Dr. Anand Krishnan
7.	Cross Sectional Study/Case Control study	Dr. Rakesh Lodha
8.	Cohort Study	Dr. Ramesh Aggarwal
9.	Designing a trial	Dr. Atul Sharma
10.	Randomization and Blinding	Dr. G. Kartikeyan
11.	Confounding bias	Dr. M. Kalaivani
12.	How to calculate sample size?	Dr. Jeeva Sankar
13.	Methods of Data Collection	Dr. Puneet Mishra
14.	How to create a master data sheet?	Dr. Sumit Malhotra
15.	Types of data and summarizing data	Dr. Tulika Seth
16.	Parametric tests and nonparametric tests	Dr. S.N. Dwivedi
17.	Principles of hypothesis testing: Type I and 2 error	Dr. Radhika Tandon
18.	Dichotomous Variables: Testing for association and measures of association (OR,RR, RD)	Dr. Aditi Sinha
19.	Analysis of Continuous data (“t” test, ANOVA)	Dr. Naval Kishore Vikram
20.	Analysis of clinical trial data: PP/ITT/Modified ITT	Dr. Nikhil Tandon
21.	Principles of survival analysis: KM curve and Hazard ratio	Dr. A.K. Mishra
22.	Multivariable Analysis	Dr. M.A. Khan
23.	Diagnostic Test Assessment	Dr. S. Ramakrishnan
24.	Metanalysis and Systematic review: Basic Tenets	Dr. Kameshwar Prasad
25.	Reporting Guidelines: STROBE, CONSORT, PRISMA, STARD	Dr. Saurabh Kedia
26.	Managing References and Reference Managers	Dr. Tony George Jacob
27.	Ethics in Health Research	Dr. Sameer Bakhshi
28.	Research methodology and Quality Control in basic sciences: An overview	Dr. Archana Singh
29.	Quality Control in genomic and gene expression analysis techniques	Dr. Jayanth Kumar
30.	Quality Control for protein analysis techniques	Dr. Pragyan Acharya
31.	Basics of Research design for reproducible flow cytometry experiments	Dr. Ritu Gupta
32.	Microscopy and Rules of Image Analysis	Dr. Tony George Jacob
33.	In-vitro techniques: precautions and pitfalls	Dr. Sudip Sen
34.	Study design for animal Experiments: avoiding common errors and optimizing results	Dr. Rupesh Srivastava

In collaboration with the National Medical Journal of India for the workshop series entitled “Writing a Scientific Paper” CMETi produced the following 8 sessions

Sr. No.	Topic	Speaker
1.	Title, Abstract & Keywords	Dr Tony George Jacob
2.	Methods	Dr Rakesh Lodha
3.	References and references managers	Dr Tony George Jacob
4.	Table and figures	Dr Rakesh Lodha

5.	Scientific Misconduct-1: What is a scientific misconduct?	Dr Rajeev Kumar
6.	Scientific Misconduct-2: Reporting bios and plagiarism	Dr Rajeev Kumar
7.	Scientific Misconduct-3: Authorship and conflicts of interest	Dr Rajeev Kumar
8.	Scientific Misconduct-4: Submission and predatory practices	Dr Rajeev Kumar

- The CMETi technical team also recorded videos for 16 poster/paper presentations by faculty/residents
- CMETi technical team provided technical support to 6 webinars and 11 teleconference meetings organized by various Departments.

### Media related achievement

Particulars	Total
Designing/printing of large format Academic Posters (including 100 e-posters)	367
Video recording and editing (No. of requisitions)	432
Clinical/ Event Photography and Scan, X-ray/CT/MRI/Slide (No. of requisitions)	208
Number of on screen presentations	112
Colour printing (A3 Size)	710
Colour Printing (A4 Size)	1409
Certificates Prints A4 Size (CMET workshops +Other Department)	295

**Lecture series under Fellowship in Clinical Research Methodology & Evidence Based Medicine:** 11 Sessions of 90+ minute were organized in this year.

S.No.	Topic	Faculty
1.	Introduction to research methods- Quantitative and Qualitative Research	Sumit Malhotra
2.	Qualitative Research Methods- An Overview	Sumit Malhotra
3.	Conceptualizing a research question and hypothesis	Sumit Malhotra
4.	Overview of epidemiological study designs	Sumit Malhotra
5.	Formulating a clinical/research question	Anand Krishnan
6.	Confounding and Bias	Anand Krishnan
7.	Overview of descriptive statistics, tools to perform univariate analysis using parametric and non-parametric methods for paired and unpaired designs	Anand Krishnan
8.	Concept of statistical inference, types of errors, power	Kalaivani Mani
9.	Introduction to Stata and Data management	Kalaivani Mani
10.	Statistical analysis using Stata: Descriptive statistics, both univariate and bivariate analysis, Relative risk and Odds ratio	Kalaivani Mani
11.	Descriptive statistics-Measures of central tendency and dispersion, Skewness and kurtosis	Kalaivani Mani

**Logistic support:** CMETi continued to provide logistic support to Department of the Surgery and Psychiatry, after the fire incident in the AIIMS Teaching block in Aug 2019, staff of Surgery and Psychiatry department was shifted to CMETi along with HODs and store office. All the logistic supports, like space, furniture, computers, printers, internet facility etc were extend to both the departments to run the departments smoothly.

### Lectures delivered at CMEs, National and International Conference

#### Yogesh Kumar (Workshop/Sessions)

1. “Bibliography Management using Zotero” Webinar for the members of Indo Pacific Academy (INPAFO) and partnership of Association Forensic Odontology for human rights (AFOHR), 8th August 2020.
2. Effective use of media and web teaching methods during the Faculty Development Program “Training The Trainers”, Indian Society of Pedodontics and preventive dentistry, 1st November 2020.
3. Bibliography management for DM/DNB Endocrinology residents, Endocrine Society of India Research Methodology Workshop “Endocrine Dissertations: A Primer for Research”, 7th November 2020.

4. Tools for scientific writing in MS word for DM/DNB Endocrinology residents, Endocrine Society of India Research Methodology Workshop “Endocrine Dissertations: A Primer for Research”, 7th November 2020
5. Information retrieval and bibliography management (Google Meet) (M.Sc. Nursing), 21st December 2020
6. Tools for Scientific Writing in MS word (Google Meet) (MSc Nursing), 28th Dec 2020
7. Media in Education (M.Sc. Nursing), 29th December 2020
8. Designing posters and pamphlets (M.Sc. Nursing), 4th January 2021
9. Animation In PowerPoint (M.Sc. Nursing), 1st February 2021
10. Creativity (M.Sc. Nursing), 3rd February 2021

## 11.10. Media Cell and Protocol Division

### Chairperson

Aarti Vij

### Additional Spokesperson

Karan Madan

Making the AIIMS Documentary film on AIIMS New Delhi: “A legacy of excellence”

AIIMS, New Delhi is a pioneering institution with rich history in the medical field not only in India but globally. To share the past, present and future vision of AIIMS, New Delhi, a short documentary of 15 minutes has been produced. This documentary highlights the history of AIIMS, New Delhi starting with the first President of the institute, achievements in the field of Education, Research and Patient care, brief about the infrastructure and workload handled by AIIMS, New Delhi, collaborations of AIIMS with various national and international organizations, influence of research done at AIIMS on major health policies, national health programs and clinical practices, various prestigious civilian and scientific awards/accolades conferred on its faculty members, several firsts/milestones achieved in the field of healthcare, expansion of AIIMS infrastructure and Master plan for transforming AIIMS New Delhi into the most modern Medical University.

Information Education and Communication (IEC) material of Covid-19: **Videos** on various aspects of Covid-19 for general public and technical experts have been **produced and uploaded** on the AIIMS Website and MoH&FW YouTube Channel

Title
How to wear a Mask
Infodemics
Gaurav Issar
Delhi Police Plasma Donation
कोरोना वायरस २०१९: बच्चों के लिए टिप्स
विशेषज्ञ की सलाह - लम्बी बीमारियों वाले लोगों के लिए सलाह
How to Safely Stop Drinking During Lockdown
लॉकडाउन के दौरान तम्बाकू को सुरक्षित रूप से कैसे छोड़ा जाए?
Stay At Home English
Poem on Organ Donation
COVID Appropriate Behavior
Home Isolation Guidelines
Home Isolation (Hindi)
Stigma Against COVID 19 Patients (HD)
Elderly and COVID-19 (Hindi)
COVID 19 & Elderly
Expert advice, Stay home Stay Safe
जानिए, AIIMS के डॉक्टरों से कि संक्रमण से बचने के लिए घर पर रहना क्यों आवश्यक है।
Managing mental stress and depression during lockdown
Video on Personal Protective Equipment (PPE) Use in Different Areas of the Hospital
Tribute to Corona Warriors of AIIMS by Indian Army, Indian Navy & Indian Air Force
HCQ & COVID-19
PPE Use in Different Areas of the Hospital
COVID -19 & Elderly



e Booklets:



AIIMS IN NEWS: PRINT AND ELECTRONIC MEDIA

S. No.	Date	Title	Newspaper
1.	3 April 2020	कोरोना से जंग का जज्बा : एम्स के नर्सिंग कर्मचारी ने कहा- कोरोना वार्ड में मेरी ड्यूटी लगाओ	Live Hindustan
2.	6 April 2020	एम्स इन्फर्न में टेलीमेडिसिन से रोजाना बच रही है 20 पीपीड, संक्रमण का खतरा में काम हुआ	दैनिक भास्कर
3.	6 April 2020	केंद्रीय स्वास्थ्य मंत्री डॉ हर्ष वर्धन ने एम्स में डॉक्टर्स के साथ दीपक जलाये	दैनिक भास्कर
4.	7 April 2020	In hotspots some community spread may be occurring said Dr. Randeep Guleria, Director, AIIMS	Hindustan Times
5.	7 April 2020	Some community spread in hotspots: AIIMS Chief	The Times of India
6.	7 April 2020	AIIMS to make one-day salary deduction optional for donation to PM-Cares Fund	The Statesman
7.	7 April 2020	Localised community spread in some areas	Mail Today
8.	7 April 2020	संक्रमण से बेपरवाह न रहे युवा, खतरा उन पर भी काम नहीं है : डॉ नवल विक्रम , एम्स	हिंदुस्तान
9.	7 April 2020	देश के कुछ हिस्सों में है स्थिति अभी गंभीर : एम्स	नवभारत टाइम्स
10.	7 April 2020	संक्रमण के दूसरे व तीसरे चरण के बीच में भारत : डॉ रणदीप गुलेरिया	दैनिक जागरण
11.	8 April 2020	एम्स (AIIMS) प्रशासन ने यह फैसला कोरोना पॉजिटिव मरीजों (Corona positive patients) का इलाज कर रहे डॉक्टर्स और उनकी देखभाल कर रहे हॉस्पिटल स्टाफ (Hospital staff) को कोरोना वायरस (Corona virus) के संक्रमण से बचाने के लिए लिया गया है.	News 18
12.	8 April 2020	Delhi AIIMS staff to walk through tunnel that sprays disinfectant	NDTV
13.	8 April 2020	'कोरोनावायरस योद्धाओं' के लिए DRDO ने बनाया डिसइंफेक्टेंट चैंबर, दिल्ली के AIIMS में हुआ शुरू	NDTV इंडिया

S. No.	Date	Title	Newspaper
14.	8 April 2020	AIIMS allocates HCQ tablets for its healthcare workers	The Morning Standard
15.	8 April 2020	दिल्ली के AIIMS अस्पताल में बनाया गया Sanitization Chamber	Zee News
16.	8 April 2020	एम्स ने दिए एन-95 मास्क, केवल 4 बार करना होगा एक मास्क का इस्तेमाल	नवभारत टाइम्स
17.	9 April 2020	Covid 19: More data needed to determine lockdown period, says AIIMS director at Bennett University Online Conference	The Times of India
18.	9 April 2020	एम्स में लगाई गयी सैनीटाईज़ेशन यूनटि	दैनिक जागरण
19.	9 April 2020	एम्स में लगाएं गयी वषिणुनाशक यूनटि	जनसत्ता
20.	9 April 2020	सुविधा : एम्स में लगा पहला पर्सनल सैनीटाईज़ेशन चैम्बर	दैनिक भास्कर
21.	9 April 2020	एम्स की इमरजेंसी में आने वाले मरीजों की होगी कोरोना जांच	अमर उजाला
22.	9 April 2020	एम्स में मरीजों के लिए नयी व्यवस्था	दैनिक जागरण
23.	9 April 2020	एम्स : इमरजेंसी के मरीजों को दो हस्सिंसों में बाटकर होगा इलाज	नवभारत टाइम्स
24.	10 April 2020	City govt hospitals offer anti-malaria drug to docs, staff	Hindustan Times
25.	10 April 2020	Next challenge is immunising country from hotspots: Dr. Randeep Guleria	The Times of India
26.	11 April 2020	केंद्रीय स्वास्थ्य मंत्रालय और एम्स दिल्ली के डॉक्टरों ने शुरू किया जागरूकता अभियान, खुद का विशेष ध्यान रखने की सलाह	अमर उजाला
27.	11 April 2020	सर्जरी में मरीज को खतरा : एम्स	हिंदुस्तान
28.	11 April 2020	Fear, concern at residential hub of doctors	Hindustan Times
29.	11 April 2020	ICMR asks 13 insititutions to help increase Corona testing	The Indian Express
30.	12 April 2020	डॉ रणदीप गुलेरिया (Dr Randeep Guleria) ने घरेलू जानवरों से इंसानों को कोरोना वायरस (Coronavirus) का संक्रमण होने की संभावना को बहुत कम बताया है और कहा है कि घरों में पालतू जानवर (Pet Animals) रखना इस दौर में ही सुरक्षित है.	News 18
31.	12 April 2020	नर्सिंग स्टाफ उर्मिल ने एम्स के कोरोना आईसीयू में खुद आगे आकर लगवाई ड्यूटी, ट्रेनिंग शुरू होते ही खत्म हो गया था डर	हिंदुस्तान
32.	13 April 2020	पालतू जानवरों से नहीं फैलता कोरोना का संक्रमण : गुलेरिया	दैनिक जागरण
33.	13 April 2020	हइड्रोक्सीक्लोरोकिन से नहीं हो सकता हर किसी का इलाज	अमर उजाला
34.	13 April 2020	एम्स इमरजेंसी के बहार डीआरडीओ की मदद से सेनेटाईज करने वाला केबिन तयार किया गया है	हिंदुस्तान
35.	13 April 2020	Policeman posted at AIIMS positive	The Indian Express
36.	13 April 2020	Cop deployed at AIIMS tests positive	The Times of India
37.	14 April 2020	एम्स ने कोरोना से बचाव के लिए तैयार की सस्ती फेस शील्ड	दैनिक जागरण
38.	14 April 2020	Mother Corona positive, baby is born infection-free at AIIMS	The Indian Express
39.	14 April 2020	एम्स लैब टेक्निशन ने बचत की रकम से 100 पीपीडू खरीद कर एम्स को दी	दैनिक भास्कर
40.	15 April 2020	तैयारी : एम्स में 270 बेड का कोरोना हस्पताल	हिंदुस्तान
41.	15 April 2020	Mental stress in isolation major concern among elderly: AIIMS psychiatrist	The Times of India
42.	15 April 2020	एम्स में तैयार हुआ दिल्ली का पहला कोरोना स्पेशल सेंटर	नवभारत टाइम्स
43.	15 April 2020	एम्स की गाइडलाइन्स से जानिए कैसे करनी है बुजुर्गों की देखभाल	नवभारत टाइम्स
44.	15 April 2020	मिलकर जीतेंगे हम कोरोना के खिलाफ जंग : डॉ गुलेरिया	दैनिक जागरण

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45.	16 April 2020	एम्स ने कोरोना मरीजों पर पहली बार आजमाई प्रोन वेंटिलेशन तकनीक	नवभारत टाइम्स
46.	16 April 2020	AIIMS taps robot and telemedicine to cut contact risk	The Economic Times
47.	16 April 2020	एम्स के निर्देशक डॉ रणदीप गुलेरिया पड़ती है का कहना है की प्लाज्मा तकनीक में संक्रमण से मुक्त हो चुके मरीजों के रक्त की आवश्यकता पड़ती है	अमर उजाला
48.	17 April 2020	उम्मीद : महामारी से जूझ रही दो माओ के नवजात बच्चों को बचाया, एम्स	हिंदुस्तान
49.	17 April 2020	एम्स की डॉक्टर ने पीएम केयर फण्ड में दान की पुरस्कार राशि	दैनिक जागरण
50.	17 April 2020	एम्स की डॉक्टर ने इनाम की 2 लाख रुपए की राशि पीएम केयर फण्ड में दी	दैनिक भास्कर
51.	18 April 2020	AIIMS RDA urges Shah to implement proposed law for health worker's safety	The Statesman
52.	18 April 2020	Delhi AIIMS to treat registered non-COVID patients on phone from April 20	NDTV
53.	18 April 2020	एम्स में कोरोना संदिग्ध मरीजों की सेवा में लगे डॉक्टरों को सेवरॉन फाउंडेशन ने दिए रोबोट	अमर उजाला
54.	18 April 2020	एम्स में पुराने मरीजों को इस तारीख से मिलेगा अपॉइंटमेंट, डॉक्टर्स फोन पर देंगे सलाह	Zee News
55.	18 April 2020	कोरोना के बढ़ने की दर कम होने से स्वास्थ्य व्यवस्था पर कम होगा दबाव: एम्स निदेशक	NDTV इंडिया
56.	19 April 2020	AIIMS to start tele-consultancy for non-COVID patients	The Statesman
57.	19 April 2020	एम्स में पुराने मरीज ले सकते हैं ऑनलाइन अपॉइंटमेंट	दैनिक जागरण
58.	19 April 2020	एम्स फोन पर परामर्श देगा	हिंदुस्तान
59.	19 April 2020	कोरोना संकट से निपटने के लिए AIIMS की इस डॉक्टर ने पुरस्कार के दो लाख रुपये दान किए	NDTV इंडिया
60.	19 April 2020	20 अप्रैल से एम्स भी मरीजों को फोन पर देगा सलाह	नवभारत टाइम्स
61.	19 April 2020	अखिल भारतीय आयुर्विज्ञान संस्थान (AIIMS) के निदेशक रणदीप गुलेरिया का Covid19 पर कहना है अगले 5-7 दिनों में हम अगर मौजूदा स्थिति को बनाए रखने में सफल होते हैं तो यह अच्छा होगा.	News 18
62.	19 April 2020	कोरोना वायरस पर बोले एम्स के डायरेक्टर रणदीप गुलेरिया- अगले 5-7 दिनों पर बहुत कुछ निर्भर	NDTV इंडिया
63.	20 April 2020	एम्स में आज से इलाज के लिए पंजीकरण करा सकेंगे पुराने मरीज	हिंदुस्तान
64.	21 April 2020	Elective ops at AIIMS to resume soon	The Times of India
65.	21 April 2020	Covid-19: CRPF donates 1 lakh surgical masks to AIIMS	The Times of India
66.	21 April 2020	AIIMS: Don't discriminate against healthcare workers	The Times of India
67.	21 April 2020	एम्स में अगले सप्ताह से जरूरी सर्जरी की जाएगी	हिंदुस्तान
68.	21 April 2020	"Lockdown best option right now" by Dr. Randeep Guleria	Mail Today
69.	21 April 2020	Frame policies to safeguard elderly officials during COVID: AIIMS Doctors to PM	The Times of India
70.	22 April 2020	Proper training & personal hygiene are most important	The Indian Express
71.	22 April 2020	AIIMS to use robots for minimal contact	The Times of India
72.	22 April 2020	रिम्स में एम्स का लीव रूल लागू	Live Hindustan
73.	22 April 2020	AIIMS deploys robots in COVID-19 ward	The Hindu
74.	23 April 2020	Coronavirus outbreak: Plasma therapy started at multiple centre, says AIIMS Delhi Director	The Economic Times

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75.	24 April 2020	Stigma attached to COVID can cause more deaths: AIIMS Head	The Times of India
76.	24 April 2020	Just 18% of infected are 60+ but accounts for over 50% of deaths	The Times of India
77.	24 April 2020	95%+ve curable by simple oxygen treatment: Govt.	The Pioneer
78.	24 April 2020	Covid suspect needed surgery, AIIMS docs decided not to wait for result	The Indian Express
79.	24 April 2020	Covid 19: AIIMS nursing staff pledge to be a plasma donors	The Statesman
80.	24 April 2020	जानलेवा कोरोना वायरस से संक्रमित बच्चे के लिए माँ का दूध अमृत : एम्स	दैनिक जागरण
81.	24 April 2020	कोरोना जैसे लक्षण के बाद भी डॉक्टरों ने लिया रिस्क, सर्जरी कर बचाया , एम्स	नवभारत टाइम्स
82.	24 April 2020	कोरोना वायरस से लड़ाई में एम्स के डॉक्टरों की मदद करेंगे रोबोट, कोविड-19 के मरीजों की निगरानी	Live Hindustan
83.	24 April 2020	कर्म के साथ मानवता का धर्म भी निभा रहे हैं डॉक्टर	अमर उजाला
84.	24 April 2020	एम्स : प्लाज्मा दान करेंगे नर्सिंग अधिकारी	अमर उजाला
85.	25 April 2020	लॉकडाउन का बच्चे और बुजुर्गों पर असर का एम्स करेगा स्टडी	नवभारत टाइम्स
86.	25 April 2020	अस्पतालों में खून की कमी को पूरा कर रहे डॉक्टर	जनसत्ता
87.	25 April 2020	केजरीवाल ने कहा - ठीक हुए मरीज़ प्लाज्मा दे ; एम्स डायरेक्टर बोले -प्लाज्मा जादू की गोली नहीं	दैनिक भास्कर
88.	26 April 2020	नर्सिंग कर्मचारी ने ली प्लाज्मा दान की शपथ	दैनिक जागरण
89.	27 April 2020	एम्स में हाईटेक तकनीक के इस्तेमाल से कोरोना के मरीजों का इलाज	दैनिक जागरण
90.	27 April 2020	AIIMS forms committee to devise strategy to restore health services once lockdown is lifted	The Economic Times
91.	27 April 2020	एम्स में भी प्लाज्मा थेरेपी का ट्रायल शुरू	दैनिक जागरण
92.	27 April 2020	एम्स में भी प्लाज्मा ट्रायल की शुरुआत हुई	हिंदुस्तान
93.	28 April 2020	AIIMS set to begin plasma therapy	Hindustan Times
94.	28 April 2020	एम्स झज्जर: मरीजों को इंटरनेट की सुविधा, हर शिकायत होगी दूर	नवभारत टाइम्स
95.	28 April 2020	COVID-19: कोरोनावायरस के इलाज में प्लाज्मा थेरेपी के क्लिनिकल परीक्षण की योजना बना रहा एम्स	NDTV इंडिया
96.	29 April 2020	AIIMS planning to conduct clinical trial of plasma therapy	The Economic Times
97.	29 April 2020	COVID-19: कोरोनावायरस के इलाज में प्लाज्मा थेरेपी के क्लिनिकल परीक्षण की योजना बना रहा एम्स	NDTV इंडिया
98.	30 April 2020	AIIMS plans to conduct clinical trial of plasma therapy for virus patients	The Statesman
99.	30 April 2020	AIIMs planning to conduct clinical trial of plasma therapy	The Pioneer
100.	30 April 2020	AIIMS is planning to conduct a trial of plasma therapy in the treatment of COVID-19	Mail Today
101.	30 April 2020	AIIMS Delhi invites advance booking for tele consultation	The Times of India
102.	30 April 2020	COVID 19: Delhi Police carry out Parikrama around AIIMS to express gratitude	The Times of India
103.	30 April 2020	कोविड-19 महामारी संकट के बीच स्वास्थ्य कर्मियों के सम्मान में दिल्ली पुलिस ने एम्स की 'परिक्रमा' की.	Zee News

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104.	1 May 2020	पुराने मरीज़ों को फ़ोन कर इलाज देगा एम्स, 9115444155 पर फ़ोन कर के अपॉइंटमेंट	दैनिक भास्कर
105.	1 May 2020	एम्स के मरीज़, फ़ोन से एडवांस अपॉइंटमेंट ले सकेंगे	अमर उजाला
106.	1 May 2020	एम्स के टेलीकंसल्टेशन के लिए ले सकेंगे अपॉइंटमेंट	दैनिक जागरण
107.	1 May 2020	राजधानी दिल्ली में प्रवासी राजस्थानी समाज से जुड़ी संस्था मारवाड़ी युवा मंच की, पूर्वी दिल्ली शाखा द्वारा देश के सबसे बड़े मेडिकल संस्थान, अखिल भारतीय आयुर्विज्ञान संस्थान (एम्स) के सहयोग से पूर्वी दिल्ली में रक्तदान शिविर (ब्लड डोनेशन) का आयोजन किया गया	Zee News
108.	1 May 2020	AIIMS invites advance booking for tele-consultations	The Pioneer
109.	2 May 2020	Covid-19: AIIMS doctors thank Delhi police by showering flower petals on cops	The Times of India
110.	2 May 2020	“हमें कोरोना के साथ जीने की आदत डालनी होगी” एम्स के डायरेक्टर डॉ रणदीप गुलेरिया ने कहा, बीमारी से जल्द छुटकारा नहीं	नवभारत टाइम्स
111.	3 May 2020	एम्स - सफ़दरजंग के डॉक्टरों ने तालियों बजाकर किया पुलिस का स्वागत	दैनिक भास्कर
112.	3 May 2020	कोरोना वॉरियर्स डे : एम्स -सफ़दरजंग अस्पताल के कर्मवीरों को सेना का सलाम	NDTV इंडिया
113.	3 May 2020	कोरोना से बचना है तो दिल खोलकर हसिये	दैनिक जागरण
114.	4 May 2020	COVID strategist, AIIMS chief Dr. Randeep Guleria is guest at e-Adda today	Indian Express
115.	4 May 2020	An IAF chopper showers petals over AIIMS, New Delhi in an aerial salute to corona warriors	The Times of India
116.	4 May 2020	No database yet to establish how coronavirus takes lives	The Morning Standard
117.	4 May 2020	Health workers at AIIMS react as an IAF chopper showers flower petals on them to express gratitude	Mail Today
118.	4 May 2020	दिल्ली में एम्स की ओपीडी के बहार अभिवादन सवीकार करते डॉक्टर	नवभारत टाइम्स
119.	4 May 2020	कोरोना वायरस से मुकाबला कर रहे योद्धाओं के सम्मान में भारतीय सेना के बैंड ने एम्स के सामने देशभक्ति की धुन बजाई	दैनिक जागरण
120.	4 May 2020	एम्स में कोरोना योद्धाओं को सम्मानित करते सेना के जवान	हिंदुस्तान
121.	5 May 2020	AIIMS planning to start OPD and Non Emergency Services soon tells committee to prepare blueprints	The Economic Times
122.	6 May 2020	कोरोना पर शोध के लिए एम्स में 49 परियोजनाएं	दैनिक जागरण
123.	6 May 2020	एम्स में कोरोना पर 49 परियोजनाएं	हिंदुस्तान
124.	6 May 2020	कोरोना : एम्स में 49 परियोजनाएं पर स्टडी शुरू	नवभारत टाइम्स
125.	6 May 2020	संक्रमण का ग्राफ समानांतर, पर नरितर बढ़ती चिंताजनक: एम्स नरिदेशक	अमर उजाला
126.	6 May 2020	25 मई से 5 जून के बीच चरम पर पहुंच सकती है मरीज़ों की संख्या	दैनिक भास्कर
127.	6 May 2020	The curve has remained relatively flat so far because of lockdown. However, the number of cases continue to rise at a steady rate and this is a cause of concern: Dr. Randeep Guleria	Mail Today
128.	7 May 2020	Covid-19 likely to peak in June-July: AIIMS director	The Times of India
129.	7 May 2020	एम्स : कोरोना के सिर्फ 18 मरीज़, क्षमता 2000 की	नवभारत टाइम्स
130.	7 May 2020	Vizag gas leak: Styrene causes irritation, coughing and breathing difficulties, says AIIMS director	The Times of India



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131.	7 May 2020	AIIMS के डायरेक्टर का बड़ा बयान! भारत में जून-जुलाई में चरम पर होगी कोरोना महामारी	Zee News
132.	7 May 2020	कोविड-19 पर एम्स के डायरेक्टर की चेतावनी, जून-जुलाई में चरम पर पहुंच सकती है महामारी	Live Hindustan
133.	7 May 2020	Coronavirus in India likely to peak in June-July: AIIMS Delhi Director	The Economic Times
134.	7 May 2020	एम्स व पीजीआई में वैक्सीन का मानव परिक्षण शुरू	अमर उजाला
135.	8 May 2020	एम्स के डायरेक्टर डॉ गुलेरिया ने कहा संक्रमण को लेकर अलर्ट रहना है और इसके साथ आगे भी बढ़ना है	नवभारत टाइम्स
136.	8 May 2020	एम्स में हुआ सफाई कर्मियों का सम्मान	जनसत्ता
137.	8 May 2020	एम्स के डायरेक्टर बोले, जून - जुलाई में चरम पर पहुंच सकता है कोरोना	नवभारत टाइम्स
138.	8 May 2020	हॉटस्पॉट पर आक्रामक अभियान से घटेगा कोरोना	दैनिक जागरण
139.	8 May 2020	जून -जुलाई में संक्रमण चरम पर होगा : गुलेरिया	हिंदुस्तान
140.	8 May 2020	It's difficult to predict how long the outbreak will continue. But according to data and the way cases are increasing, it's likely that peak can come in June and July: Dr. Randeep Guleria, Director, AIIMS (Delhi)	Mail Today
141.	8 May 2020	Covid peak likely to hit between May and August: AIIMS Director	Hindustan Times
142.	8 May 2020	Cases likely to hit peak in June –July, says AIIMS Director	The Hindu
143.	8 May 2020	Peak in June-July, predicts AIIMS Director	The Pioneer
144.	8 May 2020	भारतीय अखिल आयुर्विज्ञान संस्थान (AIIMS) के डायरेक्टर रणदीप गुलेरिया (Randeep Guleria) ने कहा है कि भारत में कोरोना का पीक सीजन जून-जुलाई में आएगा.	News 18
145.	8 May 2020	Managing hotspots is key to 'blunted peak': AIIMS Director	The Times of India
146.	8 May 2020	AIIMS के निदेशक ने कहा, "खाने वाली चीज या खाने वाले पदार्थ से इंफेक्शन नहीं होता"	पत्रिका
147.	9 May 2020	AIIMS director meets doctors at Ahmedabad hospital over COVID-19 treatment	The Times of India
148.	9 May 2020	AIIMS may reopen OPD, surgical depts in phases next week	Hindustan Times
149.	9 May 2020	AIIMS Jhajjar to treat paramilitary jawans	Hindustan Times
150.	9 May 2020	Dr. Randeep Guleria comment that COVID-19 cases are increasing, and it is like that peak can come in June and July	The Morning Standard
151.	9 May 2020	एम्स में जल्द शुरू हो सकती है ओपीडी	नवभारत टाइम्स
152.	9 May 2020	कोरोनावायरस: अहमदाबाद में स्थिति गंभीर, AIIMS निदेशक करेंगे दौरा	NDTV इंडिया
153.	9 May 2020	एम्स के निदेशक बोले- कोरोना का डर बना हुआ है, टेस्ट कराने से बच रहे लोग	Live Hindustan
154.	9 May 2020	गुजरात में नहीं थम रहा कोरोना का कहर, AIIMS डायरेक्टर रणदीप गुलेरिया अहमदाबाद भेजे गए	Live Hindustan
155.	9 May 2020	Mortality rate increases if COVID-19 patient delays in visiting hospital: AIIMS Delhi Director	The Economic Times
156.	9 May 2020	कोरोना मरीज़ को बचाने के लिए एम्स में डॉक्टर ने दाव पर लगा दीं जान	दैनिक जागरण

S. No.	Date	Title	Newspaper
157.	9 May 2020	AIIMS Director Dr. Randeep Guleria regarding the possibility of COVID-19 cases peaking in June–July in the country	Mail Today
158.	9 May 2020	Dr. Randeep Guleria prediction that the COVID-19 cases are increasing in India and it would peak in June–July	The Statesman
159.	9 May 2020	AIIMS Director Dr. Randeep Guleria: Elderly people need more care	Zee Hindustan
160.	9 May 2020	पद्मश्री डॉ. रणदीप गुलेरिया (Dr. Randeep Guleria) को एम्स (AIIMS) में देश का पहला पल्मोनरी मेडिसिन एंड स्लीप डिस्ऑर्डर सेंटर शुरू करने का श्रेय दिया जाता है. इस सेंटर की शुरुआत 2011 में की गई थी. वह पूर्व प्रधानमंत्री अटल बिहारी वाजपेयी समेत देश-विदेश के कई नेताओं का इलाज कर चुके हैं.	News 18
161.	10 May 2020	Co-morbidity: late hospitalization ailing Gujarat: AIIMS Chief	The Times of India
162.	10 May 2020	कोरोना: AIIMS के विशेषज्ञों ने किया अहमदाबाद का दौरा, कही ये महत्वपूर्ण बातें	Zee News
163.	10 May 2020	राज्य के डॉक्टरों से एम्स के निदेशक गुलेरिया (Dr Randeep Guleria) ने कोरोना (Coronavirus) के मरीजों की स्थिति के बारे में जाना. इसके साथ ही कोविड-19 (Covid-19) का इलाज कर रहे डॉक्टरों की टीम को खास टिप्स दिए.	News 18
164.	10 May 2020	Delhi AIIMS doctor takes off safety gear to help critical patient	The Times of India
165.	11 May 2020	Coronavirus: एम्स के डॉक्टर जाहद अब्दुल माजीद ने गंभीर हालत में पहुंचे एक कोरोना पीड़ित मरीज को पीपीई उतारकर ऑक्सीजन दी	NDTV इंडिया
166.	11 May 2020	AIIMS doctor removes safety gear risks life to save COVID-19 patient	The Hindu
167.	11 May 2020	रोजा खोले बिना अस्पताल पहुंचे इस डॉक्टर ने कोरोना मरीज की जान बचाने के लिए अपनी जान जोखिम में डाल दी	NDTV इंडिया
168.	11 May 2020	बिना पर्याप्त सुविधा होम आइसोलेशन में कोरोना मरीज को रखना खतरनाक : डॉ रणदीप गुलेरिया	दैनिक जागरण
169.	11 May 2020	खुद की परवाह किए बगैर AIIMS के डॉक्टर ज़ाहद ने निभाया अपना फर्ज़	Zee News
170.	12 May 2020	AIIMS doc takes off protective gear to save critical Corona patient, advised quarantine	The Statesman
171.	13 May 2020	AIIMS, many others seek nod for plasma trials	The Economic Times
172.	13 May 2020	क्या शाकाहारी लोगों को नहीं होता कोरोनावायरस? जानिए AIIMS की राय	NDTV इंडिया
173.	15 May 2020	Mystery decoded: Why men are dying more from COVID-19 than women: Dr. Randeep Guleria	The Statesman
174.	16 May 2020	एम्स में अगले सप्ताह शुरू हो सकती है ओपीडी	दैनिक जागरण
175.	16 May 2020	15 यूनिट रक्त एकत्रित	अमर उजाला
176.	17 May 2020	एम्स के डॉक्टरों ने पुलिसकर्मियों को बताए संक्रमण से बचाव के तरीके	दैनिक जागरण
177.	18 May 2020	AIIMS OPD to resume on May 20	Hindustan Times
178.	18 May 2020	Non-emergency OPDs at AIIMS likely to resume	The Economic Times
179.	20 May 2020	AIIMS OPD to begin soon, screening first	The Times of India
180.	20 May 2020	AIIMS soon conduct 1st autopsy to study virus	The Economic Times

S. No.	Date	Title	Newspaper
181.	21 May 2020	एम्स ने 34 हज़ार मरीज़ों को फ़ोन पे परामर्श दिया	हिंदुस्तान
182.	21 May 2020	34 हज़ार मरीज़ों को फ़ोन पर चिकित्सीय सलाह दे चुका एम्स	अमर उजाला
183.	21 May 2020	फ़ोन पे ले सकेंगे अब परामर्श : एम्स	जनसत्ता
184.	22 May 2020	AIIMS doctors planning to study how long Corona Virus can survive in bodies	The Times of India
185.	22 May 2020	मरीज के मरने के बाद शव में कब तक जिंदा रहता है कोरोना वायरस? पता लगाएंगे एम्स के डॉक्टर	Live Hindustan
186.	22 May 2020	एम्स के डॉक्टरों की शव में कोरोना वायरस के जिंदा रहने की अवधि का अध्ययन करने की योजना	Zee News
187.	23 May 2020	जग्गा - बलिया के बाद ट्रिन बेबी की मैराथन सर्जरी में जुटा एम्स	नवभारत टाइम्स
188.	23 May 2020	एम्स कर रहा मृतकों पर शोध की तयारी	जनसत्ता
189.	23 May 2020	एम्स शव में कोरोना की सक्रियता पर शोध करेगा	हिंदुस्तान
190.	23 May 2020	AIIMS docs to study how long corona can survive in a body	The Statesman
191.	24 May 2020	Covid-19: We are yet to find an ideal drug, says AIIMS Director Randeep Guleria	Times Now
192.	24 May 2020	जुड़वाँ बच्चियों को 18 घंटे सर्जरी के बाद मिली नयी जिंदगी	हिंदुस्तान
193.	24 May 2020	एम्स में 24 घंटे सर्जरी, कूहे - पेट से जुड़ी जुड़वाँ बहने अलग हुई	नवभारत टाइम्स
194.	24 May 2020	शव में वायरस जिंदा रहने की अवधि का पता लगाएगा एम्स	अमर उजाला
195.	24 May 2020	एम्स कर्मचारियों ने पीएम केयर फंड में दिए 1.32 करोड़ रुपए	दैनिक जागरण
196.	24 May 2020	दिल्ली एम्स ने पीएम राहत कोष में दान किये 1.32 करोड़	अमर उजाला
197.	24 May 2020	राहत कोष में एम्स ने दिए 1 32 करोड़ रुपए	नवभारत टाइम्स
198.	24 May 2020	64 डॉक्टरों ने 24 घंटे ऑपरेशन के बाद जुड़वाँ बहनो को किया अलग	अमर उजाला
199.	24 May 2020	दिल्ली एम्स के 64 डॉक्टरों ने दो जुड़वाँ बच्चों को किया अलग, 24 घंटे चली सर्जरी	Zee News
200.	24 May 2020	एम्स कर्मियों ने 1.32 करोड़ दिए	हिंदुस्तान
201.	24 May 2020	गुड न्यूज : पेट और कूहे से आपस में जुड़ी जुड़वाँ बच्चियों को 18 घंटे की सर्जरी के बाद मिली नई जिंदगी	Live Hindustan
202.	25 May 2020	Conjoined 2 years olds separated at AIIMS after 24 hours surgery	The Times of India
203.	25 May 2020	कोरोना के साथ हीट स्ट्रोक का खतरा बढ़ा	हिंदुस्तान
204.	25 May 2020	Two-year-old conjoined twins separated after 24 hours surgery	The Asian Age
205.	26 May 2020	कोरोना : जानें हाइड्रोक्सीक्लोरोक्वीन के इस्तेमाल पर क्या है एम्स के डायरेक्टर की राय	Live Hindustan
206.	26 May 2020	AIIMS Director: 'कोविड-19 (COVID19) के इलाज के हिस्से के रूप में हाइड्रोक्सीक्लोरोक्वीन का उपयोग करने के 2 अलग-अलग पहलू हैं, इस बात की अधिक संभावना है कि म्यूटेंट दवाओं के उपयोग के कारण मरीज को विषाक्तता हो सकती है.	News 18
207.	27 May 2020	ढील से बढ़ सकते हैं मामले: गुलेरिया	दैनिक जागरण
208.	28 May 2020	डॉ गुलेरिया बोले - सरकार को जो करना था किया, अब लोगों की जिम्मेदारी	दैनिक भास्कर
209.	28 May 2020	Admission or isolation at home? Age matters most: Dr. Guleria	The Times of India

S. No.	Date	Title	Newspaper
210.	29 May 2020	As bodies pile up, govt okays using woods=to cremate bodies: Dr. Sudhir Gupta	Hindustan Times
211.	30 May2020	AIIMS, govt need to coordinate on COVID treatment	The Times of India
212.	30 May 2020	लॉकडाउन के उठते ही नागरिकों की जिम्मेदारी बढ़ जाती है: डॉ रणदीप गुलेरिया	NDTV इंडिया
213.	31 May 2020	कोरोना महामारी के बीच दिल्ली एम्स दुनिया के 100 सर्वश्रेष्ठ अस्पतालों में शामिल	Live Hindustan
214.	1 June 2020	दुनिया में 52 नंबर का अस्पताल है अपना एम्स, सभी कर्मचरियों को श्रेय : गुलेरिया	Amar Ujala
215.	1 June 2020	दुनिया के 100 शीर्ष अस्पतालों में एम्स	Hindustan
216.	1 June 2020	एम्स दुनिया के 100 श्रेष्ठ अस्पतालों में एम्स	Dainik Jagran
217.	1 June 2020	दुनिया के टॉप 100 अस्पतालों में एम्स शामिल	Navbharat Times
218.	1 June 2020	कोरोना महामारी के बीच दिल्ली एम्स दुनिया के 100 सर्वश्रेष्ठ अस्पतालों में शामिल	Hindustan
219.	1 June 2020	एचसीक्यू शुरूआती संक्रमण रोकने में कारगर : गुलेरिया	Dainik Jagran
220.	2 June 2020	This baby beat Covid, rare heart condition	The Times of India
221.	2 June 2020	अखबार पर नहीं टिक सकता कोरोना वायरस	Dainik Jagran
222.	3 June 2020	2m distancing, masks key to stoping disease: Study	Hindustan Times
223.	3 June 2020	ढाई माह के बच्चे ने कोरोना को मात, फिर एम्स में हुई दिल की सर्जरी	Dainik Jagran
224.	3 June 2020	ढाई माह के बच्चे ने कोरोना से जीती जंग	Hindustan
225.	3 June 2020	ढाई माह के बच्चे ने कोरोना को हराया, फिर हुई हार्ट सर्जरी	Navbharat Times
226.	4 June 2020	अखबारों से वायरस फैलने की बात निराधार : डॉ गुलेरिया	Amar Ujala
227.	4 June 2020	Wear the mask properly. It's how you protect others, and yourself	The Times of India
228.	5 June 2020	संक्रमण से बचाव की जिम्मेदारी खुद डॉक्टरों की : स्वास्थ्य मंत्रालय	Dainik Baskar
229.	7 June 2020	एम्स के डायरेक्टर बोले- हलके लक्षणों वाले मरीजों पर एचसीक्यू कारगर	Dainik Baskar
230.	8 June 2020	एम्स के साथ कर्मचारियों ने कोरोना को हराया	Amar Ujala
231.	8 June 2020	TNAI extends support to AIIMS nurses for reduced duty hours	The Hindu
232.	8 June 2020	एम्स डायरेक्टर बोले - हल्के लक्षणों वाले मरीजों पर एचसीक्यू कारगर	Dainik Jagran
233.	9 June 2020	Centre seeks district-level plans	The Hindu
234.	11 June 2020	IIT-Madras tops NIRF rankings, JNU second among universities	The Indian Express
235.	11 June 2020	एम्स लगातार तीसरे साल रहा सर्वश्रेष्ठ मेडिकल संस्थान	Panjab Kesari
236.	11 June 2020	लॉकडाउन के दौरान एम्स में हुई 4 हजार सर्जरी	Panjab Kesari
237.	11 June 2020	एम्स: टेली मेडिसिन के जरिये 61 हजार मरीजों को मिला उपचार	Navodya Times
238.	11 June 2020	देशभर में सर्वश्रेष्ठ मेडिकल संस्थान एम्स	Hindustan
239.	11 June 2020	एम्स के नए ब्लॉक में कोरोना उपचार	Hindustan
240.	11 June 2020	देशभर के शीर्ष दस में दिल्ली के पांच कॉलेज	Hindustan
241.	11 June 2020	AIIMS attended to 12000 patients during lockdown	The Times of India
242.	11 June 2020	AIIMS provided 55000 tele-consultations, 10,609 non-COVID-19 admission during lockdown	The Indian Express

S. No.	Date	Title	Newspaper
243.	11 June 2020	Will arrange 15000 beds by June 20: Jain	The Hindu
244.	12 June 2020	कोरोना काल में 4995 मरीजों की एम्स में सर्जरी	Dainik Jagran
245.	12 June 2020	लॉकडाउन में एम्स ने बचाई 4000 जाने	Amar Ujala
246.	12 June 2020	एम्स: कोरोना के लिए बढ़ेंगे बेड	Navbharat Times
247.	12 June 2020	एम्स की नवनिर्मित इमारत में होगा संक्रमितों का इलाज	Jansatta
248.	12 June 2020	HC panel to assess if hotels can be made Covid facilities	Hindustan Times
249.	12 June 2020	एम्स की नवनिर्मित इमारत में होगा संक्रमितों का इलाज	Jansatta
250.	12 June 2020	HC Panel to assess if hostels can be Covid facilities	Hindustan Times
251.	12 June 2020	लॉकडाउन के दौरान एम्स में हुई 4 हजार से अधिक सर्जरी	Panjab Kesari
252.	12 June 2020	एम्स लगातार तीसरे साल रहा सर्वश्रेष्ठ मेडिकल संस्थान	Panjab Kesari
253.	12 June 2020	एम्स: टेली मेडिसिन के जरिये 61 हजार मरीजों को मिला उपचार	Navodya Times
254.	12 June 2020	देशभर में सर्वश्रेष्ठ मेडिकल संस्थान	Hindustan
255.	12 June 2020	एम्स के नए ब्लॉक में कोरोना उपचार	Hindustan
256.	12 June 2020	देशभर के शीर्ष दस में दिल्ली के पांच कॉलेज	Hindustan
257.	12 June 2020	New AIIMS block to be used as Covid facility	The Times of India
258.	13 June 2020	प्रयास हो तो दो - तीन हफ्ते में सुधार सकते हैं हालात : गुलेरिया	Dainik Jagran
259.	13 June 2020	दो-तीन हफ्ते में कोरोना के ग्राफ में हो सकता है सुधार	Navbharat Times
260.	13 June 2020	कोरोना से निपटने को एलजी ने गठित की छह सदस्यीय समिति	Dainik Jagran
261.	13 June 2020	Our aim is to break chain of transmission, reduce fatality: L-G	The Pioneer
262.	14 June 2020	Mask can reduce Covid -19 growth rate by 40%; Study	Hindustan Times
263.	14 June 2020	ब्लड डोनेशन के 4 रोशन चेहरों से मिले	Navbharat Times
264.	14 June 2020	Our aim is to break chain of transmission, reduce fatality: L-G	The Pioneer
265.	15 June 2020	एम्स के नर्सिंग अधिकारी ने दान किया प्लाज्मा	Dainik Jagran
266.	15 June 2020	दिल्ली में तीन गुना जांच की तैयारी	Hindustan
267.	15 June 2020	राजधानी में दो दिन में दोगुना होगी एंटीजन	Dainik Jagran
268.	15 June 2020	दिल्ली को मिलेगी अतिरिक्त टेस्ट किट	Amar Ujala
269.	15 June 2020	कोविड की जांच अब 30 मिनट में , एंटीजन किट को ICMR की मंजूरी	Navbharat Times
270.	15 June 2020	टेस्ट होंगे सस्ते, कोरोना के वार्ड में लगेंगे CCTV	Navbharat Times
271.	15 June 2020	दिल्ली एम्स में फॉरेन नेशनल डॉक्टरों को भी जल्द मिलेगा स्टाइपेंड, आगामी तीन महीने में पूरी होगी प्रक्रिया	Dainik Bhaskar
272.	17 June 2020	Radiation therapy for Covid -19? AIIMS pilot study to test waters	The Times of India
273.	17 June 2020	एम्स डायरेक्टर बोले - कोरोना संकट में हवाई यात्रा सबसे सुरक्षित	Dainik Bhaskar
274.	17 June 2020	For quick results, use rapid antigen kits in red zones	The Asian Age
275.	18 June 2020	कोरोना प्रभावित जिलों में पहुंचाये जायेंगे दस हजार वैटिलेटर	Amar Ujala
276.	18 June 2020	हवलदार ने प्लाज्मा दान कर बचाई महिला की जान : एम्स निर्देशक ने प्रशासित पत्र देकर किया सम्मानित	Amar Ujala
277.	18 June 2020	कोरोना से ठीक हो चुके हेड कांस्टेबल ने किया प्लाज्मा डोनर	Dainik Bhaskar
278.	18 June 2020	एम्स में कोरोना के मरीजों पर रेडिएशन थेरेपी का परीक्षण	Dainik Jagran
279.	18 June 2020	ट्रैफिक हवलदार ने प्लाज्मा डोनेट कर बचाई जान	Navbharat Times



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280.	18 June 2020	AIIMS conduct low radiation therapy on Covid +ve patients	The Asian Age
281.	18 June 2020	New drug to get WHO's nod after full review	Hindustan Times
282.	18 June 2020	एम्स में कोरोना के मरीजों पर रेडिएशन थेरेपी का परीक्षण	Dainik Jagran
283.	21 June 2020	योग से माईग्रेन के इलाज में मिल रहा सहयोग	Jansatta
284.	21 June 2020	पुलिसकर्मियों ने योग सेशन में 4 से 6 किलो तक घटाया वजन	Dainik Bashkar
285.	21 June 2020	माईग्रेन के इलाज में दवाओं से ज्यादा बेहतर	Hindustan
286.	22 June 2020	अंतराष्ट्रीय योग दिवस: AIIMS में वर्चुअल माध्यम से बताया गया योग का महत्व	ETV Bharat
287.	22 June 2020	सिर दर्द के इलाज में दवा से ज्यादा असरदार हो सकता है नियमित योग	Dainik Jagran
288.	22 June 2020	500 किलोमीटर की दूरी तय कर नर्सिंग अफसर ने किया मरीज का डायलिसिस	Amar Ujala
289.	22 June 2020	Yoga reduces migraines: AIIMS study	The Indian Express
290.	22 June 2020	अंतराष्ट्रीय योग दिवस : AIIMS में वर्चुअल माध्यम से बताया गया योग का महत्व	ETV Bharat
291.	22 June 2020	Yoga effective in tracking migraine: AIIMS study	Drug Today
292.	24 June 2020	OPD at AIIMS to resume tomorrow	The Times of India
293.	24 June 2020	AIIMS set to restart OPD tomorrow	The Hindu
294.	24 June 2020	AIIMS OPD start from Thursday	Hindustan Times
295.	24 June 2020	Yoga helps in combating stress, anxiety, depression: AIIMS Study	The Statesman
296.	24 June 2020	AIIMS OPD reopen on June 25	The Indian Express
297.	24 June.2020	रहत : एम्स में कल से शुरू होगी ओपीडी, तीन महीने से बंद	Amar Ujala
298.	24 June.2020	सुविधा: एम्स में ओपीडी सेवा कल से शुरू होगी	Hindustan
299.	24 June.2020	Portable ventilator made by AIIMS neurosurgeon goes live	The Indian Express
300.	25 June.2020	एम्स: अपॉइंटमेंट लेने के बाद ओपीडी में इलाज	Amar Ujala
301.	25 June.2020	तीन महीने बाद आज से एम्स में फिर से शुरू होगी ओपीडी	Dainik Jagran
302.	25 June.2020	एम्स की ओपीडी आज से मरीजों के लिए शुरू होगी	Hindustan
303.	25 June.2020	AIIMS में आज से ओपीडी तीन महीने की मिल सकती है दवा	Navbharat Times
304.	25 June.2020	एम्स: अपॉइंटमेंट लेने के बाद ओपीडी में इलाज	Amar Ujala
305.	26 June.2020	AIIMS OPD reopen for follow-up patients only	Mail Today
306.	26 June.2020	प्लाज्मा दान कर मरीजों की जान बचा रहे एम्स कर्मि	Amar Ujala
307.	26 June.2020	एम्स की ओपीडी शुरू	Jansatta
308.	26 June.2020	हर्षवर्धन ने खून की उपलब्धता आसान बनाने को लांच किया एप	Dainik Jagran
309.	26 June. 2020	मां के दूध से कोरोना वायरस ढेर	Amar Ujala
310.	26 June.2020	पूर्व राष्ट्रीपति शंकर दयाल शर्मा की पत्नी ने 93 साल की उम्र में कोरोना को हराया	Dainik Jagran
311.	26 June 2020	Wife of former President recovers from virus at 93, discharge from AIIMS	The Indian Express
312.	27 June.2020	Plasma therapy reduce death rate by more than 50% at Lok Nayak: CM	Hindustan Times
313.	27 June.2020	Odia actor helping migrants get home	Hindustan Times
314.	27 June.2020	Health survey in Capital to be over by 30 June	The Statesman

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315.	28 June 2020	Delhi govt using 'five weapons' in flight against virus: Kejriwal	Hindustan Times
316.	28 June 2020	The science behind city's five point Covid strategy	Hindustan Times
317.	29 June 2020	एम्स के डॉक्टरों ने की रक्तदान की अपील : साइकिल रैली निकाल लोगो को किया जगरूख	Amar Ujala
318.	29 June 2020	कोरोना से एलएनजेपी के चिकित्सा की मौत	Hindustan
319.	30 June 2020	Plasma therapy helps at stabilize Covid patients, shows trial at Lok Nayak	Hindustan Times
320.	1 July 2020	City doctors say they are ready to face any situation	Hindustan Times
321.	1 July 2020	उम्मीद पर खरे उतरे देश के स्वास्थ्यकर्मी: डॉ रणदीप गुलेरिया	Amar Ujala
322.	2 July 2020	An app to help track potential plasma donors	The Times of India
323.	2 July 2020	App developed to track plasma donors	The Asian Age
324.	2 July 2020	एप से प्लाज्मा देने और लेने वाले की जानकारी मिलेगी	Hindustan
325.	2 July 2020	प्लाज्मा डोनर के लिए एम्स और IIT दिल्ली ने बनाया प्लाज्मा ऐप	Navbharat Times
326.	5 July 2020	टेलीमेडिसिन: अब घर पर ही पाए इलाज	Amar Ujala
327.	6 July 2020	DRDO's 1000 bed hospital ready in 12 days	The Times of India
328.	9 July 2020	At plasma bank, many faces and one common goal: Help anyone we can	The Indian Express
329.	9 July 2020	देश के 17 राज्यों के सरकारी अस्पतालों के चिकित्सकों को सप्ताह में दो दिन टेली परामर्श देंगे एम्स के एक्सपर्ट डॉक्टर	Dainik Baskar
330.	10 July 2020	आईटीडीसी ने स्वास्थ्य प्रोटोकॉल को मजबूत करने के लिए एम्स के साथ किया समझौता	Dainik Bhaskar
331.	11 July 2020	9 घंटे पीपीई किट पहनकर ड्यूटी, इतना पसीना निकला जुटे गीले पड़े	Navbharat Times
332.	13 July 2020	AIIMS develop telemedicine OPD facilities for patients	Hindustan Times
333.	13 July 2020	Most patient at home, AIIMS docs to generate e-prescriptions	Hindustan Times
334.	13 July 2020	कोरोना को हराया, अब दुसरो की जिंदगी बचने की ठानी	Navbharat Times
335.	13 July 2020	सभी कर्मचारियों की एंटीबॉडी जांच कराएगा एम्स	Amar Ujala
336.	14 July 2020	एम्स दान कर सफाईकर्मी ने बचाई जान	Amar Ujala
337.	14 July 2020	एम्स में स्वास्थ्य कर्मियों की हो रही कॉउंसलिंग	Amar Ujala
338.	15 July 2020	एम्स ओपीडी में दोगुना मरीजों को देखेगा	Hindustan
339.	15 July 2020	प्लाज्मा दान करने के सफाईकर्मी आगे आये	Hindustan
340.	15 July 2020	ठीक होने के बाद दुसरो की मदद में जुटे पिता- पुत्र	Hindustan
341.	15 July 2020	एम्स ओपीडी में नए मरीजों का इलाज शुरू	Navbharat Times
342.	16 July 2020	एम्स में आज से शुरू नया ओपीडी ब्लॉक	Dainik Jagran
343.	16 July 2020	एम्स में नए मरीजों के लिए सेवा शुरू, पहले करवानी होगी कोरोना की जांच	Dainik Jagran
344.	17 July 2020	संक्रमण रोकने को रोज 10 लाख सैंपल की जांच करने की तैयारी: डॉ हर्षवर्धन	Dainik Jagran
345.	17 July 2020	स्मार्ट लैब में रोज 2 लाख जांच होंगी	Hindustan
346.	17 July 2020	हर्षवर्धन ने एम्स के नए ओपीडी ब्लॉक का उद्घाटन किया	Hindustan
347.	18 July 2020	Two firm start human trials for their Covid -19 vaccines	The Indian Express
348.	18 July 2020	एम्स में प्लाज्मा दान करने वाले सम्मानित	Amar Ujala

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349.	19July 2020	AIIMS में किया जाएगा कोरोना की वैक्सीन का सबसे बड़ा ह्यूमन ट्रायल	Navbharat Times
350.	19July 2020	पहले चरण में 100 पर वैक्सीन का ट्रायल	Amar Ujala
351.	20July 2020	Cops to give plasma in 7 day campaign	The Time of India
352.	20July 2020	AIIMS to start Covaxin trial this week	Hindustan Times
353.	20July 2020	26 cops lead plasma push at AIIMS camp	The Indian Express
354.	20July 2020	AIIMS Panel gives nod to human trial of coronavirus vaccine 'Covaxin'	The Asian Age
355.	20July 2020	एम्स में 26 पुलिस कर्मियों ने दान किया प्लाज्मा	Dainik Jagran
356.	20July 2020	कोरोना वैक्सीन के ह्यूमन ट्रायल को हजारों आगे आये	Navbharat Times
357.	20July 2020	वैक्सीन ट्रायल: 1000 लोगो ने जताई इच्छा	Amar Ujala
358.	20July 2020	मानव परीक्षण को एक हजार आये	Dainik Jagran
359.	20July 2020	Govt. to add 600 ICU beds by months-end	Hindustan Times
360.	21July 2020	AIIMS begins process recruit volunteers for Covaxin trials	The Indian Express
361.	21July 2020	AIIMS to start testing of Covaxin	The Hindu
362.	21July 2020	Desi Covaxin's human trial begins	The Pioneer
363.	21July 2020	Jain resume office after recovering from corona	The Pioneer
364.	21July 2020	On duty since March, contractual doc dies of Covid, family in lurch	The Indian Express
365.	21July 2020	दिल्ली के लोगो में विकसित हो गई हर्ड इम्युनिटी, नहीं बढ़ेंगे नए मामले	Dainik Jagran
366.	21July 2020	दिल्ली में काम हो रहे कोरोना के मामले: डॉ गुलेरिया	Dainik Jagran
367.	21July 2020	एम्स से 11 राज्यों ने परामर्श लिया	Hindustan Hindi
368.	21July 2020	बिना लक्षण वाले मरीजों का होम आइसोलेशन घातक, इसी से संक्रमण का खतरा बढ़ा है	Dainik Bhaskar
369.	21July 2020	एम्स के डायरेक्टर बोले दिल्ली का पीक खतम	Navbharat Times
370.	21July 2020	एंटीबाडी बना रही ऑक्सफोर्ड की वैक्सीन, भारतीय डॉक्टर भी खुश	Navbharat Times
371.	21July 2020	देश में समुदाय फैलाव नहीं: एम्स निर्देशक	Amar Ujjala
372.	21July 2020	प्लाज्मा डोनेट करने वाली पुलिस की पहली महिला सिपाही बनी हेमा	Navbharat Times
373.	21July 2020	पुलिसकर्मियों ने दान किया प्लाज्मा	Jansatta
374.	21July 2020	टीके के लिए 100 लोगो की जरूरत लेकिन आये 1800	Jansatta
375.	21July 2020	एम्स के परामर्श कार्यक्रम का लाभ रजियों के 43 अस्पतालों ने उठाया	Jansatta
376.	22July 2020	कोरोना की देसी वैक्सीन ने दिए अच्छे नतीजे के संकेत	Navbharat Times
377.	22July 2020	1800 call to volunteer for vaccine trial at AIIMS, only 100 required	The Times of India
378.	23July 2020	Screening begins for vaccine volunteers	The Times of India
379.	23July 2020	AIIMS doctor donates blood to critical patient, then dons gown for surgery	The India Express
380.	23July 2020	Covaxin trials: AIIMS Delhi to begin participate vaccination by Saturday	The India Express
381.	23July 2020	How kin are scrambling for the 'life-saver'	Mail Today
382.	23July 2020	मरीज के लिए पहले दिया रक्त, फिर किया ऑपरेशन	Dainik Jagran
383.	23July 2020	सिरो सर्वे में शामिल होंगे दिल्ली के 21 हजार लोग	Hindustan Hindi
384.	23July 2020	डॉ जावेद के परिवार को 1 करोड़ की मदद	Navbharat Times

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385.	23July 2020	एम्स में जल्द शुरू होगा कोरोना के टीके का परीक्षण	Jansatta
386.	24July 2020	एम्स में आज से शुरू होगा कोरोना के स्वदेशी टीके का ट्रायल	Dainik Jagran
387.	24July 2020	एम्स में आज से वैक्सीन का ट्रायल	Navbharat Times
388.	24July 2020	एम्स में आज से शुरू होगा कोविड वैक्सीन का ट्रायल	Navbharat Times
389.	24July 2020	एम्स में डॉक्टर ने पहले मरीज को दिया खून , फिर किया ऑपरेशन	Dainik Bhaskar
390.	24July 2020	स्वास्थ्य कर्मियों की मानसिक स्थिति का आकलन करेगा एम्स	Amar Ujjala
391.	24July 2020	वैक्सीन योद्धा बनने महिलाएं दिखा रही अधिक रूचि	Lokmat samachar
392.	25 July 2020	AIIMS administers first dose of Covid vaccine as trial begins	Hindustan Times
393.	25 July 2020	30-year-old is first to get dose of Covid trial drug	The Indian Express
394.	25 July 2020	Delhi man 1st to get trial shot of Covaxin	Mail Today
395.	25 July 2020	Phase-1 clinical trial for Covaxin kick off	The Hindu
396.	25 July 2020	Covid: Clinical trials of desi Covaxin begins at AIIMS	The Pioneer
397.	25 July 2020	AIIMS begins phase-1 clinical trials for Covaxin	The Asian Age
398.	25 July 2020	दिल्ली एम्स में शुरू हुआ भारत में बानी कोरोना वैक्सीन का ट्रायल	Dainik Jagran
399.	25 July 2020	Covaxin phase-1 clinical trial: Man given 1 <sup>st</sup> dose at AIIMS	The Statesman
400.	25 July 2020	उम्मीद : एम्स में वैक्सीन का मानव परिक्षण शुरू	Hindustan
401.	25 July 2020	एम्स में कोरोना वैक्सीन परिक्षण शुरू	Amar Ujjala
402.	26 July 2020	ICMR to undertake study on antibody life to assess immunological response	The Pioneer
403.	26 July 2020	ट्रायल के दूसरे दिन एम्स में पांच लोगो को लगा कोरोना का स्वदेशी टीका	Dainik Jagran
404.	26July 2020	एंटीबॉडी टेस्ट में पॉजिटिव मेले एम्स कर्मचारी ने दान किया प्लाज्मा	Dainik Jagran
405.	26 July 2020	एम्स में ट्रायल , 5 और को कोविड वैक्सीन	Navbharat Times
406.	27 July 2020	कोविड अस्पतालों में अस्पतालों में मृत्युदर में आई गिरावट	Amar Ujala
407.	27 July 2020	मरीजों की सेवा करने वाले 14 फ्रंटलाइन योद्धा का सम्मान	Dainik Baskar
408.	27 July 2020	दो साथियों के पॉजिटिव होने पर भी ड्यूटी पर डेट रहे हवलदार पवन	Navbharat Times
409.	27 July 2020	२० सेमी का चाकू निगला, लिवर में फंसे चाकू को डॉक्टरों ने निकाला	Navbharat Times
410.	27 July 2020	AIIMS doctors remove 20 cm knife man's liver after rare surgery	Hindustan Times
411.	28 July 2020	Doctor remove 20 cm-long knife stuck in a man's liver	The Times of India
412.	28 July 2020	Israeli team arrives for trails of rapid tests for COVID -19	The Hindu
413.	28 July 2020	SBI Distributes 5 Ventilators	The Statesman
414.	28 July 2020	केंद्र के अस्पतालों में बेड की कमी नहीं	Hindustan
415.	28 July 2020	एम्स के डॉक्टरों ने बच्ची के सिर से निकला 5 एम् एम् का पत्थर	Navbharat Times
416.	29 July 2020	एम्स में बच्ची के मस्तिष्क से निकाला पत्थर का टुकड़ा	Dainik Jagran
417.	29 July 2020	लोगों ने कर दिया था सामाजिक बहिष्कार, फिर भी ठीक होने पर भाई-बहन ने डोनेट किया प्लाज्मा	Nav Bharat
418.	29July 2020	बच्ची को मिला डॉक्टर के निजी प्रयास से इलाज	Jansatta
419.	30July 2020	from covid ward to plasma bank, nurses in capital go the extra mile	The Indian Express
420.	30July 2020	Just a call away	The Pioneer
421.	30July 2020	एम्स : दो लोगो को दी वैक्सीन	Amar Ujala

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422.	31 July 2020	Health min to replicate Delhi's Covid-19 model in other states	Hindustan Times
423.	1 August 2020	एम्स में टीका लगवाने वाले लोगो का स्वास्थ्य सामान्य	हिंदुस्तान
424.	1 August 2020	एम्स में डॉक्टरों ने कोरोना पीड़ित दिल के दो मरीज को लगाया पेसमेकर	दैनिक जागरण
425.	2 August 2020	एम्स के एन सी आइ में जल्द शुरू होगा कैंसर का इलाज	दैनिक जागरण
426.	4 August 2020	एम्स आइसीयू में भर्ती मरीजों को स्क्रीन पर लाइव देख सकेंगे तीमारदार	दैनिक भास्कर
427.	4 August 2020	AIIMS trials: 16 Cleared, 20% have antibodies	The Indian Express
428.	4 August 2020	At AIIMS, Covid didn't slow down sarcoma surgeries	The Indian Express
429.	6 August 2020	सामाजिक सेवा भी कर रहे है एम्स के नर्सिंग अधिकारी	अमर उजाला
430.	6 August 2020	Plasma therapy no magic bullet, says AIIMS doctors	The Times of India
431.	7 August 2020	Plasma trials didn't show reduced mortality risk in Covid patients : AIIMS	The Indian Express
432.	10 August 2020	एम्स : वैक्सीन के पहले चरण का ट्रायल पूरा	अमर उजाला
433.	12 August 2020	इसराइल के मदद से एम्स शुरू करेगा पोस्ट - कोरोना रिकवरी क्लिनिक	अमर उजाला
434.	12 August 2020	स्वस्थ हुए लोगो के लिए एम्स में क्लीनिक जल्द	हिंदुस्तान
435.	12 August 2020	Israel shares AI tech, robots with AIIMS	The Times of India
436.	13 August 2020	अभी शिखर पर नहीं पहुंचा है संक्रमण : डॉ रणदीप गुलेरिया	दैनिक जागरण
437.	15 August 2020	CRPF launches organ donation drives with AIIMS	PTI
438.	15 August 2020	एम्स में 600 लोगो ने किया ब्लड डोनेशन	नवभारत टाइम्स
439.	17 August 2020	स्वतंत्रता दिवस पर एम्स में रखतदान शिविर, 6 सौ लोगो ने किया ब्लड डोनेट	दैनिक भास्कर
440.	21 August 2020	Model to help diabetics fight depression : AIIMS Study	New Indian Express
441.	25 August 2020	Union Health Minister inaugurates blood donation camp at AIIMS, Delhi	ANI
442.	28 August 2020	People with diabetes at risk of severe infection : AIIMS Study	Hindustan Times
443.	3 September 2020	राजधानी में कोरोना की दूसरी लहर : डॉ गुलेरिया	दैनिक जागरण
444.	4 September 2020	Guleria advises hefty fines for no masks, aggressive testing	The Indian Express
445.	6 September 2020	AIIMS study finds Zoonotic malarial parasite in acute febrile illnesses patients	The Tribune
446.	6 September 2020	Multiple vector-borne diseases can strike together	The New Indian Express
447.	7 September 2020	एम्स के जैव रसायन विभाग और काय चिकित्सा विभाग का शोध	जनसत्ता
448.	7 September 2020	हर्षवर्धन की माँ का निधन एम्स को दान की आँखे	हिंदुस्तान
449.	7 September 2020	डॉ हर्षवर्धन की माँ का निधन, देहदान किया	जनसत्ता
450.	7 September 2020	मंत्री हर्षवर्धन ने दिवंगत माँ की आँखे दान की	दैनिक भास्कर
451.	7 September 2020	Harsh Vardhan's mother passes away, her body donated for scientific study	Hindustan Times
452.	7 September 2020	हर्षवर्धन की माँ का निधन, कॉर्निया व देह किया दान	दैनिक जागरण
453.	7 September 2020	डॉ हर्षवर्धन की माँ का निधन, नेत्र और सरीर किए दान	नवभारत टाइम्स
454.	10 September 2020	विश्व आत्महत्या रोकथाम दिवस आज, एम्स ने शुरू किया जागरूकता अभियान	दैनिक भास्कर
455.	10 September 2020	Plasma therapy's life-saving abilities in question, docs caution on its use	The Times of India



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456.	10 September 2020	Covid patients at risk of developing lung fibrosis	Hindustan Times
457.	10 September 2020	Guleria stresses on need for post-covid clinics	The Indian Express
458.	13 September 2020	एम्स ने काम गभीर मरीज़ों को प्लाज्मा थेरेपी की दी सलाह	नवभारत टाइम्स
459.	15 September 2020	एम्स स्टडी : कोरोना से ब्रेन स्टोके का भी खतरा	हिंदुस्तान
460.	15 September 2020	AIIMS grapples with case of both Covid and dengue	The Indian Express
461.	17 September 2020	कुछ हिस्सों में संक्रमण की दूसरी लहर : एम्स निर्देशक	अमर उजाला
462.	18 September 2020	कोरोना के 21 फीसद मरीज़ अवसाद से पीड़ित	दैनिक जागरण
463.	19 September 2020	Double Jeopardy : Dengue a Big risk in Covid Times	The Times of India
464.	20 September 2020	अगले वर्ष तक सामान्य हो सकती है स्थिति : एम्स	अमर उजाला
465.	21 September 2020	अच्छी जीवनशैली और खुराक से 80 साल में भी तेज़ चलेगा दिमाग : एम्स एक्सपर्ट	दैनिक जागरण
466.	22 September 2020	कोरोना के कारण बाद सकती है अल्ज़ाइमर की बीमारी	दैनिक जागरण
467.	23 September 2020	एम्स का अध्ययन 93.4 फीसदी मरीज़ मोटापे से पीड़ित	दैनिक जागरण
468.	26 September 2020	टेली- मेडिसिन व कंसल्टेशन में एम्स का महत्वपूर्ण योगदान : हर्षवर्धन	दैनिक भास्कर
469.	26 September 2020	स्वास्थ्य व शिक्षा में बेहतर काम कर रहा एम्स	पंजाब केसरी
470.	26 September 2020	Covid deaths 'minimum' due to effective healthcare : Vardhan	The Asian Age
471.	26 September 2020	स्वास्थ्य सेवाएं, शिक्षा और रिसर्च में एम्स का काम बेहतर	विराट वैभव
472.	26 September 2020	चिकित्सा सेवाओं को मज़बूत करने की दिशा में विचार करे मेडिकल छात्र	नवोदय टाइम्स
473.	30 September 2020	एम्स में कोरोना के इलाज को स्टेटिन व एस्पिरिन का ट्रायल	दैनिक जागरण
474.	3 October 2020	कोरोना -19 की वैक्सीन जनवरी , आने की उम्मीद, हालात सामान्य होने में लग जायेंगे डेढ़ साल : डॉ गुलेरिया	दैनिक भास्कर
475.	3 October 2020	India will have effective Covid-19 vaccine by early '21' : AIIMS Chief	The Pioneer
476.	5 October 2020	एम्स में एक सप्ताह तक चलेगा हेल्थ समिट , 1600 विशेषज्ञ भाग लेंगे : डॉ गुलेरिया	दैनिक भास्कर
477.	5 October 2020	अब घर बैठे बैठे मिलेगा मानसिक बीमारी का इलाज, एम्स ने तैयार की वेबसाइट	नवभारत टाइम्स
478.	5 October 2020	अब मानसिक बीमारियों का इलाज होगा आसान	दैनिक जागरण
479.	5 October 2020	मानसिक रोगों के लिए निशुलक परामर्श ले सकेंगे	हिंदुस्तान
480.	5 October 2020	प्रदूषण बढ़ने से हवा में ज्यादा देर तक रह सकता है कोरोना वायरस : डॉ गुलेरिया	दैनिक जागरण
481.	6 October 2020	कोरोना मरीज़ों की संजीवनी है आयुर्वेद का 'एम्स'	दैनिक जागरण
482.	6 October 2020	A Portal for mental healthcare from Oct 10	The Indian Express
483.	7 October 2020	बुजुर्गों के लिए खतरनाक हो सकता है होम आइसोलेशन	हिंदुस्तान
484.	8 October 2020	Rise in Covid, dengue co-infections a concern	Hindustan Times
485.	8 October 2020	एम्स के चिकित्सक यूपी वालों का नशा छुड़ायेंगे	हिंदुस्तान
486.	10 October 2020	कोरोना काल में शारीरिक के साथ मानसिक स्वास्थ्य का ख्याल रखना भी जरूरी	अमर उजाला
487.	10 October 2020	एम्स के अध्ययन में हुआ खुलासा : कोरोना पीड़ित हर पांचवा व्यक्ति डिप्रेशन का शिकार	पंजाब केसरी
488.	10 October 2020	अध्ययन : एम्स में भर्ती हर पांचवा संक्रमित अवसादग्रस्त	हिंदुस्तान

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489.	16 October 2020	एम्स में मिर्गी के दौरे पड़ने वाले बच्चों पर किया गया शोध, तीन तरह की डाइट का इस दौरान प्रयोग किया गया	हिंदुस्तान
490.	19 October 2020	Pollution may spread Covid virus more rapidly ; Experts	The Asian Age
491.	19 October 2020	एम्स के साथ दिल्ली में नशे पर वार करेगी आप सरकार	दैनिक जागरण
492.	21 October 2020	एम्स में 11 साल की बच्ची का पहला मामला, कोरोना का मस्तिष्क पर असर	दैनिक भास्कर
493.	21 October 2020	दिमाग की नसों को कमजोर कर रहा है वायरस : एम्स एक्सपर्ट	नवभारत टाइम्स
494.	22 October 2020	26 yrs old goes home after hip replacement surgery in 9 hrs	The Times of India
495.	23 October 2020	एम्स में कुल्हा प्रत्यारोपण के नौ घंटे बाद ही मरीज़ को मिली अस्पताल से छूटी	दैनिक जागरण
496.	24 October 2020	Air Pollution increases risk of Covid-19 severity, hospitalization: AIIMS Experts	Hindustan Times
497.	26 October 2020	ठण्ड में तापमान जब 16 डिग्री होगा, तब तेजी से फेल सकता है कोरोना	दैनिक भास्कर
498.	26 October 2020	कोरोना के मरीज़ों में बढ़ रहा फेफड़ों का तीन गुना वजन	अमर उजाला
499.	26 October 2020	Recovered from Covid? Get flu shot to keep pollution impact at bay: Experts	Hindustan Times
500.	26 October 2020	दिल्ली एम्स के डॉक्टरों ने संक्रमण से ठीक होने वाले मरीज़ों पर शुरू किया अध्ययन	अमर उजाला
501.	29 October 2020	कोरोना प्रदूषण से बढ़ जाता है ब्रेन स्ट्रोक का कटरा : डॉ एम पद्मा श्रीवास्तव	हिंदुस्तान
502.	31 October 2020	हलके लक्षण वाले मरीज़ों को दोबारा हो सकता है इन्फेक्शन : डॉ गुलेरिया	नवभारत टाइम्स
503.	31 October 2020	दूसरी लहर ही हुई है तेज़ : डॉ गुलेरिया	दैनिक जागरण
504.	31 October 2020	AIIMS proposal for phase 3 trials of Covaxin next week	Hindustan Times
505.	2 November 2020	अगले साल मार्च तक आ सकता है टिका : एम्स	हिंदुस्तान
506.	2 November 2020	Multiple peaks on road ahead : Expert's Covid insight in book : Dr. Guleria	The Indian Express
507.	2 November 2020	संक्रमण के पांच दिन में एंटीजन जांच से मिलते हैं बेहतर परिणाम	अमर उजाला
508.	2 November 2020	अगले साल मार्च तक आ सकता है टीका : एम्स	हिंदुस्तान
509.	2 November 2020	Antigen test good to rule-in patients within 5 days of illness : AIIMS Study	The Indian Express
510.	2 November 2020	Multiple peaks on road ahead expert's Covid insight in book	The Indian Express
511.	3 November 2020	संक्रमण के साथ मिली आठ बीमारियां, एम्स ने बचाई जान	अमर उजाला
512.	3 November 2020	एम्स के डॉ विवेक दीक्षित को कोविड प्रबंधन आईडिया के लिए मिला प्रथम पुरस्कार	दैनिक भास्कर
513.	3 November 2020	दिवाली में सतर्कता न बरती तो और बढ़ेगा संक्रमण : गुलेरिया	दैनिक जागरण
514.	3 November 2020	प्रदूषण बढ़ने पर बढ़ेगा खतरा : डॉ गुलेरिया	हिंदुस्तान
515.	3 November 2020	Antigen test good to rule-in patients within 5 days of illness : AIIMS study	The Pioneer
516.	5 November 2020	कैंसर मरीज़ों में कोरोना संक्रमण की गंभीरता का पता लगाएगा दिल्ली एम्स	अमर उजाला
517.	7 November 2020	प्रदूषण व मौसम के बदलाव के कारण दोबारा कोरोना संक्रमित होने का खतरा : डॉ गुलेरिया	दैनिक भास्कर

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518.	9 November 2020	Covid cure may reach common man only in 2022: AIIMS Director	The Asian Age
519.	12 November 2020	भीड़ और शादियों की वजह से बड़ा संक्रमण : डॉ गुलेरिया	नवभारत टाइम्स
520.	12 November 2020	कोरोना का टीका माइनस 70 डिग्री पर रखना होगा चुनौतीपूर्ण : एम्स निर्देशक	अमर उजाला
521.	12 November 2020	संक्रमण फैलने की वजह है बाजार और समारोह : गुलेरिया	अमर उजाला
522.	12 November 2020	AIIMS study confirms autoimmune disorders link with air pollution	The Times of India
523.	13 November 2020	Immune system knows Antigen 2 <sup>nd</sup> Times : Doc	The Times of India
524.	14 November 2020	काउंसलिंग से मधुमेह रोगियों का तनाव घट रहा	हिंदुस्तान
525.	15 November 2020	प्रदूषण बढ़ने पर खतरनाक हो सकता है संक्रमण : गुलेरिया	हिंदुस्तान
526.	17 November 2020	40 सेकंड में खतम होगा शुरुआती सर्जिकल कैंसर	दैनिक जागरण
527.	17 November 2020	Workshop on cervical cancer in AIIMS	The Indian Express
528.	17 November 2020	On the frontlines of the fight against Covid 19	Hindustan Times
529.	18 November 2020	कोरोना जांच ले लिए लैबो को किया जायेगा 24 घंटे संचालित : गुलेरिया	दैनिक भास्कर
530.	18 November 2020	सर्वाइकल कैंसर के इलाज पर एम्स में चर्चा	दैनिक जागरण
531.	18 November 2020	AIIMS के डायरेक्टर बोले, हॉट स्पॉट एरिया में लॉकडाउन लगाया जा सकता है	नवभारत टाइम्स
532.	18 November 2020	AIIMS developing portable tech to treat cervical cancer	The Indian Express
533.	19 November 2020	एम्स में सर्वाइकल कैंसर पर राष्ट्रीय कार्यशाला	हिंदुस्तान
534.	19 November 2020	Early discharge of stable patients can ease pressure	Hindustan Times
535.	20 November 2020	There is light at the end of the tunnel : AIIMS Director	Hindustan Times
536.	20 November 2020	कोरोना वैक्सीन आने पर उसके भंडारण के लिए होगी बड़ी चुनौती : डॉ गुलेरिया	दैनिक भास्कर
537.	20 November 2020	वैक्सीन का रखरखाव बड़ी चुनौती : गुलेरिया	हिंदुस्तान
538.	24 November 2020	ऑक्सफोर्ड की वैक्सीन ने बड़ाई भारत की उम्मीद	दैनिक जागरण
539.	25 November 2020	बेड खाली है तो 60 साल से अधिक की पेशेंट को अस्पतालों में करे एडमिट : डॉ गुलेरिया	दैनिक भास्कर
540.	25 November 2020	अभी कुछ सप्ताह सतर्क रहने की जरूरत : डॉ गुलेरिया	दैनिक जागरण
541.	25 November 2020	भारत में भी आपात स्थिति में कोरोना टीका देने की मंजूरी की उम्मीद : एम्स	अमर उजाला
542.	25 November 2020	Over 50% of those now aged 20 likely to get diabetes later	Hindustan Times
543.	26 November 2020	Study warns of alarming diabetes epidemic in India : Dr. Nikhil Tandon	Drug Today
544.	26 November 2020	महानगरो में 56 % युवाओ को मधुमेह का खतरा	दैनिक जागरण
545.	26 November 2020	शोध : 13 करोड़ आबादी पर डायबिटीज का खतरा	हिंदुस्तान
546.	27 November 2020	एम्स ने शुरू हुआ कोवाक्सिन के तीसरे फेज़ का ट्रायल	नवभारत टाइम्स
547.	27 November 2020	एम्स दिल्ली में कोवैक्सीन के तीसरे चरण का परिक्षण	हिंदुस्तान
548.	27 November 2020	Phase 3 trial of India-made 'Covaxin' begin at AIIMS	The Asian Age
549.	27 Novmeber 2020	Covaxin Ph-III clinical trial begin at AIIMS	The Pioneer
550.	27 November 2020	एम्स में स्वदेशी ठीके के तीसरे चरण का परिक्षण हुआ शुरू	दैनिक जागरण
551.	28 November 2020	Phase 3 trial of India-made 'Covaxin' begin at AIIMS	Hindustan Times
552.	28 November 2020	3 माह में 80 हज़ार लोगो ने ली अंगदान की शपथ	पंजाब केसरी

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553.	28 November 2020	एम्स में मनाया गया राष्ट्रीय अंगदान दिवस, लोगो ने बताया अंगदान क्यों है महादान	नवोदय टाइम्स
554.	28 November 2020	अंगदान से बड़ा कोई धार्मिक कार्य नहीं : डॉ हर्षवर्धन	हिंदुस्तान
555.	28 November 2020	Huge gap in demand, supply of organs for transplant in country : AIIMS Chief	The Statesman
556.	28 November 2020	Huge gap in demand, supply of organs for transplant in country : AIIMS Chief	Deccan Herald
557.	28 November 2020	80,000 CRF personnel, their family members pledge to donate organs	India Today
558.	30 November 2020	AIIMS Study : Asymptomatic patients 4 times less likely to spread virus	The Times of India
559.	1 December 2020	AIIMS doctor, first to get Covaxin shot in 3 <sup>rd</sup> phase, says there were no side-effects	The Times of India
560.	1 December 2020	दिल्ली में पहली बार कोरोना मरीज का फेफड़ा प्रत्यारोपण	Dainik Jagran
561.	2 December 2020	बॉर्डर पर जुटे किसानों के इलाज के लिए डॉक्टर लगा रहे हैं हेल्थ कैम्प	Navbharat Times
562.	4 December.2020	India can be looking at making vaccine available as early as January : Dr. Randeep Guleria	The Hindu
563.	4 December.2020	'कोविशील्ड' पूरी तरह सुरक्षित : डॉ गुलेरिया	Hindustan
564.	4 December 2020	जनवरी की शुरुआत तक वैक्सीन को मंजूरी मिलने की उम्मीद : एम्स डायरेक्टर	Dainik Bhaskar
565.	4 December 2020	Delhi sees first lung transplant, a Covid patient	The Times of India
566.	5 December 2020	7- month-old beats Covid, undergoes liver transplant	The Times of India
567.	6 December 2020	वैक्सीन लगवाने के बाद भी सामाजिक दूरी जरूरी : एम्स के पूर्व निर्देशक ने टीका लगवाया	Hindustan
568.	8 December 2020	AIIMS & WHO teams probing mystery illness	The Times of India
569.	8 December 2020	देशी टीका ही श्रेष्ठ	Dainik Jagran
570.	13 December 2020	Only 53% of healthcare workers follow proper hand hygien, find AIIMS survey	The Times of India
571.	14 December.2020	5 लीटर गुनगुना पानी पीकर बनाये हार्ड इम्युनिटी	Dainik Jagran
572.	14 December.2020	कोरोना के दर से 43 फीसदी लोगो ने छोड़ दिए जंक फूड	Dainik Bhaskar
573.	17 December 2020	Service back to normal at AIIMS	The Hindu
574.	22 December 2020	संक्रमण के भँवर में मजबूत हुई सुविधाओं की: कोरोना काल में लोगो का इलाज का नया विकल्प मिला, एम्स में खुले आधुनिक ओपीडी ब्लॉक	Dainik Jagran
575.	23 December.2020	Delhi suffered most loss due air pollution	Hindustan Times
576.	24 December.2020	सख्ती : दिल्ली में पहली बार ध्वनि प्रदूषण पर कटे चालान	Hindustan
577.	24 December.2020	नतीजे: कोवैक्सीन छह से 12 माह तक असरदार	Hindustan
578.	24 December.2020	कोरोना के नए वैरिएंट से भी मास्क ही बचाएगा : विशेषज्ञ	Navbharat Times
579.	25 December.2020	Delhi Police creates green corridor for heart patient	The Times of India
580.	25 December.2020	AIIMS invites volunteers to enroll for ph-III trial of Covid vaccine	The Times of India
581.	25 December.2020	Green corridor helps live heart reach AIIMS from IGI Airport in just 12 min	The Pioneer
582.	25 December.2020	Cops create green corridor for ambulance carrying heart transplant at AIIMS	The Asian Age
583.	25 December.2020	12 मिनट में दिल को एम्स पहुंचाया	Dainik Jagran

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584.	25 December.2020	3500 कर्मियों की मदद से चलेगा टीकाकरण कार्यक्रम	Hindustan
585.	26 December.2020	Covaxin jas drawn global attention: ICMR	The Times of India
586.	26 December.2020	20- Year old man gets new lease of life after heart transplant at AIIMS	The Pioneer
587.	26 December.2020	बुजुर्ग आगे आ रहे ताकि टीका बनने में न हो देरी	Hindustan
588.	27 December.2020	6 महीने में बचाई 600 मरीजों की जिंदगी	Amar Ujala
589.	28 December.2020	इस वायरस ने हम सबको जिंदगी जीने का नया नजरिया भी दिया	Navbharat Times
590.	30 December.2020	AIIMS successfully uses cancer therapy developed by BARC	The Times of India
591.	30 December.2020	City reared up to trickle new Covid strain, says CM	Hindustan Times
592.	30 December.2020	डॉक्टर जगा रहे विश्वास	Dainik Jagran
593.	30 December.2020	घर में ज्यादा रहने से हो रही ओसीडी	Amar Ujala
594.	31 December.2020	तीन तरह की जांच के बाद एम्स में लगाया जा रहा कोरोना का टीका	Amar Ujala
595.	31 December.2020	डॉक्टर नर्स हो रहे हैं परीक्षण में शामिल	Amar Ujala
596.	31 December.2020	Women must be centre –stage in water and sanitation	Hindustan Times
597.	3 January 2021	Expert panel gives nod to Covaxin for restricted use	Hindustan Times
598.	4 January 2021	भारत बायोटेक के ठीके का बैकअप के रूप में करंगे इस्तेमाल : डॉ गुलेरिया	अमर उजाला
599.	4 January 2021	कोरोना के नए रूप के खिलाफ भी वैक्सीन कारगर : एक्सपर्ट	नवभारत टाइम्स
600.	4 January 2021	सावधान ! कोरोना के सक्रिय मरीज़ न लगवाए टिका	हिंदुस्तान
601.	4 January 2021	Covaxin back-up, for use if surge, under controls : AIIMS, ICMR heads	The Indian Express
602.	5 January 2021	Post-vaccination, those reinfected may have milder symptoms : Guleria	The Times of India
603.	5 January 2021	AIIMS Director confident about safety of Indian Products; Says early nod due to situation	The Times of India
604.	6 January 2021	एम्स के निर्देशक डॉ रणदीप गुलेरिया ने कहा, कोरोना से पीड़ित हो चुके लोगो को भी टिका लगवाना चाहिए	दैनिक जागरण
605.	6 January 2021	AIIMS head says Covid vaccination voluntary	The Asian Age
606.	10 January 2021	Hardly Treated Non-COvid children in Past Few months : AIIMS	The Times of India
607.	12 January 2021	बुज़ुर्गों और बर्न मरीज़ों को एम्स में मिलेगा अलग ब्लॉक	अमर उजाला
608.	12 January 2021	एम्स में बढ़ेगी सुविधाएं, शुरू होंगे पांच नए सेंटर	दैनिक जागरण
609.	12 January 2021	वर्चुअल दीक्षांत समारोह में एम्स के 1430 छात्रों को मिली डिग्री	नवभारत टाइम्स
610.	13 January 2021	Health workers should act role models, takes jab	The Times of India
611.	16 January 2021	Inoculation drive at 81 centre including AIIMS	The Asian Age
612.	17 January 2021	AIIMS Director says : Covaxin is safe people should trust scientists and regulatory bodies that have approved it after due deliberation	The Times of India
613.	17 January 2021	एम्स निर्देशक गुलेरिया, नीति आयोग के पॉल व सांसद महेश शर्मा ने भी लगवाया टीका	जनसत्ता
614.	17 January 2021	कोरोना योद्धाओं को ठीके की संजीवनी	दैनिक जागरण
615.	17 January 2021	मैने वैक्सीन लगवाई, जब मौका मिले तो आप भी लगवाए : डॉ गुलेरिया	नवभारत टाइम्स
616.	17 January 2021	कोरोना योद्धाओं को समर्पित पहला दिन	अमर उजाला



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617.	17 January 2021	एम्स निर्देशक ड। गुलेरिया वैक्सीन लेने वाले तीसरे स्वास्थ्य कर्मी बने	दैनिक भास्कर
618.	17 January 2021	नई दिल्ली में एम्स के निर्देशक रणदीप गुलेरिया ने खुद टिका लगाकर संदेह दूर किया	हिंदुस्तान
619.	17 January 2021	Sanitation worker 1 <sup>st</sup> to get Covid jab in AIIMS; Vardhan calls it historic day	The Statesman
620.	17 January 2021	Faces of Pandemic fight go for indigenous shots	The Times of India
621.	17 January 2021	2L get 1 <sup>st</sup> dose of anti-Covid protection	The Pioneer
622.	17 January 2021	Sanitation worker first to get Covid vaccine in AIIMS Delhi	The Asian Age
623.	17 January 2021	First in Line at AIIMS, Safai karamchari says feel good	The Indian Express
624.	18 January 2021	एम्स में बर्न और प्लास्टिक सर्जरी ब्लॉक शुरू होगा	हिंदुस्तान
625.	18 January 2021	दो दिन में ठीक हो जाएगा हल्का दुष्टप्रभाव	दैनिक जागरण
626.	19 January 2021	100 Bedded burns and plastic surgery unit starts at AIIMS	The Times of India
627.	19 January 2021	Infodemic on side effects has created anxiety	Hindustan Times
628.	19 January 2021	एम्स में सौ बेड का प्लास्टिक सर्जरी एंड बर्न ब्लॉक शुरू	हिंदुस्तान
629.	19 January 2021	त्वचा दान बढ़ाने पर जोर देगा एम्स का बर्न और प्लास्टिक सर्जरी सेंटर	दैनिक जागरण
630.	20 January 2021	टीके पर अफवाह से पैदा हुई आशंका : गुलेरिया	हिंदुस्तान
631.	21 January 2021	नाक से दिया जाने वाला टिका बच्चों के लिए होगा बेहतर: डॉ गुलेरिया	अमर उजाला
632.	21 January 2021	विद्यार्थियों को नाक के जरिए कोविड टीका देना आसान: डॉ गुलेरिया	जनसत्ता
633.	24 January 2021	घबराये नहीं, सामान्य टिके की तरह है कोरोना वैक्सीन: डॉ गुलेरिया	दैनिक जागरण
634.	24 January 2021	एम्स उपनिर्देशक ने टीका लगवाया, बोले- डरे नहीं	हिंदुस्तान
635.	28 January 2021	जल्द आ रही नेजल वैक्सीन, इंजेक्शन का दर होगा छूमंतर	नवभारत टाइम्स
636.	30 January 2021	एम्स ने दो पैथी को मिलकर खोजे बीजीआर-34 का असर	अमर उजाला
637.	30 January 2021	एम्स में वैक्सीन के लिए अब खुद से तय कर सकते हैं तारीख	नवभारत टाइम्स
638.	30 January 2021	आयुर्वेद, एलोपैथी दवा मिलाकर मधुमेह का बेहतर उपचार संभव	हिंदुस्तान
639.	31 January 2021	Ayurvedic-allopathic medicine combo may be effective against diabetes: AIIMS Study	The Statesman
640.	31 January 2021	एम्स ने खोजा मधुमेह नियंत्रण का सटीक तरीका	दैनिक जागरण
641.	31 January 2021	Cases Down, 'Long Covid' still a Bother	The Times of India
642.	1 February 2021	BGR-34 plus allopathic drug may have vital role in controlling diabetes: Study	The Pioneer
643.	1 February 2021	Allopathic drug combo may be effective in controlling diabetes	The Asian Age
644.	2 February 2021	वैक्सीनेशन में विश्व में पहले नंबर पर बना हुआ है भारत : डॉ गुलेरिया	दैनिक भास्कर
645.	2 February 2021	रक्तदान के लिए एम्स में निकाली गई जासूसी रैली	अमर उजाला
646.	3 February 2021	एम्स में रक्तदान महाअभियान आज	दैनिक जागरण
647.	4 February 2021	Indian Army officers during a blood donation camp at AIIMS New Delhi	The Asian Age
648.	4 February 2021	एम्स में लगे शिविर में जमा हुआ 2200 यूनिट रक्त	अमर उजाला
649.	4 February 2021	एम्स में 2207 यूनिट ब्लड डोनेशन	नवभारत टाइम्स
650.	4 February 2021	नई दिल्ली के एम्स में बुधवार को आयोजित रक्तदान शिविर में भारतीय सेना के आफिसरों ने रक्तदान किया	दैनिक भास्कर
651.	4 February 2021	कैंसर पीड़ितों ने संयम और जज्बे से कोरोना को भी मात दी	हिंदुस्तान

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652.	9 February 2021	एम्स के ओर्बो समर्थित साइकिलिंग ग्रुप ले अंगदान के प्रति जागरूकता लाने के लिए निकाली साइकिलिंग रैली	दैनिक भास्कर
653.	13 February 2021	Vaccine antibodies will last at least 8 months: AIIMS Chief	The Times of India
654.	13 February 2021	Antibodies may last for 8 months after Covid-19 jabs: AIIMS Director	The Pioneer
655.	15 February 2021	दूसरो में संक्रमण फैलने से भी रोकेगा नेजल टिका	दैनिक जागरण
656.	18 February 2021	साल के अंत तक बाजार में आ सकता है कोरोना टिका: गुलेरिया	दैनिक जागरण
657.	18 February 2021	After 2 <sup>nd</sup> Dose, AIIMS Director says Covid Shot completely safe	The Pioneer
658.	19 February 2021	एम्स में 600 लोगो को टिका लगाया गया	हिंदुस्तान
659.	19 February 2021	एम्स: 600 वक्सीनेशन कर बनाया रिकॉर्ड	नवभारत टाइम्स
660.	21 February 2021	कोरोना से बचाव का एकमात्र उपाए टीकाकरण : गुलेरिया	जनसत्ता
661.	22 February 2021	हर्ड इम्युनिटी को पूरी तरह पाना मुश्किल: गुलेरिया	अमर उजाला
662.	22 February 2021	90 साल के दादा को 30 साल के पोते की तरह याददाश्त कैसे : एम्स कर रहा स्टडी	नवभारत टाइम्स
663.	22 February 2021	कोरोना का नया स्टेन ज्यादा संक्रामक : गुलेरिया	हिंदुस्तान
664.	22 February 2021	वृद्धावस्था में तेज दिमाग बनाये रखने को एम्स में शोध	दैनिक जागरण
665.	22 February 2021	Difficult to achieve herd immunity in India: AIIMS Director	The Indian Express
666.	22 February 2021	Even those with anti-bodies not immune to new variants, AIIMS director the alarm; 14,264 coronavirus cases in 24 hours	The Pioneer
667.	23 February 2021	एम्स में 27 फीसदी स्वास्थ्य कर्मचारियों को लगा टिका	दैनिक जागरण
668.	23 February 2021	एम्स में वक्सीनेशन का रिकॉर्ड एक दिन में 633 को टिका	नवभारत टाइम्स
669.	25 February 2021	Next Phase crucial, Says Guleria; beneficiaries can self-register, walk in	The Indian Express
670.	25 February 2021	कोरोना के नए स्टेन पर बारीक नज़र रखना जरूरी : गुलेरिया	अमर उजाला
671.	25 February 2021	दो साल की अनामिका को एम्स में मिली नई जिंदगी	दैनिक जागरण
672.	25 February 2021	Allowing private hospital to vaccinate will boost process, says AIIMS Director	The Times of India
673.	2 March 2021	Modi takes the shot, gives vax process a booster dose in AIIMS	The Times of India
674.	2 March 2021	Modi begins next leg with covaxin shot, urges others to get vaccinated	Hindustan Times
675.	2 March 2021	PM Narendra Modi receives a dose of Covaxin at AIIMS	The Indian Express
676.	2 March 2021	PM takes Covaxin 1 <sup>st</sup> dose as Phase 2 of Vaccination start	The Asian Age
677.	2 March 2021	प्रधानमंत्री मोदी ने टिका लगवा सभी शंकाओ को दूर किया : डॉ गुलेरिया	दैनिक भास्कर
678.	2 March 2021	प्रधानमंत्री ने एम्स में लगवाया कोरोना विषाणु रोधी टीका	जनसत्ता
679.	9 March 2021	257 स्वास्थ्यकर्मियों ने एम्स में रक्तदान किया	हिंदुस्तान
680.	9 March 2021	एम्स में 200 महिलाओ ने किया ब्लड डोनेट	नवभारत टाइम्स
681.	12 March 2021	Warning sign for another spike caution, vaccines key, say experts	Hindustan Times
682.	13 March 2021	दिल्ली में विशेषज्ञो का दावा कोरोना के बढ़ रहे केस, आ सकती है चौथी लहर	दैनिक भास्कर

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683.	14 March 2021	दिल्ली में लगातार दूसरे दिन 400 से अधिक संक्रमित मिले	हिंदुस्तान
684.	20 March 2021	1 <sup>st</sup> in S. Asia: AIIMS to start Virtual Autopsy	The Times of India
685.	20 March 2021	Vax drive to be widened, jab for 50+ in 3 months: Guleria	The Times of India
686.	20 March 2021	AIIMS to study effect of Gayatri Mantra, pranayama	The Hindu
687.	21 March 2021	AIIMS Director says they could provide protection for 'eight months to one year'	The Hindu
688.	21 March 2021	Jabs to protect you from virus for 10 months: AIIMS Head	The Pioneer
689.	21 March 2021	टिका आठ - दश महीने सुरक्षा देने में सक्षम : गुलेरिया	जनसत्ता
690.	21 March 2021	एम्स में शवो का होगा वर्चुअल पोस्मॉर्टम	दैनिक जागरण
691.	22 March 2021	Follow Covid norms to stop 2 <sup>nd</sup> wave: Guleria	The Pioneer
692.	31 March 2021	Delhi surge mainly among young, says AIIMS Chief	The Indian Express
693.	31 March 2021	संक्रमण रोकने को वर्क फ्रॉम होम जरूरी : डॉ गुलेरिया	दैनिक जागरण

### Media Interactions

S. No.	Date				
1.	1 April 2020		From March 12, when India effectively closed its border and the WHO termed COVID 19 infection as a pandemic—and till now, what has surprised you so far?	Dr Randeep Guleria, Director	Mr Kaunain Sheriff M, The National Bureau, The Indian Express
2.	5 April 2020	Outlook Hindi Magazine	More than 5000 cases of Coronavirus have been reported and its number is steadily increasing. What would you like to say on this matter ? How do you see the current situation?	Dr Randeep Guleria, Director	Mr Neeraj Kumar, Outlook Hindi Magazine
3.	5 April 2020	Economic Times	What percentage of COVID patients are needing critical care ?	Dr Randeep Guleria, Director	Ms Prerna, The Economic Times
4.	9 April 2020	Prime TV	COVID 19 से बचने के लिए अमेरिका के बाद इंडिया में वैक्सीन ट्रायल या मेक इन इंडिया वैक्सीन की क्या संभावना है?	Dr Randeep Guleria, Director	Mr Ankit Kumar, Assignment Head, Prime TV
5.	12 April 2020	Dainik Jagran	कोरोना वायरस के विषय में जानकारी हेतु	Dr Randeep Guleria, Director	Mr Ranvijay Singh, Senior Correspondent, Dainik Jagran
6.	16 April 2020	IANS	How does Plasma therapy work and what is the limitations of Plasma therapy	Dr Randeep Guleria, Director	Ms Sfrooti, IANS

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7.	16 June 2020	GMR Group	Resposing the faith in flying	Dr Randeep Guleria, Director	GMR Group
8.	24 June 2020	News 18	News 18 India E-Conclave	Dr Randeep Guleria, Director	Mr Kishore Ajwani, Editor-In-Chief, News 18
9.	24 June 2020	IANS	If COVID-19 cases continue to rise rapidly, do you think we need another lockdown in areas where volume of cases are very high?	Dr Randeep Guleria, Director	Mr Sumit Saxena, Associate Editor, IANS
10.	26 June 2020	The Economic Times Indian Healthcare virtual summit	ET Healthcare Main Event	Dr Randeep Guleria, Director	Dr Siddharth Bhattacharya Secretary General, Healthcare Foundation of India
11.	27 June 2020	The Economic Times	Leadership during Covid 19 and what global evidences imply for Indian Healthcare	Dr Randeep Guleria, Director	Ms Priyanka Gupta, The Times Group
12.	27 June 2020	ANI	Spiring of Covid cases in country	Dr Randeep Guleria, Director	Ms Joymala Bagchi, Health Correspondent, ANI
13.	30 June 2020	Dainik Jagran	Corona warriors interaction on Doctor's Day	Dr Neeraj Nischal, Associate Professor, Department of Medicine	Mr Ranvijay Singh, Senior Health Correspondent, Dainik Jagran
14.	30 June 2020	Punjab Kesari	Corona warriors interaction on Doctor's Day	Dr Arvind Kumar, Associate Professor, Department of Medicine	Mr. Rakesh Sharma, Health Correspondent, Punjab Kesari
15.	30 June 2020	Dainik Bhaskar	Corona warriors interaction on Doctor's Day	Dr Arvind Kumar, Associate Professor, Department of Medicine	Mr. Pawan Kumar, Senior Health Correspondent, Dainik Bhaskar
16.	1 July 2020	The Mirror Now	Doctors Day	Dr Randeep Guleria, Director	Ms. Tanvi Shaukla, News Editor, The Mirror Now
17.	5 July 2020	Zee News	Immunity Conclave	Dr Randeep Guleria, Director	Mr. Aman Chopra, Senior Reporter, Zee News
18.	7 July 2020	India TV	Situation of Corona in India	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Praful Mishra, Editor, India TV
19.	12 July 2020	Zee News	COVID-19 vaccine & short lock-down	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Aditi & Ms. Pooja Makkar, Zee News
20.	12 July 2020	Indian Express	New Insights of COVID	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Kaunain Sheriff, Indian Express
21.	13 July 2020	ABP News	Clinical Trial of COVID Vaccine & Mathematical Modal Study	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Suneet Awasthi, ABP News

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22.	19 July 2020	Dainik Bhaskar	New Insights of COVID	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Pawan Kumar, Health Correspondent, Dainik Bhaskar
23.	19 July 2020	Indian Express	New Insights of COVID	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Astha Saxena, Indian Express
24.	23 July 2020	Calcutta News Network	Covid -19 Vaccine	Dr. (Prof.) Ashutosh Biswan, Deptt. of Medicine, AIIMS	Mrs. Indrani Dasgupta, Calcutta News Network
25.	23 July 2020	CNN News 18	What about the national peak of Corona virus	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Sneha Mordani, Special Correspondent, CNN News 18
26.	24 July 2020	Editorji	When we can get a vaccine for Covid -19	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Vikram Chandra, Editorji
27.	25 July 2020	IANS	What are the Factors which helped delhi see decline in number of cases	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Sumit Saxena, Associate Editor, IANS
28.	29 July 2020	Indian Express	To know how they are keeping themselves safe in the pandemic	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Astha Saxena, Special Correspondent, Indian Express
29.	4 July 2020	Open Magazine India	Regarding contribution of AIIMS on covid-19	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Rahul Irani, Open Magazine India
30.	7 August 2020	S&T OTT channel (DD News Vigyan Prasar)	Highlight the achievements of your esteemed organizations	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Nidhi Kumar, TV Program Anchor
31.	7 August 2020	DD News	Regarding contribution of unsung Corona Warriors	List Enclosed	Mr. Nitendra Kumar, Senior Correspondent, DD News
32.	20 August 2020	ANI	Regarding second phase of sero surveillance	Dr. Neeraj Nischal, Associate Professor, AIIMS, New Delhi	Ms. Joymala Bagchi, Senior Correspondent, ANI
33.	28 August 2020	The Mirror Now	Is there a strategy on Post covid care	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Ayushman, Senior Correspondent , The Mirror Now
34.	1September 2020	BBC	What are the reasons of depression cases during lockdown	Dr. Y.P. Balhara, Associate Professor, Deptt. of Psychiatry & NDDTC, AIIMS, New Delhi	Ms. Payal Bhuiyaan, Senior Correspondent , BBC
35.	2 September 2020	Indian Express	What is the reason behind the spike of cases in delhi	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Astha Saxena, Senior Correspondent, Indian Express
36.	2 September 2020	Dainik Jagran	What is the reason behind the spike of cases in delhi	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Ranvijay Singh, Senior Health reporter, Dainik Jagran
37.	5 September 2020	New Indian Express	Multiple infection in single individuals and the discovery of a zoonotic malaria species in the population	Dr Pragyan Acharya, Associate Professor, Department of Biochemistry	Ms. Somarita Ghosh, Correspondent, The New Indian Express



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38.	5 September 2020	IANS	Multiple infection in single individuals and the discovery of a zoonotic malaria species in the population	Dr.(Prof.) Pragyan Acharya, Associate Professor, Deptt. of Biochemistry, AIIMS, New Delhi	Ms. Akansha, Senior Correspondent, IANS
39.	5 September 2020	The Hindustan Times	Multiple infection in single individuals and the discovery of a zoonotic malaria species in the population	Dr.(Prof.) Pragyan Acharya, Associate Professor, Deptt. of Biochemistry, AIIMS, New Delhi	Ms. Arona , Senior Editor, The Hindustan Times
40.	5 September 2020	Jansatta	Multiple infection in single individuals and the discovery of a zoonotic malaria species in the population	Dr.(Prof.) Pragyan Acharya, Associate Professor, Deptt. of Biochemistry, AIIMS, New Delhi	Ms. Pratibha Sukhla, Senior Correspondent, Jansatta
41.	7 September 2020	ET Now	How are we bracing for high COVID cases	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Ruchi Bhatia, Correspondent , ET Now
42.	7 September 2020	Mirror Now	Are states ready to handle increase numbers of cases	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Brandon Pereira, Correspondent, Mirror Now
43.	9 September 2020	ANI	With India occupying second position in cumulative covid cases, are we seeing a resurgence in cases	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Joymala Bagchi, Correspondent, ANI
44.	9 September 2020	News 24 TV	क्या बढ़ते मामले second wave के संकेत है	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Sandeep Choudhary, Senior Anchor, News 24 TV
45.	9 September 2020	CNN News 18	Indian has now surpassed Brazil in terms of surge in coronavirus infection. How big is this a worry	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Zakka Jacob, Senior Anchor, CNN News 18
46.	9 September 2020	The Economic Times	What could be the possible reasons for post covid complications	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Perna Katiyar, Senior Assistant Editor, The Economic Times
47.	15 September 2020	Indian Express	COVID and Dengue Infection	Dr. (Prof.) Ashutosh Biswas, Deptt. of Medicine, AIIMS, New Delhi	Ms. Astha Saxena, Senior Correspondent, The Indian Express
48.	15 September 2020	The Hindu	COVID and Dengue Infection	Dr. (Prof.) Ashutosh Biswas, Deptt. of Medicine, AIIMS, New Delhi	Ms. Bindu Sehjan, Correspondent , The Hindu
49.	15 September 2020	Dainik Jagran	COVID and Dengue Infection	Dr. (Prof.) Ashutosh Biswas, Deptt. of Medicine, AIIMS, New Delhi	Mr. Ranvijay Singh, Senior Health correspondent, Dainik Jagran

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50.	15 September 2020	Hindustan (Hindi)	COVID and Dengue Infection	Dr. (Prof.) Ashutosh Biswas, Deptt. of Medicine, AIIMS, New Delhi	Mr. Hemant Rajora, Health correspondent, Hindustan (Hindi)
51.	30 September 2020	Indian Express	When we say that the covid 19 and BMI shows a dose-response associations, what does it means	Dr. (Prof.) Naval Kishore Vikram, Deptt. of Medicine, AIIMS, New Delhi	Ms. Astha Saxena, Senior Correspondent, Indian Express
52.	30 September 2020	Indian Express	When we say that the covid 19 and BMI shows a dose-response associations, what does it means	Dr. Piyush Ranjan, Associate Professor, Deptt. of Medicine, AIIMS, New Delhi	Ms. Astha Saxena, Senior Correspondent, Indian Express
53.	2 September 2020	The Tribune	Describe COVID-19 as the biggest medical challenge ever confronted ? The Virus continues to be unpredictable	Dr. (Prof.) J.S. Guleria & Dr.(Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Aditi Tandon, Senior Correspondent, The Tribune
54.	7 October 2020	The Times of India	“Efficacy of Ketogenic Diet, modified Atkins Diets and Low Glycemic Index Therapy Diet among children with Drug Resistance Epilepsy”	Dr. (Prof.) Sheffali Gulati, Deptt. of Padiatrics, AIIMS, New Delhi	Mr. Durgesh Jha, Senior Correspondent, The Times of India
55.	7 October 2020	Hindustan (Hindi)	“Efficacy of Ketogenic Diet, modified Atkins Diets and Low Glycemic Index Therapy Diet among children with Drug Resistance Epilepsy”	Dr. (Prof.) Sheffali Gulati, Deptt. of Padiatrics, AIIMS, New Delhi	Mr. Hemant Rajora, Senior Correspondent, Hindustan(Hindi)
56.	7 October 2020	The Tribune	“Efficacy of Ketogenic Diet, modified Atkins Diets and Low Glycemic Index Therapy Diet among children with Drug Resistance Epilepsy”	Dr. (Prof.) Sheffali Gulati, Deptt. of Padiatrics, AIIMS, New Delhi	Ms. Aditi Tandon, Correspondent, The Tribune
57.	9 September 2020	BW Businessworld	When do you feel Covid-19 will end?- according to your prediction	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Kavi Bhandari, Correspondent, BW Businessworld
58.	9 September 2020	The Hindu	Antibiotic Resistance : Renewed Fight	Dr. (Prof. & Head) Rama Choudhary, Deptt. of Microbiology, AIIMS, New Delhi	Ms. Bindu Sehjan, Special Correspondent, The Hindu
59.	9 September 2020	The Tribune	Antibiotic Resistance : Renewed Fight	Dr. (Prof. & Head) Rama Choudhary, Deptt. of Microbiology, AIIMS, New Delhi	Ms. Aditi Tandon, Special Correspondent, The Tribune

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60.	10 October 2020	Zee TV	Winters are approaching now. How will it affect the people with regard to the Corona	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Puja Makkad, Correspondent, Zee TV
61.	10 October 2020	News 24 TV	दिल्ली में ठंड के मौसम और त्योहारों में किस तरीके से कोरोना का प्रकोप बढ़ेगा	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Pallavi Jha, Senior Correspondent, News 24 TV
62.	11 October 2020	Dainik Jagran	World Arthritis Day	Dr. Ranjan Gupta, Assistant Professor, Deptt. of Rheumatology, AIIMS, New Delhi	Mr. Ranvijay Singh, Health Correspondent, Dainik Jagran
63.	15 October 2020	Times Now	Will the novel coronavirus get deadlier during winters	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Sherine, Correspondent, Times Now
64.	15 October 2020	CNN International	How will the winters affect Covid-19. Could we see a rise in cases	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Vedika Sud, Special Correspondent, CNN International
65.	21 October 2020	Zee Media	Story on AIIMS research findings of Coronavirus damaging brain cells in kids and affecting their vision also	Dr. (Prof.) Sheffali Gulati, Deptt. of Pediatrics, AIIMS, New Delhi	Ms. Pooja Makkar, Correspondent, Zee Media
66.	22 October 2020	The Print	When will India have a vaccine	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	MS. Jyoti Malhotra, Special Correspondent, Zee Media
67.	22 October 2020	ANI	Could you Explain how rising pollution combined with coronavirus infection can be fatal for people with lung complications	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Joymala Bagchi, Special Correspondent, ANI
68.	2 November 2020	Dainik Jagran	क्या प्रदूषण भी कोरोना के मामले बढ़ने के लिए जिम्मेदार है	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Ranvijay Singh, Health Correspondent, Dainik Jagran
69.	2 November 2020	News Nation TV	कई लोगों में दोबारा इन्फेक्शन के मामले सामने आने लगे हैं / रीइन्फेक्शन को लेकर क्या फाईंडिंग है, लोगों को क्या बताना चाहिए	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Madhurendra Kumar , Senior Correspondent, News Nation TV
70.	2 November 2020	CNN News 18 TV	Why is Delhi seeing an increase in cases now	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Sneha, Senior Correspondent, CNN News 18 TV
71.	6 November 2020	Navodaya Times	कोरोना के साथ अब प्रदूषण भी लोगों के लिए मुसीबत बन रहा है, यह दोहरा हमला कितना खतरनाक है	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Ashutosh, Metro Editor, Navodaya Times

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72.	10 November 2020	ANI	How deadly is the combination of heightened pollution and rising covid numbers- especially in the crucial Diwali period	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Abhishek Bhardwaj, Sr. Cope Ed, ANI Print
73.	11 November 2020	IANS	A Covid-19 vaccine may not be the magic bullet, for how long do we have to continue with mask and social distancing norms	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Sumit Saxena, Assistant Editor, IANS
74.	13 November 2020	ET Now	Pfizer Vaccine	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Tamanna Inamdar, Senior Editor, ET Now
75.	13 November 2020	Zee News	क्या दिवाली में कोरोना केस बढ़ने की वजह त्यहारों की भीड़ है	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Puja Makkad, Senior Correspondent, Zee News
76.	17 November 2020	ABP News	भारत में कोरोना के मामले काम नहीं हुए, वही प्रदूषण और ठंड से इस पर क्या असर होगा ? क्या मामले और बढ़ेंगे	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Ms. Sobhna Yadav, News Anchor, ABP News
77.	17 November 2020	India TV	Current Corona spread situation in India	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Praful Mishra, Special Correspondent, India TV
78.	27 November 2020	TV9 Bharatwarsh	मौसम बदलने के साथ क्या कोरोना के साथ लड़ने के तरीकों में बदलाव करना होगा ?	Dr. (Prof.) Randeep Guleria , Director, AIIMS, New Delhi	Mr. Kumar Kundan,
79.	27 November 2020	Zee News	भारत में वैक्सीन का भण्डारण और वितरण कैसे होगा?	Dr. (Prof.) Randeep Guleria	Mr. Sachin Arora, Zee News
80.	3 December 2020	The Hindu	Delhi is in the midst of the third wave of the pandemic. While other cities in India have seen spikes, are there unique characteristics to the pandemic in Delhi?	Dr. (Prof.) Randeep Guleria	Ms. Bindu Sehjan, The Hindu
81.	3 December 2020	ANI	How COVID vaccination would be different from regular approvals?	Dr. (Prof.) Randeep Guleria	Ms. Sushetra, ANI
82.	3 December 2020	ABP News	भारत में कैसे वैक्सीन दी जाएगी ? क्या इसको लेकर कोई प्लान तैयार किया गया है ?	Dr. (Prof.) Randeep Guleria	Mr. Praful Srivastava, Correspondent, ABP
83.	9 December 2020	Indian Express	AIIMS study flags lack of exercise, rise in screen times.	Dr. (Prof.) Randeep Guleria	Ms. Astha Saxena , Sr. Coorespondent Indian Express

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84.	9 December 2020	DD News	Regarding staff members who kept working throughout this pandemic	Dr. (Prof.) Randeep Guleria	Mr. Nitendra Kumar Sr. Correspondent, DD News
85.	16 December 2020	Amar Ujala	स्वदेशी टीके के लिए नहीं मिल रहे लोग : डॉ संजय राय	Dr. (Prof.) Randeep Guleria	Mr. Parikshit Nirbhay, Sr. Correspondent, Amar Ujala
86.	16 December 2020	Times of India	40% of COVID hit suffer heart muscle damage	Dr. (Prof.) Randeep Guleria	Mr. Durgesh Nandan Jha, Sr. Correspondent, The Times India
87.	18 December 2020	Indian Ahead News	India Ahead's E Conclave on Corona warriors	Dr. (Prof.) Randeep Guleria	Mr. Bhupendra Chaubey, Editor in Chief, India Ahead News.
88.	18 December 2020	UNICEF	COVID 19 & Vaccines	Dr. (Prof.) Randeep Guleria	Mr. Sundaranjan, Anchor, UNICEF
89.	20 December 2020	News 18	The Real Heroes of 2020	Dr. (Prof.) Randeep Guleria	Mr. Kishore Adnani & Pratik Divedi, Anchor News 18 India.
90.	21 December 2020	Mint Webinar	How do we fund and distribute the COVID -19 vaccine	Dr. (Prof.) Randeep Guleria	Ms. Neetu Chandra Sharma, National Writer – Health, Mint
91.	29 December 2020	News 24	रणदीप गुलेरिया ने बताया, कितना खतरनाक हैं कोरोना का नया स्ट्रेन और कब लगेगी वैक्सीन ?	Dr. (Prof.) Randeep Guleria	Mrs. Pallavi Jha, Sr. Health Correspondent, News 24
92.	31 December 2020	ANI	Once introduction do you think the vaccines developed in recent months should still work against ?	Dr. (Prof.) Randeep Guleria	Ms. Joymala Bagchi, Sr. Correspondent , ANI
93.	3January 2021	ANI	How Safe the vaccine is as far robust immune response is concern ?	Dr. (Prof.) Randeep Guleria	Ms. Joymala Bagchi, Sr. Correspondent , ANI
94.	4 January 2021	ABP News	भारत में एक साथ दो वैक्सीन के restricted emergency use की अनुमति मिली है , कितना बड़ी रहत की खबर ?	Dr. (Prof.) Randeep Guleria	Mr. Adarsh Jha , Anchor, ABP News
95.	4 January 2021	CNN News 18	Sir what does a back up vaccines mean ? How is COVAXIN a back up vaccine..?	Dr. (Prof.) Randeep Guleria	Ms. Shreya Dhaundiyal, Correspondent , CNN News 18
96.	4 January 2021	Republic Bharat TV	कोविशील्ड और कोवैक्सीन दोनों को सुरक्षित बताया जा रहा है लेकिन अभी भी लोगो के मन में कुछ सवाल हैं इसे लेकर आप क्या कहेंगे ?	Dr. (Prof.) Randeep Guleria	Mr. Ravi Mishra, Republic Bharat TV



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97.	17 January 2021	Dainik Bhaskar	देश के सबसे बड़े और प्रतिष्ठित अस्पताल के निर्देशक डॉ प्रो रणदीप गुलेरिया स्वयं पहले ही दिन दिल्ली एम्स में भारत बायोटेक की कोवैक्सीन का पहला डोज लिया हैं और वैक्सीन लेने का अपना अनुभव शेयर किया और लोगो से अपील की वैक्सीन लगवाने से परहेज न करें यह पूरी तरह सेफ हैं?	Dr. (Prof.) Randeep Guleria	Mr. Pawan Kumar, Sr. Correspondent, Dainik Bhaskar
98.	17 January 2021	ABP News	देश के सबसे बड़े और प्रतिष्ठित अस्पताल के निर्देशक डॉ प्रो रणदीप गुलेरिया स्वयं पहले ही दिन दिल्ली एम्स में भारत बायोटेक की कोवैक्सीन का पहला डोज लिया हैं और वैक्सीन लेने का अपना अनुभव शेयर किया	Dr. (Prof.) Randeep Guleria	Mr. Adarsh Jha, Anchor, ABP News
99.	23 January 2021	Dainik Bhaskar	स्वदेशी टीका कोवैक्सीन कितना प्रभावी हैं इस विषय पर एम्स के निर्देशक डॉ प्रो रणदीप गुलेरिया से चर्चा?	Dr. (Prof.) Randeep Guleria	Mr. Ranvijay Singh, Sr. Correspondent , Dainik Jagran
100.	4 February 2021	IANS	How AIIMS continue cancer surgery about to Pandemic ?	Dr. (Prof.) Randeep Guleria	Mr. Ashish , Sr. Correspondent, IANS
101.	19 February 2021	India Today TV	How will Co Win 2.0 Work?	Dr. (Prof.) Randeep Guleria	Ms. Sneha Mordani, Dy. Editor, India Today TV
102.	15 February 2021	Nav Bharat Times Hindi	Some merits and demerits of using Chyawanprash (Awlesh and not specific to any brand )	Ms. Rekha Pal Singh, Assistant Dietitian, Main Hospital	Mr. Naresh Taneja
103.	19 February 2021	Doordarshan	Is the pandemic in retreat in India, where in early stages the modelers had predicted a large number of cases and millions of deaths of due to COVID-19?	Dr. (Prof.) Vatsala Dhadwal, Gyane. Dr. Aparna Sharma, Addl. Prof. , Gyane. Dr. (Prof.) Rajendra Prasad, Surgery, Dr. (Prof.) Rajesh Khadgawat, Endo. Dr. Garima Khacchwa, Addl. Prof., Gyane. Dr. P. Kammarian Senior Resident CTVS, Dr P. Kumar, Associate Prof. Hospital Administration, Dr Vishwaprakash Gupta, Chief Physiotherapist, CTVS, Sister Sumita Dua, Sr. Nursing Officer	Ms. Vinod Malhotra, Producer, Health Doordarshan
104.	23 February 2021	CNN News 18	COVID -19 Second wave	Dr. (Prof.) Randeep Guleria	Ms. Shreya Dhaundiya

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105.	23 February 2021	The Hindustan Times	COVID -19 Vaccination	Dr. (Prof.) Randeep Guleria	Ms. Annona Dutta
106.	24 February 2021	CNN News 18	Private sector role play in vaccination drive in India	Dr. (Prof.) Randeep Guleria	Ms. Reena
107.	24 February 2021	ANI	New Strain of Coronavirus	Dr. (Prof.) Randeep Guleria	Ms. Joymala Bagchi
108.	26 February 2021	Times Now	Assessment of how the vaccination drive	Dr. (Prof.) Randeep Guleria	Mr. Saurav Kumar
109.	26 February 2021	Republic TV	A new Indian strain	Dr. (Prof.) Randeep Guleria	Mr. Piyush Mishra
110.	15 March 2021	Vigyan Prasar (DD News)	Let's Talk Vaccines – Immunising India	Dr. (Prof.) Randeep Guleria	Mr. Nidhi Kumar
111.	15 March 2021	ET Now	COVID-19 2 <sup>nd</sup> Wave	Dr. (Prof.) Randeep Guleria	Ms. Arpita Jain
112.	17 March 2021	PTI	Understanding and addressing Vaccine Hesitancy	Dr. (Prof.) Randeep Guleria	Ms. Sashee
113.	17 March 2021	India Today	New Strain driving the surge in India	Dr. (Prof.) Randeep Guleria	Ms. Sneha Mordani
114.	17 March 2021	India TV	Current Situation of COVID in India	Dr. (Prof.) Randeep Guleria	Ms. Pankaj Bhargav
115.	24 March 2021	CNN International	COVID update in India	Dr. (Prof.) Randeep Guleria	Ms. Vedika Sood
116.	24 March 2021	Indian Express	In Delhi increasing case of COVID	Dr. (Prof.) Randeep Guleria	Ms. Astha Saxena
117.	30 March 2021	Indian Express	Increasing COVID case over 1000 in Delhi	Dr. (Prof.) Randeep Guleria	Ms. Astha Saxena
118.	30 March 2021	Dainik Jagran	कोरोना पर अपडेट	Dr. (Prof.) Randeep Guleria	Mr. Ranvijay
119.	1 April 2021	TV9	Current situation on Corona	Dr. (Prof.) Randeep Guleria	Mr. Sudeshna
120.	5 April 2021	Dainik Jagran	कोरोना पर अपडेट	Dr. (Prof.) Randeep Guleria	Mr. Ranvijay
121.	5 April 2021	ET Now	Corona Virus Spread update	Dr. (Prof.) Randeep Guleria	Ms. Ruchi Bhatia
122.	5 April 2021	Republic TV	Corona Virus update	Dr. (Prof.) Randeep Guleria	Mr. Piyush Mishra
123.	5 April 2021	Zee Health	Corona Virus Second wave	Dr. (Prof.) Randeep Guleria	Ms. Puja Makkar
124.	9 April 2021	ABP News	Second wave of Corona	Dr. (Prof.) Randeep Guleria	Mr. Praful Kumar Shrivastav
125.	9 April 2021	News Nation	Update on Corona	Dr. (Prof.) Randeep Guleria	Mr. Rahul Dabas
126.	20 April 2021	Republic TV	Update on double mutant	Dr. (Prof.) Randeep Guleria	Mr. Abhishek Kapoor
127.	20 April 2021	Zee News	Update on Second wave	Dr. (Prof.) Randeep Guleria	Ms. Pooja Makkar

**Press Conference 2020-2021**

S. No.	Date	Topic	Department
1.	20 July 2020	Covaxin	Centre for Community Medicine

**Press Release**

S. No.	Date	Topic	Department
1.	18 April 2020	Fight against the COVID-19 Pandemic	AIIMS Administration
2.	5 May 2020	COVID-19 related research	Research Section
3.	12 June 2020	AIIMS Entrance examination for various courses	Examination Section
4.	12 June 2020	AIIMS study proves effectiveness of Yoga in migraine headaches	Centre for Integrative Medicine and Research and Department of Neurology
5.	6 July 2020	Mr Tarun Sisodiya admitted to JPANATC	AIIMS Administration
6.	16 July 2020	RAK OPD at Masjid Moth	AIIMS Administration
7.	19 June 2020	Plasma Donation Campaign at AIIMS, New Delhi	AIIMS Administration
8.	11 August 2020	Israel donates groundbreaking technology to AIIMS	AIIMS Administration
9.	18 August 2020	Sh. Amit Shah admitted to AIIMS for post COVID care	AIIMS Administration
10.	25 August 2020	35th Eye donation fortnight celebration by National Eye Bank	Dr R.P. Centre
11.	29 August 2020	Sh. Amit Shah admitted to AIIMS for post COVID care	AIIMS Administration
12.	31 August 2020	Sh. Amit Shah admitted to AIIMS for post COVID care	AIIMS Administration
13.	25 September 2020	The 65th AIIMS Foundation Day Celebration	AIIMS Administration
14.	5 October 2020	AIIMS Position on the Singh Rajput investigation and response to Republic TV Questionnaire	AIIMS Administration
15.	16 November 2020	India support the launch of Global Strategy to accelerate elimination of Cervical cancer	AIIMS Administration
16.	26 November 2020	Celebration of Constitution Day	AIIMS Administration
17.	27 November 2020	The National Organ Donation Day	ORBO
18.	14 December 2020	The Nursing Union of AIIMS gone on a Strike	AIIMS Administration
19.	12 January 2021	47 <sup>th</sup> AIIMS Convocation Day	AIIMS Administration
20.	18 January 2021	Inaugurate the Burns and Plastic Surgery block	AIIMS Administration
21.	20 January 2021	COVID Vaccination Programme in AIIMS	AIIMS Administration
22.	9 February 2021	Red Cross Blanket distribution	AIIMS Administration
23.	16 February 2021	Second dose of Covaxin to Dr. (Prof.) V.K. Paul (Member of Niti Aayog)	AIIMS Administration
24.	17 February 2021	Second dose of Covaxin to Dr. (Prof.) Randeep Guleria, Director, AIIMS, New Delhi	AIIMS Administration

**PUBLICATIONS: 1**

## 12. Publications

### Journal Articles

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## 13.1. Budget and Finance

### All India Institute of Medical Sciences

अखिल भारतीय आयुर्विज्ञान संस्थान

Ansari Nagar, New Delhi-29

अंसारी नगर, नई दिल्ली-29

### Statement of Financial Position

वित्तीय स्थिति

as on 31st March, 2021

<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>	<b>Schedule</b>	<b>2020-21</b>	<b>2019-20</b>
Corpus/Capital fund and Liabilities	1	71,469,036,139.20	67,077,830,259.20
Reserves and Surplus	2	4,650,661,309.32	4,602,252,487.87
Earmarked / Endowment Fund	3	1,468,948,757.60	1,443,309,256.00
Secured Loans & Borrowings	4	3,221,400,000.00	3,366,900,000.00
Unsecured Loans & Borrowings	5	0.00	
Deferred Credit Liabilities	6	0.00	
Current Liabilities and Provisions	7	12,293,392,075.47	12,025,780,090.85
<b>TOTAL</b>		<b>93,103,438,281.59</b>	<b>88,516,072,093.92</b>
<b>ASSETS</b>			
Fixed Assets	8	60,131,176,625.97	54,787,037,520.20
Investments from Earmarked / Endowment funds	9	0.00	72,061,069.00
Investments-others	10	7,846,727,421.55	7,294,750,570.69
Current Assets, Loan & Advances etc.	11	25,125,534,234.07	26,362,222,936.85
Misc. Expenditure		0.00	0.00
(to the extent not written off or adjusted)		0.00	0.00
<b>TOTAL</b>		<b>93,103,438,281.59</b>	<b>88,516,072,096.74</b>
Accounting policies and notes forming part of accounts	24		

Accounts Officer

Financial Advisor

Sr.Financial Advisor

Director

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**अखिल भारतीय आयुर्विज्ञान संस्थान**  
**INCOME AND EXPENDITURE ACCOUNT**  
**आय और व्यय खाता**  
**FOR THE PERIOD ENDED 31-03-2021**  
**31 मार्च, 2021 को समाप्त वर्ष के लिए**

<b>INCOME</b>	<b>Schedule</b>	<b>2020-21</b>	<b>2019-20</b>
Income from Sales/Services	12	93,805,049	478,592,687
Grants/Subsidies	13	26,901,300,000	25,888,999,999
Fees/Subscriptions	14	170,096,016	228,411,730
Income from Investments (Income on Invest. From earmeked/endow.Funds transfered to funds)	15	-	-
Income for Royalty, Publication etc.	16	6,173,912	323,657,672
Interest Earned	17	528,853,092	760,672,232
Other Income	18	559,173,040	469,973,131
Increase/(decrease) in stock of Finished goods and works-in-progress	19	-	-
<b>TOTAL (A)</b>		<b>28,259,401,109</b>	<b>28,150,307,451</b>
<b>EXPENDITURE</b>		-	-
Establishment Expenses	20	17,601,377,485	17,365,052,693
Other Administrative Expenses etc.	21	5,605,838,070	5,669,524,854
Material and supply	21B	4,073,244,309	4,014,346,294
Expenditure on Grants, Subsidies etc.	22	45,477,809	6,000,000
Interest	23	117,631,444	29,270
Depreciation (Net Total at the year-end - corresponding to Schedule 8)		256,194,578	-
<b>TOTAL (B)</b>		<b>27,699,763,695</b>	<b>27,054,953,111</b>
		-	-
<b>Balance being excess of Income over Expenditure (A-B)</b>		559,637,415	1,095,354,340
Transfer to Special Reserve (Specify each)		-	-
Transfer to /from General Reserve		-	-
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>			
<b>TOTAL</b>		<b>28,259,401,109</b>	<b>28,150,307,451</b>

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Director

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2021**

<b>SCHEDULE 1- CORPUS/CAPITAL FUND:</b>	<b>2020-21</b>	<b>2019-20</b>
Balances as at the beginning of the year	67,077,830,259.20	61,631,092,117.00
Add : Contributions towards Corpus/Capital Fund	4,586,300,000.00	5,654,738,716.00
Less Condemnation during the year	195,094,120.00	208,000,573.80
<b>BALANCE AS AT THE YEAR-END</b>	<b>71,469,036,139.20</b>	<b>67,077,830,259.20</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2021**

<b>SCHEDULE 2- RESERVES AND SURPLUS:</b>	<b>2020-21</b>	<b>2019-20</b>
1. Capital Reserve:	-	-
As per last Account	3,598,085.00	167,494,684.00
Addition during the year	-	671,274.00
Less: Deductions during the year	-	-
2. Revaluation Reserve	-	-
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
3. Special Reserves	-	-
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
4. General Reserve	-	-
As per last Account	4,598,654,402.87	3,926,752,812.40
Addition during the year	288,403,869.90	412,912,013.47
Add/(Less): Adjustment	-985,968.72	94,421,704.00
Cancelled Cheque Credit B.A	17,185,498.00	
Less Consolidation Impact of Depreciation	256,194,577.73	
<b>TOTAL</b>	<b>4,650,661,309.32</b>	<b>4,602,252,487.87</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2021**

	<b>2020-21</b>	<b>2019-20</b>
<b>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</b>		
a) Opening balance of the funds	1,443,309,256.00	1,553,583,124.00
b) Additions to the Funds:	94,271,406.50	-
i. Donations/grants	568,406,745.00	971,369,381.00
ii. Income from investments made on account of funds	34,739,377.00	2,986,377.00
iii. CSR Hospital Billing AIIMS	-	22,967,680.00
iv. Research Section	2,500,000.00	2,703,149.00
<b>TOTAL (a)</b>	<b>2,143,226,784.50</b>	<b>2,553,609,711.00</b>
c) Utilisation/Expenditure towards objectives of funds	-	-
i. Capital Expenditure		
- Fixed Assets	-	68,068,190.00
- Others	63,500,000.00	125,551,305.00
ii. Revenue Expenditure	-	-
- Salaries, Wages and allowances etc.	3,487,811.90	-
- Rent	-	-
-Other Expenses	607,290,215.00	916,680,960.00
Total Expenditure(b)	674,278,026.90	1,110,300,455.00
<b>NET BALANCE AS AT THE YEAR-END (a-b)</b>	<b>1,468,948,757.60</b>	<b>1,443,309,256.00</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2021**

<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>	<b>2020-21</b>	<b>2019-20</b>
1. Central Government		
2. State Government		
3. Financial Institutions		
a) Term Loans		
b) Interest accrued and due		
4. Banks:		
a) Term Loans		
- Interest accrued and due		
b) Other Loans (specify)		
- Interest accrued and due		
5. Other Institutions and Agencies #	3,366,900,000.00	
Add- Loan Received	379,500,000.00	4,153,400,000.00
Less- Loan Repayment	525,000,000.00	786,500,000.00
6. Debentures and Bonds		
7. Others (Specify)		
<b>TOTAL</b>	<b>3,221,400,000.00</b>	<b>3,366,900,000.00</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2021**

<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>	<b>2020-21</b>	<b>2019-20</b>
1. Central Government		
2. State Government		
3. Financial Institutions		
4. Banks:		
a) Term Loans		
b) Other Loans (specify)		
5. Other Institutions and Agencies		
6. Debentures and Bonds		
7. Fixed Deposits		
8. Others (Specify)		
<b>TOTAL</b>	<b>0</b>	<b>0</b>

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
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<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>	<b>2020-21</b>	<b>2019-20</b>
a) Acceptances secured by hypothecation of capital equipment and other assets		
b) Others		
<b>TOTAL</b>	<b>0</b>	<b>0</b>

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<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>	<b>2020-21</b>	<b>2019-20</b>
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>		
1. Imprest	20,000.00	20,000.00
2. Sundry Creditors:	-	-
i) For Goods (Custom Duty to be paid)	-	-
ii) Others (Grants for HEFA Loan)		-
iii) Others salary( CNC)	571,929.00	
3. Advances Received	-	-
4. Interest payable :	-	-
a) To be refunded to the MoH&FW**	175,677,289.00	-
a) Unsecured Loans/borrowings	-	-
5. Statutory Liabilities:	-	-
a) Overdue	-	-
a) Others	-	-
6. Other current Liabilities	4,547,197,891.47	4,951,327,794.85
7. Main AIIMS( NPS amount to be remitted to NSDL by RPC)	17,712,344.00	19,074,051.00
8. GPF liabilities	7,552,212,622.00	7,055,358,245.00
<b>TOTAL (A)</b>	<b>12,293,392,075.47</b>	<b>12,025,780,090.85</b>
	-	-
<b>B. PROVISIONS</b>	-	-
1. For Taxation	-	-
2. Gratuity	-	-
3. Superannuation/Pension	-	-
6. Accumulated Leave Encashment	-	-
6. Trade Warranties/Claims	-	-
6. Others (specify)	-	-
<b>TOTAL (B)</b>	<b>-</b>	<b>-</b>
<b>TOTAL (A+B)</b>	<b>12,293,392,075.47</b>	<b>12,025,780,090.85</b>

\*\* The amount has been kept as liabilities towards refund to MoH&FW. The amount includes portion of interest refundable to ministry and Income of AIIMS, New Delhi. As such , the entire amount is not refundable.

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<b>A. FIXED ASSETS:</b>		2020-21			2019-20
Schedule 8	Opening Balance	Addition During the Year	Deletion/Condemnation	Depreciation	Closing Value of Assets at the year end
<b>1 LAND:</b>	-	-	-	-	-
a) Freehold / Leasehold	895,504,881.00	-	-	-	895,504,881.00
<b>2 BUILDINGS:</b>	-	-	-	-	-
a) On Freehold Land	23,045,138,889.00	200,699,277.00	-	3,344,987.95	23,242,493,178.05
b) On Leasehold Land	-	-	-	-	-
c) Capital Work in Progress	460,303,700.00	-	-	-	460,303,700.00
<b>3 PLANT MACHINERY &amp; EQUIPMENT</b>	28,795,601,601.20	5,338,976,118.85	190,162,809.00	252,270,532.50	33,692,144,378.55
4 Vehicles	82,662,207.00	740,988.65	1,911,913.00	49,400.00	81,441,882.65
5 Furniture & Fixture	61,637,307.00	227,479.00	3,019,398.00	23,522.94	58,821,865.06
6 Office Equipment	-	-	-	-	-
7 Computer/Peripherals	252,569,105.00	4,312,009.00	-	506,134.33	256,374,979.67
8 Library Books	1,193,619,830.00	250,471,931.00	-	-	1,444,091,761.00
<b>TOTAL</b>	<b>54,787,037,520.20</b>	<b>5,795,427,803.50</b>	<b>195,094,120.00</b>	<b>256,194,577.73</b>	<b>60,131,176,625.97</b>

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<b>SCHECULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>	<b>2020-21</b>	<b>2019-20</b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debenutres and Bonds		
5. Subsidiaries and Joint Venutres		
6. Others Fixed Deposits (Endowment fund)		72,061,069.00
7. Seed money for opening of Bank Account (Donation)		
<b><u>TOTAL</u></b>	<b>0</b>	<b>72,061,069.00</b>

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<b><u>SCHECULE 10 - INVESTMENTS - OTHERS</u></b>	<b>2020-21</b>	<b>2019-20</b>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others :-	621,600,000.00	571,600,000.00
7.NPS	110,000,000.00	140,000,000.00
8. GPF	7,097,988,997.55	6,566,897,146.69
9. Investment of Donations	17,138,424.00	16,253,424.00
<b><u>TOTAL</u></b>	<b>7,846,727,421.55</b>	<b>7,294,750,570.69</b>

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<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES</b>	<b>2020-21</b>	<b>2019-20</b>
<b>A CURRENT ASSETS:</b>		
<b>1. Inventories/Advances for Procurement</b>		
a) M&S	9,782,099.00	9,782,099.00
b) Stock-in-trade	-	-
Finished Goods	-	-
Work-in-progress	-	-
<b>2. Sundry Debtors:</b>		
a) Debts Outstanding	42,881,904.00	115,351,675.00
b) Others (outside recoveries)	3,245,441.00	3,245,441.00
c) Misc. recoveries receivable from Centres (Engg. Work)	76,000.00	76,000.00
<b>3. Cash balances in hand (including cheques/ drafts and imprest)</b>	<b>1,135,285.00</b>	<b>1,039,150.00</b>
<b>4. Bank Balances:</b>		
a) With Scheduled Banks:	-	-
On Current Accounts	1,309,866,568.34	1,493,283,466.69
On Deposit Accounts	3,688,822,818.23	1,531,657,295.85
b) With Scheduled Banks:	-	13,784,126.00
	-	-
on FDRs Research Section	608,831,336.00	4,500,000,000.00
On Savings Accounts	-	207,301,827.00
<b>5. Investment - (TDR-NOHP)</b>	<b>-</b>	<b>40,000,000.00</b>
<b>TOTAL (A)</b>	<b>5,664,641,451.57</b>	<b>7,915,521,080.54</b>
	-	-
	-	-
<b>SCHEDULE 11- CURRENT ASSETS, LOANS, ADVANCES</b>	<b>-</b>	<b>-</b>
<b>B LOANS, ADVANCES AND OTHER ASSETS</b>		
<b>1. Loans:</b>		
a) Staff	18,110,648.00	12,603,782.00
b) Other Entities engaged in activities/objectives similar to that of Entity	-	-
c) Other (Adv for purchase)	2,340,588.00	2,340,588.00
<b>2. Advances and other amounts:-</b>		
a) On Capital Account	-	-
b) Letter of Credit	555,033,526.00	662,705,199.00
c) Custom Duty	185,145,315.00	232,260,941.00
d) PDA	10,633,748.00	8,468,025.00
<b>3. Income Accrued:</b>		
a) On Investments from Earmarked / Endowment Funds	-	-
b) On Investments - Others	-	-
c) On Loans and Advances	2,626,000.00	2,626,000.00
d) Others	18,687,002,957.50	17,525,697,321.31
	-	-
<b>4. Claims Receivable:</b>		
<b>TOTAL (B)</b>	<b>19,460,892,782.50</b>	<b>18,446,701,856.31</b>
<b>Sum Total (A+B)</b>	<b>25,125,534,234.07</b>	<b>26,362,222,936.85</b>

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<b>SCHECULE 12 - INCOME FROM SALES / SERVICES</b>	<b>2020-21</b>	<b>2019-20</b>
<b>1) Income from Sales</b>		
1. Sale of Finished Goods	-	-
2. Sale of Raw Material	-	-
3. Sale of Scraps	540,870.00	330,600.00
<b>2) Income from Services</b>	-	-
a) Hospital receipts	90,979,418.00	476,719,893.77
b) Professional / Consultancy Services		
c) Agency Commission and Brokerage		
d) Maintenance Services (Equipment/Property)	-	-
e) Others	2,284,761.00	1,542,193.00
<b>TOTAL</b>	<b>93,805,049.00</b>	<b>478,592,686.77</b>

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<b>SCHECULE 13 - GRANTS /SUBSIDIES</b>	<b>2020-21</b>	<b>2019-20</b>
<b>(Irrevocable Grants &amp; Subsidies Received)</b>		
1. Central Government	26,901,300,000.00	25,808,999,999.00
2. State Government(s)		
3. Government Agencies		
4. Institutions/ Welfare Bodies		
5. International Organisations		
6. Others (Specify) PMJAY Transf. from Hospital		80,000,000.00
<b>TOTAL</b>	<b>26,901,300,000.00</b>	<b>25,888,999,999.00</b>

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<b>SCHEDULE 14 - FEES/SUBSCRIPTIONS</b>	<b>2020-21</b>	<b>2019-20</b>
1. Tuition Fee	47,190,376.45	94,495,413.00
2. Licence Fee	26,172,931.55	39,474,476.00
3. Seminar/Program Fees	-	-
4. Others	96,732,708.00	94,441,841.00
<b>Total</b>	<b>170,096,016.00</b>	<b>228,411,730.00</b>

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<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b>	<b>2020-21</b>	<b>2019-20</b>
(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)		
1. Interest		
a) On Govt. Securities		
a) Other Bonds/Debentures		
2. Dividends:		
a) On Shares		
a) On Mutal Fund Securities		
3. Rents		
4. Others (Specify)		
<b>TOTAL</b>		
<b>TRANSFERRED TO EARMARKED/EDNOWMENT FUNDS</b>	0	

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<b>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
1. Income from Royalty		
2. Income from Publications		
3. Others (specify) NPS	6,173,912.00	323,657,672.00
<b><u>TOTAL</u></b>	<b>6,173,912.00</b>	<b>323,657,672.00</b>

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<b>SCHEDULE 17 - INTEREST EARNED</b>	<b>2020-21</b>	<b>2019-20</b>
1. On Term Deposits:	-	-
a) With Scheduled Banks	-	262,370,789.00
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Interest earned refunded MOH&FW	-	-
2. On Savings Accounts:	-	-
a) With Scheduled Banks	-	-
b) With Non-Scheduled Banks	-	-
c) Post Office Savings Accounts	-	-
d) Others	-	-
3. On Loans:	-	-
a) Employees/Staff	1,424,969.00	1,464,892.00
b) Others	-	-
4. On GPF investment	527,428,123.00	496,836,551.00
5. Interest on Debtors and other Receivables	-	-
<b><u>TOTAL</u></b>	<b>528,853,092.00</b>	<b>760,672,232.00</b>

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<b>SCHEDULE 18 - OTHER INCOME</b>	<b>2020-21</b>	<b>2019-20</b>
1. Misc. Receipt	29,253,586.00	34,465,893.00
2. Misc. Estt. Receipts	-	42,610,150.00
3. Exam Section Receipt	528,612,750.00	292,897,088.00
4. Other Income	1,306,704.00	-
5. Research Other Income	-	100,000,000.00
<b>TOTAL</b>	<b>559,173,040.00</b>	<b>469,973,131.00</b>

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<b>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>	<b>2020-21</b>	<b>2019-20</b>
a) Closing stock		
- Finished Goods		
- Work-in-progress		
b) Less: Opening Stock		
- Finished Goods		
- Work-in-progress		
<b>NET INCREASE/(DECREASE) [a+b]</b>	<b>0</b>	<b>0</b>

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<b>SCHEDULE 20 - ESTABLISHMENT EXPENSES</b>	<b>2020-21</b>	<b>2019-20</b>
Salaries and Wages	15,253,169,033.00	15,044,423,015.60
Travelling Allowance	32,220,929.00	75,685,763.00
Learning Resource Allowance	-	-
Contribution to Provident Fund	-	-
Staff Welfare Expenses (DLIS)	180,000.00	-
Expenses on Employees "Retirement and Terminal Benefits"	1,962,209,414.00	1,785,435,582.00
Others (NPS )	352,266,266.00	455,585,236.00
Leave Salary Pension Contribution	1,331,843.00	3,923,096.00
<b>Total</b>	<b>17,601,377,485.00</b>	<b>17,365,052,692.60</b>

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<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
a) Purchases of hospital stores others specify	1,262,215,871.00	1,425,346,878.00
b) Manpower Outsourcing Charges	855,167,282.00	765,308,725.00
c) Office Expenses	30,078,368.00	24,772,323.00
d) Electricity and power	923,309,837.00	830,178,640.00
e) Water charges	55,243,102.00	47,815,600.00
f) Insurance	-	-
g) Repairs and maintenance (AMC/CAMC)	280,404,077.00	337,300,568.00
h) Repairs and maintenance of Buildings	828,547,170.00	941,058,245.00
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	-	-
k) Postage, Telephone and Communication Charges	-	-
l) Printing and Stationary	-	-
m) Travelling and Conveyance Expenses	5,050,381.00	86,386,825.00
n) Expenses on Seminar/Workshops	-	-
o) Subscription Expenses	-	-
p) Expenses on Fees	-	-
q) Auditors Remuneration	-	-
r) Hospitality Expenses	-	-
s) Professional Charges	-	-
t) Provision for Bad and Doubtful Debts/Advances	-	-
u) Irrecoverable Balances Written-off	-	-
v) Other Expenses	144,633,002.00	282,922,023.00
w) Hostel	-	-
x) Bank Charges	572,403.00	864,518.30
y) Advertisement and Publicity	-	-
z) Others (specify)(Contingency charge)	1,220,616,577.00	927,570,509.00
<b>Total</b>	<b>5,605,838,070.00</b>	<b>5,669,524,854.00</b>

<b>SCHEDULE 21B - Material and Supplies</b>	<b>2020-21</b>	<b>2019-20</b>
Hospital stores M&S	4,049,344,959.00	3,975,530,639.00
Others M&S	23,899,350.00	38,815,655.00
<b>Total</b>	<b>4,073,244,309.00</b>	<b>4,014,346,294.00</b>

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<b>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
a). Grants given to Institutions/Organizations		6,000,000.00
b). Subsidies given to Institutions/organisations		
c) Grants given to RPC patient treatment account	45477809	
<b>Total</b>	<b>45,477,809.00</b>	<b>6,000,000.00</b>

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<b>SCHEDULE 23- INTEREST</b>	<b>2020-21</b>	<b>2019-20</b>
a) On fixed Loans		
b) Bank Charges	32,444.00	29,270.00
c) Transfer to the Ministry of Health and Family Welfare	117,597,000.00	-
<b>Total</b>	<b>117,629,444.00</b>	<b>29,270.00</b>

**Accounts Officer**

**Financial Advisor**

## SCHEDULED 24

### Accounting Policies and Notes forming part of Accounts

1. The Activities of the Institute is mainly funded from the grants from Government of India and Accounts of the Institute are prepared in accordance with Generally accepted Accounting principles.
2. The accounts have been prepared on cash basis i.e. on actual Receipt and Payments basis. However, depreciation has been charged on the assets acquired in FY 2020-21. Computation of depreciation has been made on straight line method after taking into account the actual life of assets subtracting the salvage value of assets.
3. Consolidated final accounts of AIIMS New Delhi have been prepared for FY 2020-21. However, accounts of Research Section, NDDTC and UNDCP have been kept separately as these Centres receive funds separately from the Ministries/ various funding agencies.
4. Interest figures also include interest earned on revenue receipts of the Institute. After calculation interest portion earned on unspent balance of GIA will be remitted to the Ministry.
5. No provisions for liability of Gratuity, pension and leave encashment etc have been made in the accounts as the grants from the Government of India are received for actual expenditure. The payment of Gratuity, pension and leave encashment etc are accounted in the accounts only at the time of actual payments.
6. No closing stock of Store and supplies at the end of accounting period is incorporated in the accounts as all expenditure on stores and supplies are treated as final expenditure at the time of payments in the accounts.
7. Income of the Institute is exempted from Income-Tax under Section 11 of the Income Tax Act, 1961.
8. All Assets ( Machinery & Equipments, vehicles etc ) funded from the grants for the Research projects are used for the activities of the Research projects and are not included in the assets of the Institute . Such Assets (Machinery & Equipments, vehicles etc,) are either returned to the funding agencies or used in the Departments after the completions of the projects as per sanction of the funding agencies.
9. A statement showing the expenditure made by various Project Investigators for Research Projects during 2020-21 and balance amount lying with the Institute as on 31-03-2021 is attached with the Accounts.
10. Advances for treatment under the packages were treated as revenue and expenditure incurred against those treatments was shown in expenditure. During the current year advances received against the packages for treatment are shown under the revolving fund and expenditure incurred against the revolving fund. Balances in the revolving fund shown as liability. The impact of these changes of accounting policy is not assessable and not significant.
11. Accounts for the year ended 31-03-2021 are prepared in the new format and grouping and regrouping and classification, wherever necessary have been changed/adopted for better presentation.
12. Assets of the Institute in every Departments/Centre's are physically verified once in year by the faculty/officer nominated for the purpose and no significant/major deviations have been reported.
13. Stores and supplies of the Institute in every Departments/Centre's are physically verified once in year by the faculty/officer nominated for the purpose and no significant/major deviations have been reported.
14. Institute is maintaining various Revolving funds for test/procedures required for patients care and same are included in the consolidated Accounts of the Institute.
15. Donations/receipts from various sources without any attached conditions are treated as income of the concerned centre or of Institute as the case may be.
16. All Accounting policies and Notes Forming Part of Accounts listed above are also applied in the preparation of the Accounts of the Centers also.

Accounts Officer

Financial Advisor

Sr. Financial Advisor

Director

**National Drug Dependence Treatment Centre**  
**RECEIPT AND PAYMENTS FOR THE MONTH ENDED AS ON 31.3.2021**

Receipts		2020-21	2019-20	Payments		2020-21	2019-20
<b>1. Opening Balances</b>				<b>1. Expenses</b>			
(a) Cash in Hand		-	-	(a) Establishment Expenses (Schedule 20)		156,512,311.00	154,572,718.00
(b) Bank Balances		-	-	(b) Administrative Expenses (Schedule 21A)		161,880,871.50	148,322,009.00
(i) In current accounts		20,473,772.00	36,293,687.00				
(ii) In deposit accounts		-	-	<b>2. Advance payment</b>			
(iii) In saving accounts		-	-	(i) Material and Supply		79,508.00	120,000.00
				(ii) Temp adv for training programme (DTCs Scheme)		-	20,000.00
				(iii) For Nurses Training Program		-	240,000.00
<b>2. Grant Received</b>				<b>3. Investments and deposits made</b>			
(a) From Government of India (Ministry of H&FW)				(a) Out of Earmarked/Endowment Funds		-	-
Grant in Aid (Capital Assets)		5,334,477.00	10,474,468.00	(b) Out of Own funds (Investments-others)		-	-
Grant in Aid (General)		109,993,132.00	104,429,940.00				
Grant in Aid (Salaries)		165,000,000.00	124,882,683.00	<b>4. Expenditure on Fixed Assets &amp; Capital Work-in-Progress</b>			
Grant in aid (General/DTCs Scheme)		44,996,165.00	36,437,865.00	(a) Purchase of Fixed Assets (Schedule 8)		13,586,602.00	20,941,032.00
Grant in aid General (Nurses training programme)		-	330,600.00	(b) Expenditure on capital work-in-progress		-	-
<b>3. Income on Investment from</b>				<b>5. Refund of surplus money/loans</b>			
(a) Earmarked/endow.funds		-	-	(a) To the Government of India		-	-
(b) own funds(oth.investments)		-	-	(b) To the State Government		-	-
				(c) Repayment of loan to AIIMS (Schedule 7)		37,500,000.00	15,000,000.00
				(d) Refund to UNDCP A/c		-	-
<b>4. Interest received</b>				<b>6. Finance Charges (Interest)</b>			
(a) On bank deposits		32.00	-				
(b) Loans, Advances etc.		-	-				
				<b>7. Other Payments (Specify)</b>			
<b>5. Income from Hospital Services</b>				Outside Recoveries (GPF, NPS, HBA, Income Tax, License Fee etc.)		-	-
Hospital Receipts		73,125.00	675,275.00	(a) Projects		-	-
<b>6. Other Income</b>				(b) Refund of Earnest Money Deposit		-	-
Miscellaneous receipt		220.00	358,743.00	(c) Employees Recovery payment		-	-
Receipts 5% Admin.cost from UNDCAP A/C		-	3,231,270.00	(i) Recoveries from employees remitted to AIIMS (Main)		1,012,372.00	918,962.00
				AIIMS/Outside, Outstanding Recovery (schedule 7)			
				(ii) Outside Recoveries		26,531,765.00	25,386,021.00
<b>7. Amount Borrowed</b>				(iii) GPF (Subscription and Advances) remitted to GPF Section AIIMS Main		12,792,804.00	12,613,758.00
Loan from AIIMS (Main)		35,000,000.00	37,500,000.00	(iv) NPS Recovery to bank		5,513,342.00	5,152,376.00
Loan from UNDCP A/c		25,000,000.00	5,000,000.00	(v) NPS Recovery (without PRAN) remitted to GPF Section AIIMS Main		319,204.00	277,798.00
<b>8. Any other receipts</b>				Previous year Recovery		-	-
(a) Projects		-	-	<b>Loan, Advances and Other Assets</b>			
(b) Earnest Money Deposits		-	75,000.00	Advance payment for purchase of Material and Supply		-	-
(c) Employees Recovery (Income Tax)		-	-				



**National Drug Dependence Treatment Centre**  
**RECEIPT AND PAYMENTS FOR THE MONTH ENDED AS ON 31.3.2021**

Receipts	2020-21	2019-20	Payments	2020-21	2019-20
i) Recoveries from employees	1,012,372.00	918,962.00	Computer Advance	-	-
ii) Outside Recoveries	26,531,765.00	25,386,021.00	Festival Advance	-	-
iii) GFP (Subscription and Advances)	12,792,804.00	12,613,758.00	Recovery/Deductions (Engg Works)	-	-
iv) NPS Recovery	5,513,342.00	5,152,376.00	Recovery/Deductions (other than Engg Works)	3,420,554.00	3,082,277.00
v) NPS Recovery (without PRAN)	319,204.00	277,798.00	Repayment of loan (UNDCP)	-	-
vi) Recovery from Engg. Works	-	-	<b>8. Closing Balances</b>	-	-
<b>9. Loan, Adv. and Other Assets/Recovery</b>	-	-	(a) Cash in hand	-	-
Car Advance Recovery	-	-	(b) Bank Balances	-	-
Computer Advance Recovery	-	-	(i) In current accounts	36,250,382.00	20,473,772.00
House Building Advance Recovery	-	-	(ii) In deposit accounts	-	-
Festival Advance Recovery	-	-	(iii) In saving accounts	61,248.50	-
Recovery/Deductions (Engg Works)	-	-			
Recovery/Deductions (other than Engg Works)	3,420,554.00	3,082,277.00			
<b>Total</b>	<b>455,460,964.00</b>	<b>407,120,723.00</b>	<b>Total</b>	<b>455,460,964.00</b>	<b>407,120,723.00</b>

A.O., NDDTC, AIIMS

CHIEF, NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.3.2021**

<b>INCOME</b>	<b>Schedule</b>	<b>2020-21</b>	<b>2019-20</b>
Income from Sales/Services (Hospital Receipts)	<b>12</b>	73,125.00	675,275.00
Grants/Subsidies	<b>13</b>	319,989,297.00	266,081,088.00
Fees/Subscriptions	<b>14</b>	-	-
Income from Investments (Income on Invest. From earmeked/endow.Funds transferred to funds)	<b>15</b>	-	-
Income for Royalty, Publication etc.	<b>16</b>	-	-
Interest Earned	<b>17</b>	32.00	-
Other Income	<b>18</b>	220.00	3,590,013.00
Increase/(decrease) in stock of Finished goods and works-in-progress	<b>19</b>		
<b>TOTAL (A)</b>		<b>320,062,674.00</b>	<b>270,346,376.00</b>
<b>EXPENDITURE</b>			
Establishment Expenses	<b>20</b>	156,512,311.00	154,572,718.00
Administrative Expenses etc.	<b>21</b>	163,194,295.50	161,262,903.00
Material and supply	<b>21B</b>	-	-
Expenditure on Grants, Subsidies etc.	<b>22</b>	-	-
Interest	<b>23</b>	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
<b>TOTAL (B)</b>		<b>319,706,606.50</b>	<b>315,835,621.00</b>
<b>Balance being excess of income over expenditure (A-B)</b>		356,067.50	(45,489,245.00)
Transfer to Special Reserve (Specify each)		-	-
Transfer to /from General Reserve		-	-
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>320,062,674.00</b>	<b>270,346,376.00</b>

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**NATIONAL DURG DEPENDENCE TREATMENT CENTRE  
BALANCE SHEET AS ON 31.3.2021**

		(Amount in Rupees)	
		2020-21	2019-20
<u>CORPUS/CAPITAL FUND AND LIABILITIES</u>	Schedule		
CORPUS/CAPITAL FUND AND LIABILITIES	1	280,797,870.00	275,463,393.00
RESERVES AND SURPLUS	2	1,356,585.50	1,000,518.00
EARMARKED/ ENDOWMENT FUNDS	3	-	-
SECURED LOANS AND BORROWINGS	4	-	-
UNSECURED LOANS AND BORROWINGS	5	-	-
DEFERRED CREDIT LIABILITIES	6	-	-
CURRENT LIABILITIES AND PROVISIONS	7	65,486,370.00	42,986,370.00
<b>TOTAL</b>		<b>347,640,825.50</b>	<b>319,450,281.00</b>
<b>ASSETS</b>			
FIXED ASSETS	8	308,604,415.00	295,017,813.00
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	9	-	-
INVESTMENTS-OTHERS	10	-	-
CURRENT ASSETS, LOANS , ADVANCES ETC.	11	39,036,410.50	24,432,468.00
MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)		-	-
<b>TOTAL</b>		<b>347,640,825.50</b>	<b>319,450,281.00</b>

AO.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

	(Amount-Rs.)	
<b>SCHEDULE 1- CORPUS/CAPITAL FUND:</b>	2020-21	2019-20
Balances as at the beginning of the year	-	266,672,470.00
Add : Contributions towards Corpus/Capital Fund	275,463,393.00	10,474,468.00
Less : Fixed Assets Condemned during the year	5,334,477.00	1,683,545.00
	280,797,870.00	275,463,393.00
<b>BALANCE AS AT THE YEAR-END</b>	<b>280,797,870.00</b>	<b>275,463,393.00</b>

	2020-21	2019-20
<b>SCHEDULE 2- RESERVES AND SURPLUS:</b>		
1. <u>Capital Reserve:</u>		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
2. Revaluation Reserve		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
3. Special Reserves		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year (AIIMS LOAN REVERSE)	-	-
4. General Reserve		
As per last Account	1,000,518.00	46,489,763.00
Adjusted during the year	356,067.50	(45,489,245.00)
Less: Deduction during the year	-	-
<b>TOTAL</b>	<b>1,356,585.50</b>	<b>1,000,518.00</b>

AO, NDDTC, AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</b>	<b>TOTALS</b>	
	<b>2020-21</b>	<b>2019-20</b>
a) Opening balance of the funds	-	-
b) Additions to the Funds:	-	-
i. Donations/grants	-	-
ii. Income from investments made on account of funds	-	-
iii. Other additions (specify nature)	-	-
iv. Less Expenditure during the year	-	-
<b>TOTAL (a+b)</b>	<b>0</b>	<b>0</b>
c) Utilisation/Expenditure towards objectives of funds	-	-
i. <u>Capital Expenditure</u>	-	-
- Fixed Assets	-	-
- Others	-	-
ii. <u>Revenue Expenditure</u>	-	-
- Salaries, Wages and allowances etc.	-	-
- Rent	-	-
- Other Administrative expenses	-	-
<u>Total</u>	-	-
<b>TOTAL (c)</b>	-	-
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>		<b>0</b>

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>	<b>2020-21</b>		<b>2019-20</b>	
1. Central Government	-	-	-	-
2. State Government	-	-	-	-
3. Financial Institutions	-	-	-	-
a) Term Loans	-	-	-	-
b) Interest accrued and due	-	-	-	-
4. Banks:				
a) Term Loans	-	-	-	-
- Interest accrued and due	-	-	-	-
b) Other Loans (specify)	-	-	-	-
- Interest accrued and due	-	-	-	-
5. Other Institutions and Agencies	-	-	-	-
6. Debentures and Bonds	-	-	-	-
7. Others (Specify)	-	-	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Note</u> : Amounts due within one year				

AO.,NDDTC,AIIMS



**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount-Rs.)

SCHEDULE 5 - UNSECURED LOANS AND BORROWING	2020-21	2019-20
1. Central Government	-	-
2. State Government	-	-
3. Financial Institutions	-	-
4. Banks:	-	-
a) Term Loans	-	-
b) Other Loans (specify)	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
8. Others (Specify)	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>
<b>Note:</b> Amounts due within one year		

SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:	2020-21	2019-20
a) Acceptances secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>
<b>Note:</b> Amount due within one year		

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount -Rs.)

SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS	2020-21		2019-20	
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>				
1. Acceptances	-	-	-	-
2. Sundry Creditors:	-	-	-	-
i) For Goods (Customs Duty to be paid)	-	-	-	-
ii) Others Outside recoveries to be paid to AIIMS (O.B.)	13,155.00	13,155.00	-	13,155.00
3. Advances Received	-	-	-	-
4. Interest accrued but not due on:	-	-	-	-
i) Secured Loans/borrowings	-	-	-	-
ii) Unsecured Loans/borrowings	-	-	-	-
5. Interest accrued but not due on:	-	-	-	-
a) Secured Loans/borrowings	-	-	-	-
a) Unsecured Loans/borrowings	-	-	-	-
6. Statutory Liabilities:	-	-	-	-
a) Overdue	-	-	-	-
a) Others	-	-	-	-
7. Security Deposits (EMD)	-	-	-	-
Opening Balance	360,000.00	-	285,000.00	-
Received during the year	-	-	75,000.00	-
Refund during the year	-	360,000.00	-	360,000.00
8. Other current Liabilities	113,215.00	113,215.00	-	113,215.00
9. Loan from UNDCP A/C ( opening Balance)	5,000,000.00	-	-	-
Loan from UNDCP A/c during the year	25,000,000.00	30,000,000.00	5,000,000.00	-
Less : Loan refund to UNDCP A/c	-	-	-	5,000,000.00
10. Loan from AIIMS (Main) (OB)	37,500,000.00	-	15,000,000.00	-
Loan from AIIMS (Main)	35,000,000.00	-	37,500,000.00	-
Loan refund to AIIMS (Main)	37,500,000.00	35,000,000.00	15,000,000.00	37,500,000.00
<b>TOTAL (A)</b>		<b>65,486,370.00</b>		<b>42,986,370.00</b>
<b>B. PROVISIONS</b>				
1. For Taxation	-	-	-	-
2. Gratuity	-	-	-	-
3. Superannuation/Pension	-	-	-	-
6. Accumulated Leave Encashment	-	-	-	-
6. Trade Warranties/Claims	-	-	-	-
6. Others (specify)	-	-	-	-
<b>TOTAL (B)</b>				
<b>TOTAL (A+B)</b>		<b>65,486,370.00</b>		<b>42,986,370.00</b>

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021

(Amount in Rs.)

SCHEDULE 8 – FIXED ASSETS										
DESCRIPTION	GROSS BLOCK				DEPRECIATION			NET BLOCK		
	Cost/ valuation as at beginning of the year	Additions during the year	Deductions during the year	Cost/ valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end 20-21	As at the previous year-end 19-20
<b>A. FIXED ASSETS:</b>										
<b>1. LAND:</b>										
a) Freehold	-	-	-	-	-	-	-	-	-	-
b) Leasehold	-	-	-	-	-	-	-	-	-	-
<b>2. BUILDINGS:</b>										
a) Engineering related capital work	125,072,829.00	4,089,195.00	-	129,162,024.00	-	-	-	-	129,162,024.00	125,072,829.00
b) On Leasehold Land	-	-	-	-	-	-	-	-	-	-
c) Ownership Flats/Premises	-	-	-	-	-	-	-	-	-	-
<b>3. PLANT MACHINERY &amp; EQUIPMENT</b>	81,997,576.00	1,849,827.00	-	83,847,403.00	-	-	-	-	83,847,403.00	81,997,576.00
4. VEHICLES	13,331,349.00	1,367,948.00	-	14,699,297.00	-	-	-	-	14,699,297.00	13,331,349.00
5. FURNITURE, FIXTURES	15,404,714.00	1,319,755.00	-	16,724,469.00	-	-	-	-	16,724,469.00	15,404,714.00
6. Office Equipment	-	893,576.00	-	893,576.00	-	-	-	-	893,576.00	-
7. COMPUTER/PERIPHERALS	-	485,747.00	-	485,747.00	-	-	-	-	485,747.00	-
8. ELECTRIC INSTALLATIONS	-	-	-	-	-	-	-	-	-	-
9. LIBRARY BOOKS	57,077,785.00	3,580,554.00	-	60,658,339.00	-	-	-	-	60,658,339.00	57,077,785.00
10. OTHER FIXED ASSETS (SAP)	2,133,560.00	-	-	2,133,560.00	-	-	-	-	2,133,560.00	2,133,560.00
<b>TOTAL OF CAURENT YEAR</b>	<b>295,017,813.00</b>	<b>13,586,602.00</b>	<b>-</b>	<b>308,604,415.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>308,604,415.00</b>	<b>295,017,813.00</b>

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount - Rs.)

<b><u>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u></b>	<b><u>2020-21</u></b>	<b><u>2019-20</u></b>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (to be specified)	-	-
7. Seed money for opening of Bank Account (Donation)	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>

<b><u>SCHEDULE 10 - INVESTMENTS - OTHERS</u></b>	<b><u>2020-21</u></b>	<b><u>2019-20</u></b>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (NPS Fixed Deposit)	-	-
7. Investment of Donations	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

		2020-21		2019-20	
		(Amount - Rs.)			
<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>					
<b>A CURRENT ASSETS:</b>					
1. <u>Advances for Procurement</u>					
	a) Material and Supply	255,000.00	-	255,000.00	-
	Opening Balance	-	-	-	-
	Addition during the year	79,508.00	-	120,000.00	-
	Adjusted during the year	79,508.00	255,000.00	120,000.00	255,000.00
b) Nurses Training programme:					
	Opening Balance	125,000.00	-	-	-
	Addition during the year	-	-	240,000.00	-
	Adjusted during the year	-	125,000.00	115,000.00	125,000.00
2. Advance for training Programme					
	Opening Balance	3,137,988.00	-	15,823,882.00	-
	Addition during the year	-	-	20,000.00	-
	Adjusted during the year	1,233,916.00	1,904,072.00	12,705,894.00	3,137,988.00
3. <u>Sundry Debtors:</u>					
	a) Debts Outstanding	-	-	-	-
	b) Others (outside recoveries)	-	-	-	-
	c) Misc. recoveries from Centres (Engg. Work)	-	-	-	-
4. <u>Cash balances in hand (including cheques/ drafts and imprest)</u>					
5. <u>Bank Balances:</u>					
	a) <u>With Scheduled Banks:</u>	-	-	-	-
	On Current Accounts	-	36,250,382.00	-	20,473,772.00
	On Deposit Accounts (includes margin money)	-	-	-	-
	On Savings Accounts	-	61,248.50	-	-
	b) <u>With non-Scheduled Banks:</u>	-	-	-	-
	On Current Accounts	-	-	-	-
	On Deposit Accounts	-	-	-	-
	On Savings Accounts	-	-	-	-
6. <u>Customs Duty Advance</u>					
	On Current Accounts	-	400,000.00	-	400,000.00
	On Deposit Accounts	-	40,708.00	-	40,708.00
	On Savings Accounts	-	-	-	-
<b>TOTAL (A)</b>			<b>39,036,410.50</b>		<b>24,432,468.00</b>

AO., NDDTC, AIIMS

National Drug Dependence Treatment Centre  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021

(Amount - Rs.)

SCHEDULE 11B - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)	2020-21		2019-20	
<b>B LOANS, ADVANCES AND OTHER ASSETS</b>				
1. <u>Loans:</u>				
a) Staff	-	-	-	-
i) Motor car	-	-	-	-
ii) House Building Advance	-	-	-	-
iii) Computer Advance	-	-	-	-
iv) Festival Advance	-	-	-	-
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>				
a) On Capital Account	-	-	-	-
b) Prepayments	-	-	-	-
c) Others	-	-	-	-
3. <u>Income Accrued:</u>				
a) On Investments from Earmarked / Endowment Funds	-	-	-	-
b) On Investments - Others	-	-	-	-
c) On Loans and Advances	-	-	-	-
d) Others (includes income due unrealised - Rs.....)	-	-	-	-
4. <u>Claims Receivable:</u>	-	-	-	-
<b>TOTAL (B)</b>		-		-
<b>TOTAL (A + B)</b>		39,036,410.50		24,432,468.00

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre  
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED ON 31.3.2021

(Amount - Rs.)

SCHEDULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS	2020-21		2019-20	
<b>1) Income from Sales</b>				
1. Sale of Finished Goods	-	-	-	-
2. Sale of Raw Materials	-	-	-	-
3. Sales of scraps	-	-	-	-
<b>2) Income from Services</b>				
a). Hospital receipts	73,125.00	675,275.00	-	-
b) Professional / Consultancy Services	-	-	-	-
c) Agency Commission and Brokerage	-	-	-	-
d) Maintenance Services (Equipment/Property)	-	-	-	-
e) Others (Specify) Hospital Receipt	-	-	-	-
<b>TOTAL</b>	<b>73,125.00</b>	<b>675,275.00</b>		

SCHEDULE 13 - GRANTS /SUBSIDIES	2020-21		2019-20	
<b>1) Income from Sales</b>				
(Irrevocable Grants & Subsidies Received)				
1. Central Government	319,989,297.00	266,081,088.00	-	-
2. State Government(s)	-	-	-	-
3. Government Agencies	-	-	-	-
4. Institutions/ Welfare Bodies (SAP)	-	-	-	-
5. International Organisations	-	-	-	-
6. Others (Specify) LOAN FROM AIIMS	-	-	-	-
<b>TOTAL</b>	<b>319,989,297.00</b>	<b>266,081,088.00</b>		

AO.,NDDTC,AIIMS



**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2021**

<b>SCHEDULE 14 - FEES/SUBSCRIPTIONS</b>	(Amount-Rs.)	
	2020-21	2019-20
1. Tuition & Examination Fee		
2. Licence Fee		
3. Seminar/Program Fees		
4. Consultancy Fees		
5. Others (Specify) EHS		
<b>TOTAL</b>	<b>0</b>	<b>0</b>
<b>Note-</b> Accounting Policies towards each item are to be disclosed		

<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b>	Investment from Earmarked Fund		Investment-Others	
	2020-21	2019-20	2020-21	2019-20
<b>(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)</b>				
1. Interest				
a) On Govt. Securities	-	-	-	-
a) Other Bonds/Debentures	-	-	-	-
2. Dividends:				
a) On Shares	-	-	-	-
a) On Mutual Fund Securities	-	-	-	-
3. Rents	-	-	-	-
4. Others (Specify)	-	-	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TRANSFERRED TO EARMARKED/EDNOWNMENT FUNDS</b>				

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
1. Income from Royalty		
2. Income from Publications		
3. Others (specify)		
<b>TOTAL</b>	0	0

<b>SCHEDULE 17 - INTEREST EARNED</b>	<b>2020-21</b>	<b>2019-20</b>
1. On Term Deposits:		
a) With Scheduled Banks	-	-
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Others	-	-
2. On Savings Accounts:		
a) With Scheduled Banks	32.00	-
b) With Non-Scheduled Banks	-	-
c) Post Office Savings Accounts	-	-
d) Others	-	-
3. On Loans:		
a) Employees/Staff	-	-
b) Others	-	-
4. Interest on Debtors and other Receivables	-	-
<b>TOTAL</b>	<b>32</b>	-

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.202:**

		(Amount-Rs.)	
		2020-21	2019-20
<b>SCHEDULE 18 - OTHERS INCOME</b>			
1. Misc Receipts		220.00	358,743.00
2. Receipts 5% Admn. Cost form UNDCAP A/c		-	3,231,270.00
3. Others (specify)			
<b>TOTAL</b>		<b>220.00</b>	<b>3,590,013.00</b>
<b>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>			
a) Closing stock		-	-
- Finished Goods		-	-
- Work-in-progress		-	-
b) Less: Opening Stock		-	-
- Finished Goods		-	-
- Work-in-progress		-	-
<b>NET INCREASE/(DECREASE) [a+b]</b>		-	-
<b>SCHEDULE 20 - ESTABLISHMENT EXPENSES</b>			
Salaries		150,619,136.00	144,572,490.00
Salaries expenditure under 5% Admn. Cost received from UNDCAP A/C			2,072,718.00
Contribution to NPS		5,893,175.00	7,927,510.00
Contribution to Other Fund (Scheme Cell)		-	-
Staff Welfare Expenses		-	-
Expenses on Employees "Retirement and Terminal Benefits"		-	-
Others (NPS & LSPC)		-	-
<b>TOTAL</b>		<b>156,512,311.00</b>	<b>154,572,718.00</b>

AO.,NDDTC,AIIMS

**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 21 - ADMINISTRATIVE EXPENSES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
a) Purchases of hospital store (Material & Supply)	34,358,667.00	56,257,449.00
b) HOUSEKEEPING SERVICES (SAP)	4,306,937.00	21,452,084.00
c) Misc expenditure (Adj. of advances)	79,508.00	120,000.00
d) Wages for security and contractual staff	52,748,615.00	32,913,376.00
e) Electricity and power	6,467,490.00	-
f) Imrest adjusted (20-21)	39,897.00	95,751.00
g) Repairs and maintenance (AMC/CAMC)	356,646.00	-
h) Repairs and maintenance of Buildings	12,128,432.00	-
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	503,530.00	-
k) Postage, Telephone and Communication Charges	29,031.00	-
l) Printing and Stationary	1,631,665.00	-
m) Travelling and Conveyance Expenses	-	115,000.00
n) Expenses under Nurses Training programme	2,286.00	46,314.00
o) Expenses under DTCs Scheme	45,003,669.00	37,476,165.00
p) Expenses on Sanitation (SAP)	-	80,870.00
q) Maintenance of Buildings (Minor Work RG)	-	-
r) Insurance of Vehicle	233,900.00	-
s) Bank Charges (Current and Saving Account)	2,920.50	-
t) Provision for Bad and Doubtful Debts/Advances	-	-
u) Irrecoverable Balances Written-off	-	-
v) Patient Diet	2,638,681.00	-
w) Freight and Forwarding Expenses	-	-
x) Vehicle Hiring	1,428,505.00	-
y) Advertisement and Publicity	-	-
z) Others (specify)(Adj. of advances)	1,233,916.00	12,705,894.00
<b>TOTAL</b>	<b>163,194,295.50</b>	<b>161,262,903.00</b>

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**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF RECEIPTS AND PAYMENT FOR THE YEAR ENDED 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 21A - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
a) Purchases of hospital store (Material & Supply)	34,358,667.00	56,257,449.00
b) HOUSEKEEPING SERVICES (SAP)	4,306,937.00	21,452,084.00
c) Misc expenditure (Adj. of advances)	-	-
d) Wages for security and contractual staff	52,748,615.00	32,913,376.00
e) Electricity and power	6,467,490.00	-
f) Interest adjusted (20-21)	39,897.00	95,751.00
g) Repairs and maintenance (AMC/CAMC)	356,646.00	-
h) Repairs and maintenance of Buildings	12,128,432.00	-
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	503,530.00	-
k) Postage, Telephone and Communication Charges	29,031.00	-
l) Printing and Stationary	1,631,665.00	-
m) Travelling and Conveyance Expenses	-	-
n) Expenses under Nurses Training programme	2,286.00	46,314.00
o) Expenses under DTCs Scheme	45,003,669.00	37,476,165.00
p) Expenses on Sanitation (SAP)	-	80,870.00
q) Maintenance of Buildings (Minor Work RG)	-	-
r) Insurance of Vehicle	233,900.00	-
s) Bank Charges (Current and Saving Account)	2,920.50	-
t) Provision for Bad and Doubtful Debts/Advances	-	-
u) Irrecoverable Balances Written-off	-	-
v) Patient Diet	2,638,681.00	-
w) Freight and Forwarding Expenses	-	-
x) Vehicle Hiring	1,428,505.00	-
y) Advertisement and Publicity	-	-
z) Others (specify)(Contingency charge)(Adj. of advances)	-	-
<b>TOTAL</b>	<b>161,880,871.50</b>	<b>148,322,009.00</b>

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**National Drug Dependence Treatment Centre**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
a). Grants given to Institutions/Organizations	-	-
b). Subsidies given to Institutions/organisations	-	-
<b>Total</b>	-	-
<b>Note</b> - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed.		

<b>SCHEDULE 23- INTEREST</b>	<b>2020-21</b>	<b>2019-20</b>
a) On fixed Loans	-	-
b) On other Loans ( including Bank charges)	-	-
c) Others( Specify)	-	-
<b>Total</b>	-	-

AO.,NDDTC,AIIMS



**UNDCP ACCOUNT**  
**RECEIPT AND PAYMENTS FOR THE MONTH ENDED AS ON 31.3.2021**

Receipts	2020-21	2019-20	Payments	2020-21	2019-20
<b>1. Opening Balances</b>			<b>1. Expenses</b>		
(a) Cash in Hand	-	-	(a) Establishment Expenses (Schedule 20)	4,514,597.00	2,364,869.00
(b) Bank Balances	-	-	(b) Administrative Expenses (Schedule 21A)	17,583,911.50	8,158,819.00
(i) In current accounts	209,508,502.00	60,122,247.00			
(ii) In deposit accounts	-	-	<b>2. Advance payment</b>		
(iii) In saving accounts	-	-	i) Material and Supply	-	-
			ii) Temp adv for training programme (DTCs Scheme)	-	-
			iii) For Nurses Training Program	-	-
<b>2. Grant Received</b>			<b>3. Investments and deposits made</b>		
a) From WHO	-	257,550.00	(a) Out of Earmarked/Endowment Funds	-	-
b) From Ministry of Finance	-	874,628.00	(b) Out of Own funds (Investments-others)	-	-
c) From MOSJE	-	192,725,400.00			
			<b>4. Expenditure on Fixed Assets &amp; Capital Work-in-Progress</b>		
			(a) Purchase of Fixed Assets (Schedule 8)	1,553,235.00	28,947,635.00
			(b) Expenditure on capital work-in-progress	-	-
<b>3. Income on Investment from</b>					
a) Earmarked/Endow.funds	-	-	<b>5. Refund of surplus money/loans</b>		
b) own funds(oth. Investments)	-	-	(a) To the Government of India	-	-
			(b) To the State Government	-	-
			(c) Repayment of loan to AIIMS (Schedule 7)	-	-
<b>4. Interest received</b>			(d) Refund to UNDCP A/c	-	-
(a) On bank deposits	32.00	-	<b>6. Finance Charges (Interest)</b>		
(b) Loans, Advances etc.	-	-			
<b>5. Income from Hospital Services</b>			<b>7. Other Payments (Specify)</b>		
Hospital Receipts	-	-	Outside Recoveries (GPF, NPS, HBA, Income Tax, License Fee etc.)	-	-
			(a) Projects	-	-
<b>6. Other Income</b>			(b) Refund of Earnest Money Deposit	-	-
Miscellaneous receipt	-	-	(c) Employees Recovery payment	-	-
Receipts 5% Admin.cost from UNDCAP A/C	-	-	i) Recoveries from employees remitted to AIIMS (Main)	-	-
			AIIMS/Outside, Outstanding Recovery (schedule 7)	-	-
<b>7. Amount Borrowed</b>			ii) Outside Recoveries	-	-
Loan from AIIMS (Main)	-	-	iii) GPF (Subscription and Advances) remitted to GPF section AIIMS Main	-	-
Loan from UNDCP A/c	-	-	iv) NPS Recovery to bank	-	-
<b>8. Any other receipts</b>			v) NPS Recovery (without PRAN) remitted GPF section to AIIMS MAIN	-	-
a) Projects	-	-	Previous year Recovery	-	-
(b) Earnest Money Deposits	-	-	<b>Loan, Advances and Other Assets</b>		
(c) Employees Recovery (Income Tax)	-	-	Advance payment for purchase of Material and Supply	-	-
i) Recoveries from employees	-	-	Computer Advance	-	-

**UNDCP ACCOUNT**  
**RECEIPT AND PAYMENTS FOR THE MONTH ENDED AS ON 31.3.2021**

Receipts	2020-21	2019-20	Payments	2020-21	2019-20
ii) Outside Recoveries	-	-	Festival Advance	-	-
iii) GFP (Subscription and Advances)	-	-	Recovery/Deductions (Engg Works)	-	-
iv) NPS Recovery	-	-	Recovery/Deductions (other than Engg Works)	-	-
v) NPS Recovery (without PRAN)	-	-	Loan to NDDTC ( schedule No.1.1)	25,000,000.00	5,000,000.00
vi) Recovery from Engg Works	-	-	<b>8. Closing Balances</b>	-	-
<b>9. Loan, Adv. and Other Assets/Recovery</b>	-	-	(a) Cash in hand	-	-
Car Advance Recovery	-	-	(b) Bank Balances	-	-
Computer Advance Recovery	-	-	(i) In currents accounts	160,848,440.00	209,508,502.00
House Building Advance Recovery	-	-	(ii) In deposit accounts	-	-
Festival Advance Recovery	-	-	(iii) In saving accounts	8,350.50	-
Recovery/Deductions (Engg Works)	-	-		-	-
Recovery/Deductions (other than Engg Works)	-	-		-	-
<b>Total</b>	<b>209,508,534.00</b>	<b>253,979,825.00</b>	<b>Total</b>	<b>209,508,534.00</b>	<b>253,979,825.00</b>

A.O., NDDTC, AIIMS

CHIEF, NDDTC, AIIMS

**UNDCP ACCOUNT**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.3.2021**

<b>INCOME</b>	<b>Schedule</b>	<b>2020-21</b>	<b>2019-20</b>
Income from Sales/Services (Hospital Receipts)	<b>12</b>	-	
Grants/Subsidies	<b>13</b>	-	193,857,578.00
Fees/Subscriptions	<b>14</b>	-	-
Income from Investments (Income on Invest. From earmeked/endow.Funds transferred to funds)	<b>15</b>	-	-
Income for Royalty, Publication etc.	<b>16</b>	-	-
Interest Earned	<b>17</b>	32.00	-
Other Income	<b>18</b>	-	
Increase/(decrease) in stock of Finished goods and works-in-progress	<b>19</b>		
<b>TOTAL (A)</b>		<b>32.00</b>	<b>193,857,578.00</b>
<b>EXPENDITURE</b>			
Establishment Expenses	<b>20</b>	4,514,597.00	2,364,869.00
Administrative Expenses etc.	<b>21</b>	17,583,911.50	8,158,819.00
Material and supply	<b>21B</b>	-	-
Expenditure on Grants, Subsidies etc.	<b>22</b>	-	-
Interest	<b>23</b>	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
<b>TOTAL (B)</b>		<b>22,098,508.50</b>	<b>10,523,688.00</b>
<b>Balance being excess of expenditure over income (A-B)</b>		(22,098,476.50)	183,333,890.00
Transfer to Special Reserve (Specify each)		-	-
Transfer to /from General Reserve		-	-
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>32.00</b>	<b>193,857,578.00</b>

A.O.,NDDTC,AIIMS

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**UNDCP ACCOUNT**  
**BALANCE SHEET AS ON 31.3.2021**

		(Amount in Rupees)	
		2020-21	2019-20
		Schedule	
<b><u>CORPUS/CAPITAL FUND AND LIABILITIES</u></b>			
CORPUS/CAPITAL FUND AND LIABILITIES			
RESERVES AND SURPLUS		-	-
EARMARKED/ ENDOWMENT FUNDS		228,902,610.50	251,001,087.00
SECURED LOANS AND BORROWINGS		-	-
UNSECURED LOANS AND BORROWINGS		-	-
DEFERRED CREDIT LIABILITIES		-	-
CURRENT LIABILITIES AND PROVISIONS		-	-
<b>TOTAL</b>		<b>228,902,610.50</b>	<b>251,001,087.00</b>
<b><u>ASSETS</u></b>			
FIXED ASSETS			
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS		38,000,820.00	36,447,585.00
INVESTMENTS-OTHERS		-	-
CURRENT ASSETS, LOANS , ADVANCES ETC.		-	-
MISCELLANEOUS EXPENDITURE		190,901,790.50	214,553,502.00
(to the extent not written off or adjusted)		-	-
<b>TOTAL</b>		<b>228,902,610.50</b>	<b>251,001,087.00</b>

AO.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

		(Amount-Rs.)	
		2020-21	2019-20
<b>SCHEDULE 1- CORPUS/CAPITLA FUND:</b>			
Balances as at the beginning of the year		-	-
Add : Contributions towards Corpus/Capital Fund		-	-
Less : Fixed Assets Condemned during the year		-	-
<b>BALANCE AS AT THE YEAR-END</b>		-	-
<b>SCHEDULE 2- RESERVES AND SURPLUS:</b>			
1. Capital Reserve:			
As per last Account		-	-
Addition during the year		-	-
Less: Deductions during the year		-	-
2. Revaluation Reserve			
As per last Account		-	-
Addition during the year		-	-
Less: Deductions during the year		-	-
3. Special Reserves			
As per last Account		-	-
Addition during the year		-	-
Less: Deductions during the year (AIIMS LOAN REVERSE)		-	-
4. General Reserve			
As per last Account		251,001,087.00	67,667,197.00
Adjusted during the year		(22,098,476.50)	183,333,890.00
Less: Deduction during the year		-	-
<b>TOTAL</b>		<b>228,902,610.50</b>	<b>251,001,087.00</b>

AO.,NDDTC,AIIMS



**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</b>	<b>TOTALS</b>	
	<b>2020-21</b>	<b>2019-20</b>
a) Opening balance of the funds	-	-
b) Additions to the Funds:	-	-
i. Donations/grants	-	-
ii. Income from investments made on account of funds	-	-
iii. Other additions (specify nature)	-	-
iv. Less Expenditure during the year	-	-
<b>TOTAL (a+b)</b>	<b>0</b>	<b>0</b>
c) Utilisation/Expenditure towards objectives of funds	-	-
i. <u>Capital Expenditure</u>	-	-
- Fixed Assets	-	-
- Others	-	-
ii. <u>Revenue Expenditure</u>	-	-
- Salaries, Wages and allowances etc.	-	-
- Rent	-	-
- Other Administrative expenses	-	-
<b>Total</b>	-	-
<b>TOTAL (c)</b>	-	-
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>		<b>0</b>

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**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>	<b>2020-21</b>		<b>2019-20</b>	
1. Central Government	-	-	-	-
2. State Government	-	-	-	-
3. Financial Institutions	-	-	-	-
a) Term Loans	-	-	-	-
b) Interest accrued and due	-	-	-	-
4. Banks:				
a) Term Loans	-	-	-	-
- Interest accrued and due	-	-	-	-
b) Other Loans (specify)	-	-	-	-
- Interest accrued and due	-	-	-	-
5. Other Institutions and Agencies	-	-	-	-
6. Debentures and Bonds	-	-	-	-
7. Others (Specify)	-	-	-	-
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Note</u> : Amounts due within one year				

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>	<b>2020-21</b>	<b>2019-20</b>
1. Central Government	-	-
2. State Government	-	-
3. Financial Institutions	-	-
4. Banks:	-	-
a) Term Loans	-	-
b) Other Loans (specify)	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
8. Others (Specify)	-	-
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>
<b>Note:</b> Amounts due within one year		

<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>	<b>2020-21</b>	<b>2019-20</b>
a) Acceptances secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>
<b>Note:</b> Amount due within one year		

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount -Rs.)

<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>	<b>2020-21</b>		<b>2019-20</b>	
<b>A. CURRENT LIABILITIES AND PROVISIONS</b>				
1. Acceptances	-	-	-	-
2. Sundry Creditors:	-	-	-	-
i) For Goods (Customs Duty to be paid)	-	-	-	-
ii) Others Outside recoveries to be paid to AIIMS (O.B.)	-	-	-	-
3. Advances Received	-	-	-	-
4. Interest accrued but not due on:	-	-	-	-
i) Secured Loans/borrowings	-	-	-	-
ii) Unsecured Loans/borrowings	-	-	-	-
5. Interest accrued but not due on:	-	-	-	-
a) Secured Loans/borrowings	-	-	-	-
a) Unsecured Loans/borrowings	-	-	-	-
6. Statutory Liabilities:	-	-	-	-
a) Overdue	-	-	-	-
a) Others	-	-	-	-
7. Security Deposits (EMD)	-	-	-	-
Opening Balance	-	-	-	-
Received during the year	-	-	-	-
Refund during the year	-	-	-	-
8. Other current Liabilities	-	-	-	-
9. Loan from UNDCPA/C O.B.	-	-	-	-
Loan from UNDCP A/c	-	-	-	-
Less : Loan refund to UNDCP A/c	-	-	-	-
10. Loan from AIIMS (Main) (OB)	-	-	-	-
Loan from AIIMS (Main)	-	-	-	-
Loan refund to AIIMS (Main)	-	-	-	-
<b>TOTAL (A)</b>	-	-	-	-
<b>B. PROVISIONS</b>				
1. For Taxation	-	-	-	-
2. Gratuity	-	-	-	-
3. Superannuation/Pension	-	-	-	-
6. Accumulated Leave Encashment	-	-	-	-
6. Trade Warranties/Claims	-	-	-	-
6. Others (specify)	-	-	-	-
<b>TOTAL (B)</b>	-	-	-	-
<b>TOTAL (A+B)</b>	-	-	-	-

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**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount in Rs.)

DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK			
	Cost/ valuation as at beginning of the year	Additions during the year	Deductions during the year	Cost/ valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end 20-21	As at the previous year-end 19-20
<b>A. FIXED ASSETS:</b>										
<b>1. LAND:</b>										
a) Freehold	-	-	-	-	-	-	-	-	-	-
b) Leasehold	-	-	-	-	-	-	-	-	-	-
<b>2. BUILDINGS:</b>										
a) Engineering related capital work	-	-	-	-	-	-	-	-	-	-
b) On Leasehold Land	-	-	-	-	-	-	-	-	-	-
c) Ownership Flats/Premises	-	-	-	-	-	-	-	-	-	-
<b>3. PLANT MACHINERY &amp; EQUIPMENT</b>	36,447,585.00	1,553,235.00	-	38,000,820.00	-	-	-	-	38,000,820.00	36,447,585.00
4. VEHICLES	-	-	-	-	-	-	-	-	-	-
5. FURNITURE, FIXTURES	-	-	-	-	-	-	-	-	-	-
6. Office Equipment	-	-	-	-	-	-	-	-	-	-
7. COMPUTER/PERIPHERALS	-	-	-	-	-	-	-	-	-	-
8. ELECTRIC INSTALLATIONS	-	-	-	-	-	-	-	-	-	-
9. LIBRARY BOOKS	-	-	-	-	-	-	-	-	-	-
10. OTHER FIXED ASSETS (SAP)	-	-	-	-	-	-	-	-	-	-
<b>TOTAL OF CAURRENT YEAR</b>	<b>36,447,585.00</b>	<b>1,553,235.00</b>	<b>-</b>	<b>38,000,820.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>38,000,820.00</b>	<b>36,447,585.00</b>

AO., NDDTC, AIIMS



**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount - Rs.)

<b><u>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u></b>	<b><u>2020-21</u></b>	<b><u>2019-20</u></b>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (to be specified)	-	-
7. Seed money for opening of Bank Account (Donation)	-	-
<b><u>TOTAL</u></b>	<b>0</b>	<b>0</b>

<b><u>SCHEDULE 10 - INVESTMENTS - OTHERS</u></b>	<b><u>2020-21</u></b>	<b><u>2019-20</u></b>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Loan to NDDTC	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (NPS Fixed Deposit)	-	-
7. Investment of Donations	-	-
<b><u>TOTAL</u></b>	<b>-</b>	<b>-</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

		2020-21		2019-20	
		(Amount - Rs.)		(Amount - Rs.)	
<b>A</b>	<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>				
	<b>CURRENT ASSETS:</b>				
	1. <u>Advances for Procurement</u>				
	a) Material and Supply	45,000.00	-	45,000.00	-
	Opening Balance	-	-	-	-
	Addition during the year	-	-	-	-
	Adjusted during the year	-	-	-	-
	b) Nurses Training programme:	45,000.00	45,000.00	45,000.00	45,000.00
	Opening Balance	-	-	-	-
	Addition during the year	-	-	-	-
	Adjusted during the year	-	-	-	-
	2. Loan to NDDTC	5,000,000.00	-	5,000,000.00	-
	Opening Balance	25,000,000.00	-	-	-
	Addition during the year	-	-	-	-
	Adjusted during the year	-	-	-	-
	3. <u>Sundry Debtors:</u>	30,000,000.00	30,000,000.00	5,000,000.00	5,000,000.00
	a) Debts Outstanding	-	-	-	-
	b) Others (outside recoveries)	-	-	-	-
	c) Misc. recoveries from Centres (Engg. Work)	-	-	-	-
	4. <u>Cash balances in hand (including cheques/ drafts and imprest)</u>	-	-	-	-
	5. <u>Bank Balances:</u>				
	a) <u>With Scheduled Banks:</u>				
	On Current Accounts	-	160,848,440.00	-	209,508,502.00
	On Deposit Accounts (includes margin money)	-	-	-	-
	On Savings Accounts	-	8,350.50	-	-
	b) <u>With non-Scheduled Banks:</u>				
	On Current Accounts	-	-	-	-
	On Deposit Accounts	-	-	-	-
	On Savings Accounts	-	-	-	-
	6. <u>Customs Duty Advance</u>	-	-	-	-
	7. <u>Outside Recovery</u>	-	-	-	-
	<b>TOTAL (A)</b>		<b>190,901,790.50</b>		<b>214,553,502.00</b>

AO., NDDTC, AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2021**

(Amount - Rs.)

<b>SCHEDULE 11B - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>	<b>2020-21</b>		<b>2019-20</b>	
<b>B LOANS, ADVANCES AND OTHER ASSETS</b>				
1. <u>Loans:</u>				
a) Staff	-	-	-	-
i) Motor car	-	-	-	-
ii) House Building Advance	-	-	-	-
iii) Computer Advance	-	-	-	-
iv) Festival Advance	-	-	-	-
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>				
a) On Capital Account	-	-	-	-
b) Prepayments	-	-	-	-
c) Others	-	-	-	-
3. <u>Income Accrued:</u>				
a) On Investments from Earmarked / Endowment Funds	-	-	-	-
b) On Investments - Others	-	-	-	-
c) On Loans and Advances	-	-	-	-
d) Others (includes income due unrealised - Rs.....)	-	-	-	-
4. <u>Claims Receivable:</u>	-	-	-	-
<b>TOTAL (B)</b>		<b>0</b>		<b>0</b>
<b>TOTAL (A + B)</b>		<b>190,901,790.50</b>		<b>214,553,502.00</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED ON 31.3.2021**

(Amount - Rs.)

<b>SCHEDULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>	<b>2020-21</b>		<b>2019-20</b>	
<b>1) Income from Sales</b>				
1. Sale of Finished Goods	-	-	-	-
2. Sale of Raw Materials	-	-	-	-
3. Sales of scraps	-	-	-	-
<b>2) Income from Services</b>				
a). Hospital receipts	-	-	-	-
b) Professional / Consultancy Services	-	-	-	-
c) Agency Commission and Brokerage	-	-	-	-
d) Maintenance Services (Equipment/Property)	-	-	-	-
e) Others (Specify) Hospital Receipt	-	-	-	-
<b>TOTAL</b>		<b>-</b>		<b>-</b>

<b>SCHEDULE 13 - GRANTS /SUBSIDIES</b>	<b>2020-21</b>		<b>2019-20</b>	
<b>1) Income from Sales</b>				
(Irrevocable Grants & Subsidies Received)				
1. From WHO	-	-	257,550.00	257,550.00
2. From Ministry of Finance	-	-	874,628.00	874,628.00
3. From MOSJE	-	-	192,725,400.00	192,725,400.00
<b>TOTAL</b>		<b>-</b>		<b>193,857,578.00</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2021**

<b>SCHEDULE 14 - FEES/SUBSCRIPTIONS</b>	(Amount-Rs.)	
	2020-21	2019-20
1. Tuition & Examination Fee		
2. Licence Fee		
3. Seminar/Program Fees		
4. Consultancy Fees		
5. Others (Specify) EHS		
<b>TOTAL</b>	<b>0</b>	<b>0</b>

**Note-** Accounting Policies towards each item are to be disclosed

	Investment from Earmarked Fund		Investment-Others	
	2020-21	2019-20	2020-21	2019-20
<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b>				
(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)				
1. Interest				
a) On Govt. Securities	-	-	-	-
a) Other Bonds/Debentures	-	-	-	-
2. Dividends:				
a) On Shares	-	-	-	-
a) On Mutual Fund Securities	-	-	-	-
3. Rents	-	-	-	-
4. Others (Specify)	-	-	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TRANSFERRED TO EARMARKED/EDNOWNMENT FUNDS</b>				

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2021**

**(Amount-Rs.)**

<b>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
1. Income from Royalty	-	-
2. Income from Publications	-	-
3. Others (specify)	-	-
<b>TOTAL</b>	<b>0</b>	<b>0</b>

<b>SCHEDULE 17 - INTEREST EARNED</b>	<b>2020-21</b>	<b>2019-20</b>
1. On Term Deposits:		
a) With Scheduled Banks	-	-
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Others	-	-
2. On Savings Accounts:		
a) With Scheduled Banks	32.00	-
b) With Non-Scheduled Banks	-	-
c) Post Office Savings Accounts	-	-
d) Others	-	-
3. On Loans:		
a) Employees/Staff	-	-
b) Others	-	-
4. Interest on Debtors and other Receivables	-	-
<b>TOTAL</b>	<b>32</b>	<b>0</b>

AO.,NDDTC,AIIMS



**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2021**

<u>SCHEDULE 18 - OTHERS INCOME</u>	2020-21	2019-20
1. Misc Receipts	-	-
2. Receipts 5% Admn. Cost form UNDCAP A/c	-	-
3. Others (specify)	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

(Amount-Rs.)

<u>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</u>	2020-21	2019-20
a) Closing stock	-	-
- Finished Goods	-	-
- Work-in-progress	-	-
b) Less: Opening Stock	-	-
- Finished Goods	-	-
- Work-in-progress	-	-
<b>NET INCREASE/(DECREASE) [a+b]</b>	<b>-</b>	<b>-</b>

<u>SCHEDULE 20 - ESTABLISHMENT EXPENSES</u>	2020-21	2019-20
Salaries	4,514,597.00	2,364,869.00
Salaries expenditure under 5% Admn. Cost received from UNDCAP A/C	-	-
Contribution to NPS	-	-
Contribution to Other Fund (Scheme Cell)	-	-
Staff Welfare Expenses	-	-
Expenses on Employees ":Retirement and Terminal Benefits"	-	-
Others (NPS & LSPC)	-	-
<b>TOTAL</b>	<b>4,514,597.00</b>	<b>2,364,869.00</b>

AO.,NDDTC,AIIMS

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 21 - ADMINISTRATIVE EXPENSES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
a) Purchases of hospital store (Material & Supply)	-	3,961,901.00
b) HOUSEKEEPING SERVICES (SAP)	-	-
c) Misc expenditure (Adj. of advances)	-	-
d) Wages for security and contractual staff	-	-
e) Electricity and power	-	-
f) Imrest adjusted (20-21)	-	-
g) Repairs and maintenance (AMC/CAMC)	-	-
h) Repairs and maintenance of Buildings	-	-
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	-	-
k) Postage, Telephone and Communication Charges	-	-
l) Printing and Stationary	-	-
m) Travelling and Conveyance Expenses	-	207,999.00
n) Transfer of funds to various centers	17,534,000.00	752,000.00
o) 5% of grant transferred to NDDTC	-	3,231,270.00
p) Expenses on Sanitation (SAP)	-	-
q) Maintenance of Buildings (Minor Work RG)	-	-
r) Miscellaneous expenditure	47,581.00	5,000.00
s) Bank Charges (Current and Saving Account)	2,330.50	649.00
t) Provision for Bad and Doubtful Debts/Advances	-	-
u) Irrecoverable Balances Written-off	-	-
v) Patient Diet	-	-
w) Freight and Forwarding Expenses	-	-
x) Vehicle Hiring	-	-
y) Advertisement and Publicity	-	-
z) Others (specify)(Contingency charge)(Adj. of advances)	-	-
<b>TOTAL</b>	<b>17,583,911.50</b>	<b>8,158,819.00</b>

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF RECEIPTS AND PAYMENT FOR THE YEAR ENDED 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 21A - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
a) Purchases of hospital store (Material & Supply)	-	3,961,901.00
b) HOUSEKEEPING SERVICES (SAP)	-	-
c) Misc expenditure (Adj. of advances)	-	-
d) Wages for security and contractual staff	-	-
e) Electricity and power	-	-
f) Imrest adjusted (20-21)	-	-
g) Repairs and maintenance (AMC/CAMC)	-	-
h) Repairs and maintenance of Buildings	-	-
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	-	-
k) Postage, Telephone and Communication Charges	-	-
l) Printing and Stationary	-	-
m) Travelling and Conveyance Expenses	-	207,999.00
n) Transfer of funds to various centers	17,534,000.00	752,000.00
o) 5% of grant transferred to NDDTC	-	3,231,270.00
p) Expenses on Sanitation (SAP)	-	-
q) Maintenance of Buildings (Minor Work RG)	-	-
r) Miscellaneous expenditure	47,581.00	5,000.00
s) Bank Charges (Current and Saving Account)	2,330.50	649.00
t) Provision for Bad and Doubtful Debts/Advances	-	-
u) Irrecoverable Balances Written-off	-	-
v) Patient Diet	-	-
w) Freight and Forwarding Expenses	-	-
x) Vehicle Hiring	-	-
y) Advertisement and Publicity	-	-
z) Others (specify)(Contingency charge)(Adj. of advances)	-	-
<b>TOTAL</b>	<b>17,583,911.50</b>	<b>8,158,819.00</b>

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-**

(Amount-Rs.)

<b>SCHEDULE 21B - Material and Supplies</b>	<b>2020-21</b>	<b>2019-20</b>
Hospital stores	-	-
<b>Total</b>	<b>-</b>	<b>-</b>

Accounts Officer

**UNDCP ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2021**

(Amount-Rs.)

<b>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
a). Grants given to Institutions/Organizations	-	-
b). Subsidies given to Institutions/organisations	-	-
<b>Total</b>	0	0
<b>Note</b> - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed.		

<b>SCHEDULE 23- INTEREST</b>	<b>2020-21</b>	<b>2019-20</b>
a) On fixed Loans	-	-
b) On other Loans ( including Bank charges)	-	-
c) Others( Specify)	-	-
<b>Total</b>	0	0

AO.,NDDTC,AIIMS

**RESEARCH SECTION, AIIMS**  
**BALANCE SHEET AS ON 31-03-2021**

(Amount-Rs.)

<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>	<b>Schedule</b>	<b>2020-21</b>	<b>2019-20</b>
Corpus/Capital fund and Liabilities	<b>1</b>	-	-
Reserves and Surplus	<b>2</b>	13,737,591.96	-
Earmarked / Endowment Fund	<b>3</b>	1,606,574,886.85	-
Secured Loans & Borrowings	<b>4</b>	-	-
Unsecured Loans & Borrowings	<b>5</b>	-	-
Deferred Credit Liabilities	<b>6</b>	-	-
Current Liabilities and Provisions	<b>7</b>	56,524,440.26	-
<b>TOTAL</b>		<b>1,676,836,919.07</b>	-
<b>ASSETS</b>			
Fixed Assets	<b>8</b>	-	-
Investments from Earmarked / Endowment funds	<b>9</b>	-	-
Investments-others	<b>10</b>	-	-
Current Assets, Loan & Advances etc.	<b>11</b>	1,676,836,919.07	-
Misc. Expenditure (to the extent not written off or adjusted)		-	-
<b>TOTAL</b>		<b>1,676,836,919.07</b>	-
Accounting policies and notes forming part of account:	<b>24</b>		

Jr Accounts Officer

Accounts Officer

Assoc. Dean

Dean

**RESEARCH SECTION, AIIMS**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31-03-2021**

INCOME	Schedule	2020-21	2019-20
Income from Sales/Services	12	-	-
Grants/Subsidies	13	1,303,515,975.88	-
Fees/Subscriptions	14	-	-
Income from Investments (Income on Invest. From earmekeed/endow.Funds transferred to funds)	15	-	-
Income for Royalty, Publication etc.	16	-	-
Interest Earned	17	30,568,996.00	-
Other Income	18	-	-
Increase/(decrease) in stock of Finished goods and works-in-progress	19	-	-
<b>TOTAL (A)</b>		<b>1,334,084,971.88</b>	-
<b>EXPENDITURE</b>			
Establishment Expenses	20	576,844,580.00	-
Other Administrative Expenses etc.	21	290,228,671.08	-
Material and supply	21B	453,274,128.84	-
Expenditure on Grants, Subsidies etc.	22	-	-
Interest	23	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
<b>TOTAL (B)</b>		<b>1,320,347,379.92</b>	-
<b>Balance being excess of Income over Expenditure (A-B)</b>		<b>13,737,591.96</b>	-
Transfer to Special Reserve (Specify each)			
Transfer to /from General Reserve			
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND</b>		<b>13,737,591.96</b>	-
<b>TOTAL</b>		<b>1,334,084,971.88</b>	-

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2021**

(Amount in Rs.)

	2020-21	2019-20
<b>SCHEDULE 1- CORPUS/CAPITAL FUND:</b>		
Balances as at the beginning of the year	-	-
Add : Contributions towards Corpus/Capital Fund	-	-
Less: Condemnation during the year	-	-
<b>BALANCE AS AT THE YEAR-END</b>	<b>-</b>	<b>-</b>
<b>SCHEDULE 2- RESERVES AND SURPLUS:</b>		
1. <u>Capital Reserve:</u>		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
2. Revaluation Reserve	-	-
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
3. Special Reserves	-	-
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
4. General Reserve	-	-
As per last Account	-	-
Addition during the year	13,737,591.96	-
Less: Deductions during the year	-	-
<b>TOTAL</b>	<b>-</b>	<b>13,737,591.96</b>

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Assoc. Dean

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2021**

(Amount-Rs.)

<b>SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS</b>	<b>2020-21</b>	<b>2019-20</b>
a) Opening balance of the funds	1,520,466,404.54	-
b) Additions to the Funds:	137,243,616.31	-
Less: Amount returned to Funding Agency	51,135,134.00	-
ii. Income from investments made on account of funds	-	-
iii. CSR Hospital Billing AIIMS	-	-
iv. Other additions (specify nature)CSR	-	-
<b>TOTAL (a+b)</b>	<b>1,606,574,886.85</b>	-
c) Utilisation/Expenditure towards objectives of funds		
i. <u>Capital Expenditure</u>		
- Fixed Assets	-	-
- Others	-	-
ii. <u>Revenue Expenditure</u>		
- Salaries, Wages and allowances etc.	-	-
- Rent	-	-
- Other Administrative expenses	-	-
<b>Total</b>	-	-
<b>NET BALANCE AS AT THE YEAR-END (a+b-c)</b>	-	-

Jr Accounts Officer

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Assoc. Dean

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2021**

(Amount-Rs.)

<b>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</b>	<b>2020-21</b>		<b>2019-20</b>	
1. Central Government	-	-	-	-
2. State Government	-	-	-	-
3. Financial Institutions	-	-	-	-
a) Term Loans	-	-	-	-
b) Interest accrued and due	-	-	-	-
4. Banks:				
a) Term Loans	-	-	-	-
- Interest accrued and due	-	-	-	-
b) Other Loans (specify)	-	-	-	-
- Interest accrued and due	-	-	-	-
5. Other Institutions and Agencies	-	-	-	-
6. Debentures and Bonds	-	-	-	-
7. Others (Specify)	-	-	-	-
<b>TOTAL</b>	-	-	-	-

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Assoc. Dean

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2021**

<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWING</b>	<b>2020-21</b>	<b>2019-20</b>
1. Central Government	-	-
2. State Government	-	-
3. Financial Institutions	-	-
4. Banks:	-	-
a) Term Loans	-	-
b) Other Loans (specify)	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
8. Others (Specify)	-	-
<b>TOTAL</b>	-	-

Note: Amounts due within one year

<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>	<b>2020-21</b>	<b>2019-20</b>
a) Acceptances secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
<b>TOTAL</b>	-	-

Note: Amount due within one year

Jr Accounts Officer

Accounts Officer

Assoc. Dean

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2021**

(Amount -Rs.)

<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>	<b>2020-21</b>		<b>2019-20</b>	
<b>A. <u>CURRENT LIABILITIES AND PROVISIONS</u></b>				
1. Acceptances	-	-	-	-
2. Sundry Creditors:	-	-	-	-
i) For Goods	-	-	-	-
ii) Others	-	55,455,516.26	-	-
3. Advances Received	-	-	-	-
4. Interest accrued but not due on:	-	-	-	-
a) Secured Loans/borrowings	-	-	-	-
a) Unsecured Loans/borrowings	-	-	-	-
5. Statutory Liabilities:				
a) Overdue	-	-	-	-
a) Others	-	-	-	-
6. Other current Liabilities	-	1,068,924.00	-	-
<b>TOTAL (A)</b>	-	<b>56,524,440.26</b>	-	-
<b>B. <u>PROVISIONS</u></b>				
1. For Taxation	-	-	-	-
2. Gratuity	-	-	-	-
3. Superannuation/Pension	-	-	-	-
6. Accumulated Leave Encashment	-	-	-	-
6. Trade Warranties/Claims	-	-	-	-
6. Others (specify)	-	-	-	-
<b>TOTAL (B)</b>	-	-	-	-
<b>TOTAL (A+B)</b>	-	<b>56,524,440.26</b>	-	-

Jr Accounts Officer

Accounts Officer

Assoc. Dean

Dean

**RESEARCH SECTION, AIIMS  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2021**

(Amount - Rs.)

<b>SCHEDULE-8 (Fixed Assets)</b>	<b>GROSS BLOCK</b>					<b>DEPRICIATION</b>			<b>NET BLOCK</b>	
	Cost/valuation As at beginning of the year	Additions during the year	Deductions during the year	Cost/Valuation at the year end	As at the beginning of the year	On additions during the year	On Deductions during the year	Total up to the year-end	2020-21	2019-20
<b>A</b>										
<b>1</b>										
<b>LAND:</b>										
a) Freehold / Leasehold										
<b>2</b>										
<b>BUILDINGS:</b>										
a) On Freehold Land										
b) On Leasehold Land										
c) Ownership Flats/ Premises										
<b>3</b>										
<b>PLANT MACHINERY &amp; EQUIPMENT</b>										
<b>4</b>										
<b>Vehicles</b>										
5 Furniture & Fixture										
6 Office Equipment										
<b>7</b>										
<b>Computer/Peripherals</b>										
<b>8</b>										
<b>Library Books</b>										
<b>TOTAL OF CURRENT YEAR</b>										

Jr Accounts Officer

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2021**

	2020-21	2019-20
<b>SCHECULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>		
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others Fixed Deposits (Endowment fund)	-	-
7. Seed money for opening of Bank Account (Donatior.	-	-
<b><u>TOTAL</u></b>	<b>-</b>	<b>-</b>

	2020-21	2019-20
<b>SCHECULE 10 - INVESTMENTS - OTHERS</b>		
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (NPS Fixed Deposit)	-	-
7. Investment of Donations	-	-
<b><u>TOTAL</u></b>	<b>-</b>	<b>-</b>

Jr Accounts Officer

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2021**

(Amount in Rs.)

SCHEDULE II - CURRENT ASSETS, LOANS, ADVANCES ETC.	2020-21	2019-20
<b>A CURRENT ASSETS:</b>		
1. <u>Inventories:</u>		
a) Stores and Spares	-	-
b) Loose Tools	-	-
c) Stock-in-trade	-	-
Finished Goods	-	-
Work-in-progress	-	-
Raw Material	-	-
2. <u>Sundry Debtors:</u>		
a) Debts Outstanding	-	-
b) Others (outside recoveries)	-	-
c) Misc. recoveries receivable from Centre	-	-
3. <u>Cash balances in hand (including cheques/ drafts and imprest</u>	-	-
4. <u>Bank Balances:</u>		
a) <u>With Scheduled Banks:</u>		
On Current Accounts	-	-
On Deposit Accounts (FD)	433,763,239.00	-
On Savings Accounts	1,236,548,441.07	-
b) <u>With non-Scheduled Banks</u>	-	-
On FDRs	-	-
on FDRs Research Section	-	-
On Savings Accounts	-	-
5. <u>Post Office - Savings Accounts</u>	-	-
<b>TOTAL (A)</b>	<b>1,670,311,680.07</b>	-

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2021**

	2020-21	2019-20
<b>SCHEDULE 11- CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>		
<b>B LOANS, ADVANCES AND OTHER ASSETS</b>		
1. <u>Loans:</u>		
a) Staff		
b) Other Entities engaged in activities/objectives similar to that of Entity		
c) Other (Adv for purchase of iron and steel)		
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>		
a) On Capital Account		
b) Prepayments		
c) Others (Advance Payments)	587,825.00	
3. <u>Income Accrued:</u>		
a) On Investments from Earmarked / Endowment Funds		
b) On Investments - Others		
c) On Loans and Advances		
d) Others (includes income due unrealised - Rs.....)	5,937,414.00	
4. <u>Other Current Assets</u>		
<b><u>TOTAL (B)</u></b>	<b>6,525,239.00</b>	
<b><u>TOTAL (A + B)</u></b>	<b>1,676,836,919.07</b>	

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME AND EXPENDITURE FOR THE YEAR ENDED**  
**ON 31-03-2021**

(Amount - Rs.)

SCHECULE 12 - INCOME FROM SALES / SERVICES	2020-21	2019-20
<b>1) Income from Sales</b>		
1. Sale of Finished Goods		
2. Sale of Raw Material		
3. Sale of Scraps		
<b>2) Income from Services</b>		
a) Hospital receipts		
b) Professional / Consultancy Services		
c) Agency Commission and Brokerage		
d) Maintenance Services (Equipment/Property)		
e) Others (Specify) Hospital Receipt		
<b>TOTAL</b>		

SCHECULE 13 - GRANTS /SUBSIDIES	2020-21	2019-20
<b>(Irrevocable Grants &amp; Subsidies Received)</b>		
1. Central Government		
2. State Government(s)		
3. Government Agencies	1,303,515,975.88	
4. Institutions/ Welfare Bodies		
5. International Organisations		
6. Others (Specify) PMJAY Transf. from Hospital		
<b>TOTAL</b>	<b>1,303,515,975.88</b>	

Jr Accounts Officer

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Assoc. Dean

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE**  
**PERIOD/YEAR ENDED 31-03-2021**

(Amount-Rs.)

<b>SCHEDULE 14 - FEES/SUBSCRIPTIONS</b>	<b>2020-21</b>		<b>2019-20</b>	
1. Tuition Fee 2. Licence Fee 3. Seminar/Program Fees 4. Exam. Receipt 5. Others (Specify) EHS				
<b>TOTAL</b>				
<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b>	<b>Investment from Earmarked Fund</b>		<b>Investment-Others</b>	
(Income on Invest. From Earmarked/Endowment Fund: transferred to Funds)	<b>2020-21</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2019-20</b>
1. Interest a) On Govt. Securities a) Other Bonds/Debentures 2. Dividends: a) On Shares a) On Mutal Fund Securities 3. Rents 4. Others (Specify)				
<b>TOTAL</b>	0	0	-	-
<b>TRANSFERRED TO EARMARKED/EDNOWMENT FUNDS</b>				

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE**  
**PERIOD/YEAR ENDED 31-03-2021**

(Amount-Rs.)

<b>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
1. Income from Royalty		
2. Income from Publications		
3. Others (specify)		
<b>TOTAL</b>		
<b>SCHEDULE 17 - INTEREST EARNED</b>	<b>2020-21</b>	<b>2019-20</b>
1. On Term Deposits:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others	7,249,123.00	
2. On Savings Accounts:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks		
c) Post Office Savings Accounts		
d) Others	23,319,873.00	
3. On Loans:		
a) Employees/Staff		
b) Others		
4. Interest on Debtors and other Receivables		
<b>TOTAL</b>	<b>30,568,996.00</b>	

Jr Accounts Officer

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020**  
 (Amount-Rs.)

SCHEDULE 18 - OTHER INCOME	2020-21	2019-20
1. Misc. Receipt		
2. Estb. Receipt (Scheme)		
3. Exam Section Receipt		
4. General Donations		
5. Research Other Income		
<b>TOTAL</b>		
<b>SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>		
a) Closing stock	2020-21	2019-20
- Finished Goods		
- Work-in-progress		
b) Less: Opening Stock		
- Finished Goods		
- Work-in-progress		
<b>NET INCREASE/(DECREASE) [a+b]</b>		-
<b>SCHEDULE 20 - ESTABLISHMENT EXPENSES</b>		
Salaries and Wages	567,522,901.00	
Travelling Allowance	9,321,679.00	
Contribution to Provident Fund		
Contribution to Other Fund (Scheme Cell)		
Staff Welfare Expenses (DLIS)		
Expenses on Employees "Retirement and Terminal Benefits"		
Others (NPS )		
Leave Salary Pension Contribution		
<b>TOTAL</b>	<b>576,844,580.00</b>	

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**RESEARCH SECTION, AIIMS**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED**  
**31-03-2021**

(Amount-Rs.)

<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ET</b>	<b>2020-21</b>	<b>2019-20</b>
a) Purchases of hospital stores		
b) Labour and processing expenses/Overheads	30,804,561.00	
c) Cartage and Carriage Inwards		
d) Electricity and power		
e) Water charges		
f) Insurance		
g) Repairs and maintenance (AMC/CAMC)		
h) Repairs and maintenance of Buildings		
i) Rent, Rates and Taxes		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses		
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Fees		
q) bAuditors Remuneration		
r) Hospitality Expenses		
s) Professional Charges		
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Packing Charges		
w) Hostel		
x) Bank Charges		
y) Advertisement and Publicity		
z) Others (specify)(Contingency charge)	259,424,110.08	
<b>TOTAL</b>	<b>290,228,671.08</b>	

Jr Accounts Officer

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED**  
**31-03-2021**

(Amount-Rs.)

<b>SCHEDULE 21B - Material and Supplies</b>	<b>2020-21</b>	<b>2019-20</b>
Material and Supplies	408,479,842.26	
Machinery and Equipments	44,794,286.58	
<b>Total</b>	<b>453,274,128.84</b>	

Jr Accounts Officer

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**RESEARCH SECTION, AIIMS**

**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2021**

**(Amount-Rs.)**

<b>SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.</b>	<b>2020-21</b>	<b>2019-20</b>
a). Grants given to Institutions/Organizations		
b). Subsidies given to Institutions/organisations		
<b>Total</b>	<b>-</b>	<b>0</b>
<b>Note</b> - name of the Entities, their activities along with the amount of grants/subsidies are to be disclose		

<b>SCHEDULE 23- INTEREST</b>	<b>2020-21</b>	<b>2019-20</b>
a) On fixed Loans		
b) On other Loans ( including Bank charges)		
c) Ohters( Specify) Endowment intrest transfer to Research Section	<b>-</b>	<b>0</b>
<b>Total</b>	<b>-</b>	<b>0</b>

**Jr Accounts Officer**

**Accounts Officer**

**Assoc. Dean**

**Dean**

**RESEARCH SECTION  
ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029**

**Schedule to the Accounts as at 31st March, 2021**

**SCHEDULE 24 - . NOTES TO ACCOUNTS**

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

**Jr Accounts Officer**

**Accounts Officer**

**Assoc. Dean**

**Dean**



**RESEARCH DONATION**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

**Balance Sheet as at 31st March, 2021**

Particulars	Note No.	31-Mar-2021 (Rupees)
<b>CAPITAL AND LIABILITIES</b>		
Corpus Fund	2	11,463,298
Reserves and Surplus	3	40,206
		<b>11,503,504</b>
<b>Current Liabilities</b>		
Duties and Taxes		-
Sundry Creditors		-
Other Current Liabilities		-
		-
<b>TOTAL</b>		<b>11,503,504</b>
<b>ASSETS</b>		
<b>Non-Current Assets</b>		
Fixed Assets		-
Fixed Deposits		10,000,000
		10,000,000
<b>Current Assets</b>		
Cash and Bank Balances	4	1,503,504
		1,503,504
<b>TOTAL</b>		<b>11,503,504</b>
<b>Notes to Accounts &amp; Significant Accounting Policies</b>	1	
The notes referred to above are an Integral Part of the Financial Statements		
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>	<b>Assoc. Dean</b>
	<b>Dean</b>	

**RESEARCH DONATION**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

Statement of Income and Expenditure account for the year ended 31st March, 2021

Particulars	31-Mar-2021 (Rupees)	
<b>I Income</b>		
Interest Income	40,206	
<b>TOTAL</b>	<b>40,206</b>	
<b>II Expenses</b>		
<b>TOTAL</b>	<b>-</b>	
<b>III Surplus/ Excess of Income over Expenditure (I-II)</b>	<b>40,206</b>	
Notes to Accounts & Significant Accounting Policies <span style="float: right;">1</span>		
The notes referred to above are an Integral Part of the Financial Statements		
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>	<b>Assoc. Dean</b>
	<b>Dean</b>	

**RESEARCH DONATION**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

**Receipts and Payments Account**  
**for the period ending on 31st March, 2021**

<i>Dr.</i>		<i>Cr.</i>	
Receipts	Amount (Rs.)	Payments	Amount (Rs.)
To Balance b/d	1,463,298		
To Interest Income	40,206	By Balance c/d	1,503,504
	1,503,504		1,503,504

**Notes to Accounts & Significant Accounting Policies**  
The notes referred to above are an Integral Part of the Financial Statements

**Jr Accounts Officer**

**Accounts Officer**

**Assoc. Dean**

**Dean**

**RESEARCH DONATION**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

**Schedules to account for the year ended 31st March, 2021**

Particulars	31-Mar-2021 (Rupees)
<b>2 Corpus Fund</b>	
Opening Balance	11,463,298
Add: Additions during the year	-
<b>TOTAL</b>	<b>11,463,298</b>
<b>3 Reserves and Surplus</b>	
Opening Balance	-
Add: Surplus/Deficit for the year	40,206
<b>TOTAL</b>	<b>40,206</b>
<b>4 Cash and Bank Balances</b>	
Cash in Hand	-
State Bank Of India	1,503,504
<b>TOTAL</b>	<b>1,503,504</b>
<b>Jr Accounts Officer</b>	<b>Dean</b>
<b>Accounts Officer</b>	
<b>Assoc. Dean</b>	

RESEARCH SECTION, AIIMS  
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2021

**NOTES TO ACCOUNTS**

- (i) Donations are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

**Jr Accounts Officer**

**Accounts Officer**

**Assoc. Dean**

**Dean**

AIIMS- DIETY FUND ACCOUNT  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Balance Sheet as at 31st March, 2021

Particulars	Note No.	31-Mar-2021 (Rupees)
<b>CAPITAL AND LIABILITIES</b>		
Corpus Fund (Earmarked Funds)	2	47,485
Reserves and Surplus	3	1,305
		<b>48,790</b>
<b>Current Liabilities</b>		
Duties and Taxes		-
Sundry Creditors		-
Other Current Liabilities		-
		-
<b>TOTAL</b>		<b>48,790</b>
<b>ASSETS</b>		
<b>Non-Current Assets</b>		
Fixed Assets		-
		-
<b>Current Assets</b>		
Cash and Bank Balances	4	48,790
		<b>48,790</b>
<b>TOTAL</b>		<b>48,790</b>
Notes to Accounts & Significant Accounting Policies	1	
The notes referred to above are an Integral Part of the Financial Statements		
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>	<b>Assoc. Dean</b>
	<b>Dean</b>	



AIIMS- DIETY FUND ACCOUNT  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Statement of Income and Expenditure account for the year ended 31st March, 2021

Particulars	31-Mar-2021 (Rupees)	
I Income		
Grant	-	
Interest Income	1,305	
<b>TOTAL</b>	<b>1,305</b>	
II Expenses	-	
<b>TOTAL</b>	<b>-</b>	
III Surplus/ Excess of Income over Expenditure (I-II)	1,305	
Notes to Accounts & Significant Accounting Policies 1		
The notes referred to above are an Integral Part of the Financial Statements		
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>	<b>Assoc. Dean</b>
	<b>Dean</b>	

AIIMS- DIETY FUND ACCOUNT  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Receipts and Payments Account  
for the period ending on 31st March, 2021

*Dr.*

*Cr.*

Receipts	Amount (Rs.)	Payments	Amount (Rs.)
To Balance b/d	47,485		
To Interest Income	1,305	By Balance c/d	48,790
	48,790		48,790

**Jr Accounts Officer**

**Accounts Officer**

**Assoc. Dean**

**Dean**

AIIMS- DIETY FUND ACCOUNT  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Schedules to account for the year ended 31st March, 2021

Particulars	31-Mar-2021 (Rupees)	
<b>2 Corpus Fund (Earmarked Funds)</b>		
Opening Balance	3,229,170	
Add: Unadjusted Balances	(3,181,685)	
<b>TOTAL</b>	<b>47,485</b>	
<b>3 Reserves and Surplus</b>		
Opening Balance	-	
Add: Surplus/Deficit for the year	1,305	
<b>TOTAL</b>	<b>1,305</b>	
<b>4 Cash and Bank Balances</b>		
Cash in Hand	-	
State Bank Of India	48,790	
<b>TOTAL</b>	<b>48,790</b>	
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>	<b>Assoc. Dean</b>
	<b>Dean</b>	

AIIMS- DIETY FUND ACCOUNT  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2021

**1. NOTES TO ACCOUNTS**

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

**Jr Accounts Officer**

**Accounts Officer**

**Assoc. Dean**

**Dean**

**ENDOWMENT FUND**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

**Balance Sheet as at 31st March, 2021**

<b>Particulars</b>	<b>Note No.</b>	<b>31-Mar-2021 (Rupees)</b>
<b>CAPITAL AND LIABILITIES</b>		
Corpus Funds	2	89,844,372
Reserves and Surplus	3	(730,443)
		<b>89,113,929</b>
<b>Current Liabilities</b>		
Duties and Taxes		-
Sundry Creditors		-
Other Current Liabilities		-
		-
<b>TOTAL</b>		<b>89,113,929</b>
<b>ASSETS</b>		
<b>Non-Current Assets</b>		
Fixed Assets		-
Investments	4	75,000,000
		<b>75,000,000</b>
<b>Current Assets</b>		
Cash and Bank Balances	5	14,113,929
		<b>14,113,929</b>
<b>TOTAL</b>		<b>89,113,929</b>
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>	<b>Assoc. Dean</b>
	<b>Dean</b>	



ENDOWMENT FUND  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Statement of Income and Expenditure account for the year ended 31st March, 2021

Particulars	31-Mar-2021 (Rupees)	
I <b>Income</b>		
Grant	-	
Interest Income	2,312,669	
<b>TOTAL</b>	<b>2,312,669</b>	
II <b>Expenses</b>		
Expenditure from Endowment	3,043,112	
<b>TOTAL</b>	<b>3,043,112</b>	
III <b>Surplus/ Excess of Income over Expenditure (I-II)</b>	<b>(730,443)</b>	
 Notes to Accounts & Significant Accounting Policies 1 The notes referred to above are an Integral Part of the Financial Statements		
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>	<b>Assoc. Dean</b>
	<b>Dean</b>	

**ENDOWMENT FUND  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029**

**Receipts and Payments Account  
for the period ending on 31st March, 2021**

<i>Dr.</i>			<i>Cr.</i>
<b>Receipts</b>	<b>Amount (Rs.)</b>	<b>Payments</b>	<b>Amount (Rs.)</b>
To Balance b/d	9,717,136	By Expenditure from Endowment	495,876
To Donations Received	17,500,000	By Fixed Deposits	15,000,000
To Cheque Return (Stale Cheque)	80,000		
To Bank Interest	2,312,669	By Balance c/d	14,113,929
	<b>29,609,805</b>		<b>29,609,805</b>
<p><b>Jr Accounts Officer</b>                      <b>Accounts Officer</b>                      <b>Assoc. Dean</b></p> <p style="margin-top: 20px;"><b>Dean</b></p>			

**ENDOWMENT FUND**  
**RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**ANSARI NAGAR, DELHI-110029**

Schedules to account for the year ended 31st March, 2021

Particulars	31-Mar-2021 (Rupees)
<b>2 Corpus Funds</b>	
Opening Balance (General)	72,344,372
Add: Additions During the Year	17,500,000
<b>TOTAL</b>	<b>89,844,372</b>
<b>3 Reserves and Surplus</b>	
Opening Balance	-
Add: Surplus/Deficit for the year	(730,443)
<b>TOTAL</b>	<b>(730,443)</b>
<b>4 Investments</b>	
FD (Union Bank)	15,000,000
FD (Meera Seth)	25,000,000
FD (Others)	35,000,000
<b>TOTAL</b>	<b>75,000,000</b>
<b>5 Cash and Bank Balances</b>	
Cash in Hand	-
State Bank Of India	14,113,929
<b>TOTAL</b>	<b>14,113,929</b>
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>
	<b>Assoc. Dean</b>
	<b>Dean</b>

ENDOWMENT FUND  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2021

1 - . NOTES TO ACCOUNTS

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

**Jr Accounts Officer**

**Accounts Officer**

**Assoc. Dean**

**Dean**

**AIIMS- DEPARTMENT OF GERIATRIC MEDICINE  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029**

**Balance Sheet as at 31st March, 2021**

Particulars	Note No.	31-Mar-2021 (Rupees)
<b>CAPITAL AND LIABILITIES</b>		
Corpus Fund	2	8,748,961
Reserves and Surplus	3	(4,206,660)
		4,542,301
<b>Current Liabilities</b>		
Duties and Taxes		-
Sundry Creditors		306,941
Other Current Liabilities	4	585
		307,526
<b>TOTAL</b>		4,849,827
<b>ASSETS</b>		
<b>Non-Current Assets</b>		
Fixed Assets	5	1,329,487
		1,329,487
<b>Current Assets</b>		
Other Current Assets	6	62,212
Cash and Bank Balances	7	3,458,128
		3,520,340
<b>TOTAL</b>		4,849,827
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>	<b>Chief ( Geriatric Medicine)</b>



AIIMS- DEPARTMENT OF GERIATRIC MEDICINE  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Statement of Income and Expenditure account for the year ended 31st March, 2021

Particulars	31-Mar-2021 (Rupees)	
I <b>Income</b>		
Grant	-	
Interest Income	154,822	
<b>TOTAL</b>	<b>154,822</b>	
II <b>Expenses</b>		
Salaries	3,488,313	
Supplies and Materials	873,169	
<b>TOTAL</b>	<b>4,361,482</b>	
III <b>Surplus/ Excess of Income over Expenditure (I-II)</b>	<b>(4,206,660)</b>	
 <b>Jr Accounts Officer</b>	 <b>Accounts Officer</b>	 <b>Chief ( Geriatric Medicine)</b>

**AIIMS- DEPARTMENT OF GERIATRIC MEDICINE  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029**

**Receipts and Payments Account  
for the period ending on 31st March, 2021**

*Dr.*

*Cr.*

Receipts	Amount (Rs.)	Payments	Amount (Rs.)
To Balance b/d	7,419,474	By Salaries	3,549,940
To Interest Income	154,822	By Supplies & Materials	566,228
		By Balance c/d	3,458,128
	7,574,296		7,574,296

**Jr Accounts Officer**

**Accounts Officer**

**Chief ( Geriatric Medicine)**

**AIIMS- DEPARTMENT OF GERIATRIC MEDICINE  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029**

**Schedules to account for the year ended 31st March, 2021**

<b>Particulars</b>	<b>31-Mar-2021 (Rupees)</b>	
<b>2 Earmarked Funds</b>		
Opening Balance	8,748,961	
Add: Additions during the year	-	
<b>TOTAL</b>	<b>8,748,961</b>	
<b>3 Reserves and Surplus</b>		
Opening Balance	-	
Add: Surplus/Deficit for the year	(4,206,660)	
<b>TOTAL</b>	<b>(4,206,660)</b>	
<b>4 Other Current Liabilities</b>		
SYS POT Fund Payable	585	
<b>TOTAL</b>	<b>585</b>	
<b>5 Fixed Assets</b>		
Computer	190,780	
Furniture	817,833	
Machinery and Equipments	194,513	
Media Projector	105,361	
Printer	21,000	
<b>TOTAL</b>	<b>1,329,487</b>	
<b>6 Other Current Assets</b>		
EHS Payable	1,100	
RDA Payable	680	
Salaries Payable	60,432	
<b>TOTAL</b>	<b>62,212</b>	
<b>7 Cash and Bank Balances</b>		
Cash in Hand	-	
State Bank Of India	3,458,128	
<b>TOTAL</b>	<b>3,458,128</b>	
<b>Jr Accounts Officer</b>	<b>Accounts Officer</b>	<b>Chief ( Geriatric Medicine)</b>

AIIMS- DEPARTMENT OF GERIATRIC MEDICINE  
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2021

**1. NOTES TO ACCOUNTS**

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.

**Jr Accounts Officer**

**Accounts Officer**

**Chief ( Geriatric Medicine)**

## 13.2. Audit Report

### Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of All India Institute of Medical Sciences (AIIMS), New Delhi for the year ended 31 March 2021

1. We have audited the attached Balance Sheet of All India Institute of Medical Sciences (AIIMS), New Delhi, as at 31 March 2021, and the Income & Expenditure Account for the year ended on that date under Section 19 (2) of the Comptroller and Auditor General's (Duties, Powers & Conditions of Service) Act, 1971 read with section 18 (2) of the AIIMS Act, 1956. These financial statements are the responsibility of the AIIMS management. Our responsibility is to express an opinion on these financial statements based on our audit.
2. This Separate Audit Report contains the comments of the Comptroller and Auditor General (CAG) of India on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency-cum-performance aspects, etc., if any, are reported through Inspection Reports/CAG's Audit Reports separately.
3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.
4. Based on our audit, we report that:
  - i. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit;
  - ii. The Balance Sheet, Income & Expenditure Account and Receipts & Payments Account dealt with by this report have been drawn up in the uniform format of accounts approved by the Ministry of Finance, Government of India.
  - iii. In our opinion, proper books of accounts on double entry system of accounting and other relevant records have been maintained by the AIIMS in so far as it appears from our examination of such books.
  - iv. We further report that:

#### A. Income and Expenditure Accounts

**A.1** During the year 2020-21, AIIMS received Grants-in-Aid (GIA) of ₹2,697.86 crore (Salaries - ₹1,762.00 crore and General - ₹935.86 crore), however, in Income & Expenditure accounts GIA has been taken as ₹2690.13 crore. This has resulted into understatement of Income as well as Reserves and Surplus by ₹7.73 crore.

#### B. General

**B.1** During the year 2020-21, AIIMS has prepared consolidated final accounts including all the centres of AIIMS, New Delhi except National Drug Dependence Treatment Centre, United Nation Drugs Control Programme and Research Section and has also started charging of depreciation on fixed assets. During the audit, scrutiny revealed following discrepancies:

- a) AIIMS included the GPF accounts in the consolidated (Main) accounts. In Income and Expenditure Accounts, an amount of ₹51.22 crore has been included under the Schedule – 17 (Interest Earned) on account of interest earned in the accounts of GPF subscribers. However, this should not be the part of Income and Expenditure Accounts and due to this Income has been overstated by ₹51.22 crore.
- b) During the year 2020-21, AIIMS has started charging depreciation on fixed assets and charged depreciation amounting to ₹25.62 crore on the fixed assets, procured during the year 2020-21. No depreciation has been charged on the fixed assets acquired prior to the year 2020-21.

Although this amount of ₹25.62 crore has been depicted in the Income & Expenditure accounts, it has also been included in Schedule – 2 (Reserves and Surplus) under the head 'Less Consolidation Impact of Depreciation' which has resulted in understatement of Reserves and Surplus by ₹25.62 crore.
- c) Further, as per Income and Expenditure accounts, the excess of income over expenditure was ₹55.96 crore (including the interest earned on GPF of ₹51.22 crore) and this amount had to be shown as addition during the year in Schedule – 2 (Reserves and Surplus). However, in Schedule – 2 (Reserves and Surplus), an amount of ₹28.84 crore has been depicted as addition during the year. Scrutiny revealed that, ₹28.84 crore was a balancing



figure of Income and Expenditure Account which comes after reducing the (a) GPF interest (₹51.22 crore) and (b) Income over Expenditure of GPF account (₹1.52 crore) and addition of depreciation (₹25.62 crore) charged during the year.

Hence, to nullify the error of inclusion of GPF interest in Income and Expenditure Account, AIIMS has carried over a balancing figure of ₹28.84 crore to Schedule – 2 (Reserves and Surplus).

In this regard, AIIMS replied that a figure of ₹51.22 crore on account of GPF interest was erroneously not taken into consolidated Income and Expenditure Accounts (expenditure side). However, it was correctly taken into Consolidated Balance Sheet.

The accounting treatment of AIIMS is not correct as the errors in consolidation may be rectified in the appropriate place instead of the adjustments in balance sheet.

**B.2** Schedule 8 – ‘Fixed Assets’, of the annual accounts of the AIIMS (Main) and other centres of the AIIMS disclosed assets valued at ₹6013.12 crore as on 31 March 2021. However, an Assets Register required to be maintained in Form GFR-22 under General Financial Rules 2017 has been maintained by the AIIMS only for the assets acquired during 2020-21. The updating of Assets Register for all the assets, the value of assets acquired prior to 2020-21, was not done.

**B.3** An amount of ₹1868.70 crore has been depicted under the head ‘Income Accrued – Others’ in the Schedule-11B (Loans, Advances and other Assets). However, the amount pertains to various advances capital or revenue against which either supply of goods/services are pending. Thus, the booking of the amount under the head ‘Income Accrued’ was not correct. Further, out of the total amount as depicted above, ₹1790.04 crore, pertains to AIIMS (Main) and most of the advances are very old and figuring in the annual accounts without any addition/adjustments during the year 2020-21 as detailed below:

- (a) 63 numbers of advances having unadjusted amounts of ₹134.26 crore were showing without any addition or adjustments from more than five years
- (b) 83 number of advances having unadjusted amount of ₹101.21 crore were showing in the account without any addition/adjustment from more than two years
- (c) 12 number of advances having unadjusted amount ₹3.32 crore were showing in the account without any addition/adjustment from more than one year

**B.4** The AIIMS has not prepared the consolidated Receipts and Payments accounts for the year 2020-21.

**B.5** Current Assets includes an amount of ₹45.42 crore as GPF balance (other than investments). However, as per cash book, the balance was only ₹9.81 crore as on 31.03.2021.

Further, scrutiny revealed that as on 31.03.2020, there was a deficit of ₹37.13 crore in the GPF account and there was a surplus of ₹1.52 crore in the year 2020-21. Therefore, the accumulated deficit as on 31.03.2021 was ₹35.61 crore. This deficit has been met by creating fictitious current assets of ₹35.61 crore and the net impact of the cumulative loss of GPF account has become nil in the Balance Sheet of the AIIMS as on 31.03.2021.

In this regard, AIIMS replied that non-operating assets of ₹35.61 crore arises from the past practices of GPF. Accordingly, taken into the current assets for making financial impact in consolidation of accounts. However, necessary correction will be made in Annual Accounts of the year 2021-22.

Reply is not acceptable as the details of ₹35.61 crore were not provided to audit.

**B.6** ₹234.31 crore has been depicted as Current liabilities on account of Research (₹120.93 crore), Scheme Cell (₹0.14 crore) and Non-Institute Schemes (₹113.25 crore). The details of the amount have not been provided to Audit.

**B.7** In the consolidated accounts of Research Cell, the balance as per bank statement has been included in the accounts instead of cash book balances. The net impact of the reconciliation amount has been depicted as unadjusted amount in the corpus fund. This resulted in the non-inclusion of the amounts in the respective heads of accounts.

**B.8** The provision of retirement benefit was not made as per AS 15.

**B.9** AIIMS as per its accounting policy are not accounting for closing stock of stores and supplies in the accounts and treated it as final expenditure at the time of payment. This has the impact of substantial value of store and supplies remaining out of accounts.

### **C. Grant-in-aid**

During the year 2020-21, AIIMS received GIA of ₹3420.68 crore from Ministry (GIA General - ₹935.86 crore, GIA Salary - ₹1762.00 crore, GIA for creation of Capital Assets - ₹650.00 crore (including ₹191.37 crore unutilised grant for year 2019-20 revalidated by the Ministry for the year 2020-21), Grant for HEFA Loan interest and principal payment - ₹72.82 crore). AIIMS had an internal receipt of ₹82.92 crore.

Out of total fund of ₹3503.60 crore, AIIMS utilised ₹3473.54 crore (GIA General - ₹973.82 crore, GIA Salary - ₹1760.14 crore, GIA for creation of capital assets- ₹648.67 crore, Grant for HEFA Loan interest payment and principal repayment - ₹84.08 crore) and SAP head ₹6.83 crore leaving unspent balance of ₹30.06 crore (GIA Salary - ₹1.86 crore and internal receipts ₹28.20 crore) as on 31 March 2021.

### **D. Management Letter**

Deficiencies which have not been included in the Audit Report have been brought to the notice of management of the Institute through a management letter issued separately for remedial/corrective action.

- i. Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income and Expenditure Account and Receipts and Payments Account dealt with by this report are in agreement with the books of accounts.
- ii. In our opinion and to the best of our information and according to the explanations given to us, the said financial statements read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in Annexure to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India:
  - a. In so far as it relates to the Balance Sheet, of the state of affairs of the All India Institute of Medical Science as at 31 March 2021; and
  - b. In so far as it relates to Income & Expenditure Account of the surplus for the year ended on that date.

**For and on behalf of C&AG of India**

**(Ashok Sinha)**

**Principal Director of Audit**

**(Health Welfare & Rural Development)**

**Place: New Delhi**

**Date:**





शरीरमाद्यं खलुधर्मसाधनम्