

Information Brochure of the Department of Anesthesiology, Critical Care and Pain, TMC Varanasi, for website publication.

Version dated: 28 Oct 2024

About

The Department of Anesthesiology, Critical Care and Pain offers services in the Major Operation Theater, Minor Operation Theater, Post-operative Recovery Room, Acute Pain Services in the Ward, Brachytherapy OT, Non-operating Room Anesthesia (NORA – pediatric diagnostic radiology and pediatric radiotherapy under anesthesia, Interventional Radiology under anesthesia), Surgical ICU, Medical & Pediatric ICU, and Pre-Anesthesia Check-up (PAC) OPD.

Mission

Excellence in the quality of anesthesia, intensive care and pain relief services to patients, creating competent caregivers, and innovating safe and cost-effective clinical pathways through research. We place significant emphasis on nurturing an empathic and compassionate approach among our doctors in their provision of care for our patients. We strive to maintain an environment of trust, and mutual respect at the workplace so that our caregivers can perform their best to serve patients, even under the most critical and demanding situations.

The department offers all patients a safe and consistent quality of anesthesia care, good quality pain relief after surgery, and a reasonable and consistent quality of intensive care of critically ill patients. We have a consistent track record of favorable outcomes of anesthesia and intensive care for patients with complicated medical illness undergoing major surgery, and also those undergoing complex high risk surgeries.

The department offers for motivated doctors an unmatched high quality and high-volume opportunity to gain experience and competence in the following areas, under guidance of experienced teaching faculty:

1. Anesthesia and perioperative management of a wide variety of patient population spanning across ten surgical specialties – thoracic, GI-hepatobiliary-pancreatic, colorectal, breast, head and neck, pediatric, gynecology, urology, bone and soft tissue (orthopedic), neurosurgery, plastic and reconstructive surgery.
2. Management of anticipated difficult airway by video-bronchoscopic awake tracheal intubation, video-laryngoscopic intubation, and management of compromised airway. Management of one lung ventilation using endobronchial tubes (DLT) and various types of bronchial blockers; including one lung ventilation in anticipated difficult airway and tracheostomized patients – both adult and small children.
3. Performing USG guided vascular access procedures (Central Venous Catheters, Hemodialysis catheters, Arterial catheters) and USG guided regional anesthesia procedures – in adults and small children.
4. Advanced hemodynamic monitoring with continuous cardiac output monitor and bedside RUSH scan (point of care echocardiography, Rapid Ultrasound for Shock and Hypotension to find the cause of undifferentiated hypotension in critically ill patients quickly).

5. Management of acute postoperative pain through a wide variety of modalities – continuous epidural analgesia, continuous opioid infusion, IV PCA, intrathecal morphine analgesia, continuous nerve block analgesia, and other multimodal analgesia in opioid tolerant and difficult acute pain scenarios.
6. Management of a wide variety of critically ill patients – adults, children, toddlers, infants and medically high-risk patients. Multiple organ support: respiratory support (HFNC, NIV, Invasive Mechanical Ventilation), circulatory support, and renal replacement therapy (bedside hemodialysis).

Anesthesia Services

The department currently provides anesthesia services at nine (09) major operation theaters, one (01) minor operation theater, brachytherapy OT, NORA services at CT scan, MRI, pediatric radiotherapy, and Interventional Radiology.

1. Anesthesia care for thoracic surgeries like transthoracic esophagectomy, mediastinoscopy procedures, VATS, mediastinal tumor surgery, lung lobectomy, pneumonectomy, chest wall tumor & chest wall reconstructions, EBUS (endobronchial ultrasonography guided biopsies).
2. Anesthesia care for gastrointestinal & hepato-biliary-pancreatic surgeries like gastrectomy, GIST resections, Whipple's pancreaticoduodenectomy, extrahepatic biliary tract resection and hepatico-jejunostomy, major liver resection, radical cholecystectomy, retroperitoneal tumor resection, CRS with HIPEC, multivisceral resections.
3. Anesthesia care for colorectal surgeries like hemicolectomy, total colectomy, laparoscopic anterior resection, laparoscopic abdomino-perineal resections.
4. Anesthesia care for gynecological surgeries like TLH, Wertheim's hysterectomy, interval debulking surgery, CRS with HIPEC, pelvic exenteration, TAH BSO, ovarian cystectomy.
5. Anesthesia care for urology procedures like TURBT, radical cystectomy with ileal conduit, radical nephrectomy, radical nephroureterectomy, partial nephrectomy, anterior pelvic exenteration with ileal conduit, high inguinal orchiectomy.
6. Anesthesia care for neurosurgery like craniotomies, posterior fossa tumor resection, VP shunt, spine tumor resection, awake craniotomy.
7. Anesthesia care for pediatric surgery like chemoport insertion, intra-abdominal extragonadal germ cell tumor resection, hepatoblastoma resection, Wilms tumor resection, mediastinal tumor resection, intrathoracic neuroectodermal tumor resection, presacral teratoma resection, neuroblastoma resection, retinoblastoma enucleation, maxillectomy and free flap reconstruction, pediatric biopsies under general anesthesia.
8. Anesthesia care for breast surgeries like simple mastectomy and axillary clearance, modified radical mastectomy, breast conservation surgery, mastectomy with latissimus dorsi flap reconstruction.
9. Anesthesia care for head and neck surgeries like segmental mandibulectomy with neck dissection and PMMC flap reconstruction, bite composite resection with neck dissection and PMMC flap reconstruction, glossectomy with neck dissection, marginal mandibulectomy with neck dissection, total thyroidectomy with neck dissection, total

laryngectomy, laryngo-pharyngectomy, laser surgery of larynx & trachea, microvascular free-flap reconstructions after major resections, maxillectomy and reconstruction.

10. Anesthesia care for bone and soft tissue surgery like forequarter amputation, hind quarter amputation, resection of sarcoma and total humerus replacement, resection of sarcoma and total femur replacement, resection of sarcoma and total knee replacement, resection of sarcoma and flap closure, amputations.
11. Tracheobronchial stenting for malignant central airway obstruction - rigid bronchoscopy and stenting, as well as TIVA are conducted by the Department of Anesthesia.
12. Anesthesia care for interventional radiology procedures.

The anesthetic management of patients undergoing major and supra-major cancer surgery offers challenging problems including the management of difficult airway, management of shared airway, management of acute massive hemorrhage, massive blood transfusion, anesthesia for emergency surgery in patients with severe sepsis and hemorrhage.

Training facility of our MD Anesthesiology Students in Obstetric Anesthesia, Trauma, Cardiac Anesthesia and UG Teaching is available at IMS BHU Varanasi by order of the competent authority of IMS BHU.

Major OT Timings:

General Anesthesia services are provided in 09 (nine) major OTs and 01 (one) minor OT.

Major OTs run Monday to Saturday from 9am to 6pm, or through till the last case is completed. Emergency cases are taken up in major OT irrespective of time and day.

The Department provides anesthesia services for **Brachytherapy OT** at MPMCC – Mon, Wednesday, Friday, 9am to 12 pm.

Non-operating Room Anesthesia (NORA) timings: 9am to 12 pm, Monday to Friday (Pediatric radiotherapy, CT, MRI under anesthesia at HBCH); 2pm to 6pm Mon - Fri at MPMCC Interventional Radiology.

Postoperative Recovery Room

The department runs an eight bedded postoperative recovery room within the 4th floor OT complex for immediate postoperative care of patients after major or minor surgical procedures. Patients are shifted to the postoperative recovery room for monitoring & treatment before being transferred to the ward or home discharge. During this period, they are monitored by a team of anesthesiologists and nurses, who perform an initial postoperative evaluation, pain management, manage any acute postoperative event and also decide when the patient is ready for transfer.

Pre-anesthesia Check-up (PAC) OPD

The department runs a clinic on the 4th Floor to conduct preoperative anesthetic evaluation of patients planned for surgery. A team of anesthesiologists evaluate the patient's physical condition, screen patients for co-existing medical illness, advise corrective treatment to improve co-existing medical illness, assess perioperative risk factors, and formulate an anesthetic plan, considering the patient's physical condition.

This is then discussed with the patient, including the benefits of the anesthesia procedure, risks involved and details of any procedures likely to be performed in the perioperative period.

PAC OPD Timings:

9am to 5pm, Monday to Friday. Prior appointment from Central Registration Counter is required for OPD consultation. Urgent and emergency patients are attended at the bedside in IPD or in the preoperative holding area.

Acute Pain Service:

The department routinely offers USG guided nerve blocks to reduce acute postoperative pain, viz. quadratus lumborum plane block, serratus anterior plane block, PECS block, erector spinae plane block, thoracic paravertebral block, TAP block, sciatic nerve block, fascia iliaca plane block, femoral nerve block, interscalene brachial plexus block, suprascapular nerve block. Thoracic epidural analgesia, intrathecal morphine analgesia, IV Fentanyl ambulatory PCA (Patient Controlled Analgesia with CADD pump) are routinely used to suit the particular needs of individual patients and surgical procedures. Patients are followed up by bedside visits in the ward by the pain team (consultant, resident doctor and nurse) for optimum control of acute postoperative pain.

Chronic Pain Management: The department is the process to start fluoroscopic imaging guided Interventional Pain Management for chronic cancer pain with cryoablation and radiofrequency ablation devices.

Pain Clinic: At present, chronic pain patients are managed using a multimodal approach, ranging from the use of oral analgesics including NSAIDs, co-analgesics, various forms of morphine, transdermal fentanyl patch, at the Palliative Medicine OPD run by the Department of Palliative Care Medicine.

Pain Clinic Timings:

9am to 5 pm, Monday to Friday, Ground Floor OPD Complex.

Critical Care

The department runs a thirteen-bedded ICU (including two isolation units) for surgical oncology and medical oncology patients at the 4th Floor of MPMCC Varanasi. The department also runs a six-bedded ICU for Hemato-Oncology and Pediatric Oncology patients at the 4th Floor of MPMCC Varanasi.

Consultants and Senior Residents manage these ICUs round the clock on a rotational basis.

A wide variety of critically ill patients – adults, children, toddlers, infants and medically high-risk patients are managed in the ICU. Respiratory support (HFNC, NIV, Invasive Mechanical Ventilation), advanced hemodynamic monitoring and circulatory support, and renal replacement therapy (bedside hemodialysis) are offered in our ICU.

Clinical workload of the department:

Particulars	Year 1 (2019)	Year 2 (2020)	Year 3 (2021)	Year 4 (2022)	Year 5 (2023)
Number of patients assessed pre-op (PAC)	2869	4838	7348	8715	9764
Number of Major operations	1270	2159	3906	4430	4454
Number of patients seen in Pain Clinic	Data displayed under Palliative Medicine				
Number of patients in Brachytherapy OT under anesthesia			425	357	311
Number of patients in NORA (CT, MRI, Pediatric radiotherapy cases under anesthesia).			331	576	567
Number of Recovery Room (PACU) admissions			2162	2635	2707
Medical & Pediatric ICU admissions			209	225	186
Surgical ICU admissions			1529	1740	1747
Number of bedside dialysis sessions in ICU			90	191	143
Number of patients attended Acute Pain Services team			502	1156	1074

In position staff (as on 28 Oct 2024)

- Professor: 02
- Associate Professor: 01
- Assistant Professor: 06 + 03 (on Maternity Leave)
- Part-time Anesthesia Consultant: 03
- Senior Resident: 02
- Junior Resident (MD Anesthesiology): 02 + 02
- ICU Medical Officer: 02
- OT Technician: 23
- ICU Technician: 14
- Research Assistant: 01

Information on the availability of Training Facilities in Anesthesia Care for Surgical Specialties

S/N	Surgical Specialty
1	Breast Oncosurgery
2	Gynecologic Oncosurgery
3	Bone and Soft Tissue Oncosurgery
4	Head and Neck Oncosurgery
5	Gastrointestinal & Hepato-biliary-pancreatic Oncosurgery
6	Thoracic Oncosurgery
7	Urology Oncosurgery
8	Pediatric Surgical Oncology
9	Neuro Surgical Oncology
10	Plastic and Reconstructive Surgery

Training facility for our MD Anesthesiology Students in Obstetric Anesthesia, Trauma, Cardiac Anesthesia and UG Teaching is available at IMS BHU Varanasi, (in terms of letter of support issued by the competent authority of IMS BHU). IMS BHU is within 2 km of road distance from MPMMCC.



The District Residency Program at UHTC Durgakund Varanasi (under CMO Varanasi) provides additional training opportunities in obstetric anesthesia for MD Anesthesiology Students at the community hospital level.


COVID19 pandemic service by the department:



The Consultants and Senior Residents of department provided round the clock on-site services for the 28 bedded COVID19 HCU (level 2 & level 3 care facility) at HBCH Varanasi between 3rd week of April 2021 and 3rd week of June 2021 (2nd wave of COVID 19 pandemic in 2021). At the same time, anesthesia services for major cancer surgeries, NORA services and ICU services were provided uninterruptedly at MPMMCC Varanasi.

Medical Teaching Faculty:



There are currently twelve (12) Medical Teaching Faculty Members.



Teaching Faculty of Department of Anesthesiology, Critical Care & Pain							
MPMMCC / HBCH (Tata Memorial Centre) Varanasi (Permission for MD Anesthesia Course received from NMC on 18 Aug 2022)							
S/N	Name	Qualifications	Designation	Experience	Research areas of interest	No. of Publications	Email id
1.	Dr Jyotirmay Kirtania 	MD Anesthesiology	Professor & HoD	NMC recognized teaching experience: 14 y 3 m (prior) + 2 y 3 m (present) Total post PG experience: 18 years	Patient safety, Medical Simulation, Medical Instrumentation, Competency Based Medical Education	11	jyotirmay@mpmmcc.tmc.gov.in
2.	Dr Shreyasi Ray 	MD Anesthesiology, MBA (HCS)	Professor	NMC recognized teaching experience: 10 y 7 m (prior) + 2 y 3 m (present) Total post PG experience: 14 years	Pain, Competency Based Medical Education	7	shreyasi@mpmmcc.tmc.gov.in

3.	<p>Dr Uddalak Chattopadhyay</p> 	MD Anesthesiology, DNB Anesthesiology	Associate Professor	<p>NMC recognized teaching experience: 3 y 5 m (prior) + 2 y 3 m (present)</p> <p>Total post PG experience: 9 years</p>	Regional anesthesia	2	uddalak@mpmmcc.tmc.gov.in
4.	<p>Dr Nikhil Kumar Singh</p> 	MD Anesthesiology, PDCC Neuroanesthesia, PDCC Critical Care	Assistant Professor	<p>NMC recognized teaching experience: 3 y 1 m (prior) + 2 y 3 m (present)</p> <p>Total post PG experience: 8 years</p>	Neuroanesthesia, Intensive Care	2	nikhilgsvm@gmail.com

5.	<p>Dr Sandipan Banerjee</p> 	MD Anesthesiology	Assistant Professor	<p>NMC recognized teaching experience: 5 y (prior) + 2 y 3 m (present)</p> <p>Total post PG experience: 9 years</p>	Thoracic anesthesia	1	sandipan@mpmcc.tmc.gov.in
6.	<p>Dr Shalini Chaudhuri</p> 	MD Anesthesiology	Assistant Professor	<p>NMC recognized teaching experience: 5 y (prior) + 2 y 3 m (present)</p> <p>Total post PG experience: 9 years</p>	Pediatric anesthesia	2	shalini@mpmcc.tmc.gov.in

7.	<p>Dr Syed Sadaqat Hussain</p> 	MD Anesthesiology	Assistant Professor	<p>NMC recognized teaching experience: 6 y 4 m (prior) + 2 y 3 m (present)</p> <p>Total post PG experience: 10 years</p>	Pre-habilitation, Clinical Communication Skills	2	syed@mpmmcc.tmc.gov.in
8.	<p>Dr Monotosh Pramanik</p> 	MD Anesthesiology	Assistant Professor	<p>NMC recognized teaching experience: 1 y 9 m (prior) + 2 y 3 m (present)</p> <p>Total post PG experience: 9 years</p>	Acute Pain	3	monotosh@mpmmcc.tmc.gov.in

9.	<p>Dr Shashank Tiwari</p> 	MD Anesthesiology, PDCC Critical Care	Assistant Professor	<p>NMC recognized teaching experience: 2 y (prior) + 2 y 3 m (present)</p> <p>Total post PG experience: 6 years</p>	Critical Care, Infectious disease	2	shashank@mpm.mcc.tmc.gov.in
10.	<p>Dr Pradeepika Gangwar</p> 	MD Anesthesiology	Assistant Professor	<p>NMC recognized teaching experience: 4 y 1 m (prior) + 2 y 3 m (present)</p> <p>Total post PG experience: 9 years</p>	Regional anesthesia	6	pradeepikag9@gmail.com

11	<p>Dr Anamika Mishra</p> 	DNB Anesthesiology	Assistant Professor	<p>NMC recognized teaching experience: 2 y 3 m (present)</p> <p>Total post PG experience: 4 years</p>	Pediatric Anesthesia	1	anamika@mpmmcc.tmc.gov.in
12		DNB Anesthesiology, DM Onco-anesthesiology & Palliative Care	Assistant Professor	<p>NMC recognized teaching experience: 4y (prior) 2 m (present)</p> <p>Total post PG experience: 4 years</p>	Regional Anesthesia	2	souvikm@mpmmcc.tmc.gov.in

S/N	Faculty Name	S/N	Publications	Pubmed Indexed	Scopus Indexed
I	Dr Jyotirmay Kirtania	1	Ray S, Kirtania J. Effects of Passive Head-and-Neck Movements on the Performance of i-gel® Supraglottic Airway Device in Anesthetized Patients - A Randomized Crossover Trial. Anesth Essays Res. 2020;14(2):305-311.	Yes	Yes
		2	Ray S, Kirtania J. Waiting time of inpatients before elective surgical procedures at a State Government Teaching Hospital in India. Indian J Public Health. 2017;61(4):284-289.	Yes	Yes
		3	Ray S, Kirtania J. Randomised double-blind study of intrathecal bupivacaine-morphine versus systemic morphine analgesia for major abdominal surgery in a resource poor setting. J. Evolution Med. Dent. Sci. 2017;6(75):5345-5352.	Yes (Select Citations of the Journal) NLM ID: 101602123	No
		4	Kirtania J, Ray S. Test-retest reliability of assessment of anaesthetist's performance in managing serious adverse events on a screen-based computer simulator. J. Evolution Med. Dent. Sci. 2017;6(79):5575-5579.	Yes (Select Citations of the Journal) NLM ID: 101602123	No
		5	Kirtania J, Ray S. New Onset Generalized Tonic Clonic Seizures after Intravenous Tramadol with Ondansetron. International Journal of Medical and Pharmaceutical Case Reports. 2015;5:1-5.	No	No
		6	Maitra S, Kirtania J, Pal S, Bhattacharjee S, Layek A, Ray S. Intraoperative blood glucose levels in nondiabetic patients undergoing elective major surgery under general anaesthesia receiving different crystalloid solutions for maintenance fluid. Anesth Essays Res. 2013;7(2):183-188.	Yes	Yes
		7	Ray S, Kirtania J, Das A, Halder B, Kundu AK. General Anesthesia Preceded by Awake-Trial of LMA in a Child with Freeman-Sheldon Syndrome. J Anesth Clin Res. 2013;4:269-271.	No	No
		8	Kirtania J, Ray S. Beware of lung complications when using guidewire-assisted nasogastric tube insertion. Anesth Analg. 2013;116(1):263-264.	Yes	Yes
		9	Kirtania J, Ghose T, Garai D, Ray S. Esophageal guidewire-assisted nasogastric tube insertion in anesthetized and intubated patients: a prospective randomized controlled study. Anesth Analg. 2012;114(2):343-348.	Yes	Yes
		10	Mandal S, Basu M, Kirtania J, Sarbapalli D, Pal R, Kar S, Kundu KK, Sarkar U, Gupta SD. Impact of general versus epidural anesthesia on early post-operative cognitive dysfunction following hip and knee surgery. J Emerg Trauma Shock. 2011;4(1):23-28.	Yes	Yes
		11	Ray S, Pal R, Pal S, Kirtania J, Sarbapalli D, Sarkar U, Kundu KK. Preclusion of pain on injection with propofol: Evaluating the effects of lignocaine or fentanyl pretreatment.	Yes	Yes

			Anesth Essays Res. 2011;5(1):33-38.		
		12	Chowdhury A, Gupta S, Ghatak S, Goyal N, Ray S, Ray R, Das K, Kirtania J, Ghose T. Developing a transplant program: The beginning of liver transplant activity in eastern India. Indian Journal of Transplantation. 2011;5(2):114-115.	No	Yes
		13	Rudra A, Ray A, Chatterjee S, Bhattacharya C, Kirtania J, Kumar P, Das T, Ray V. Trauma in pregnancy. Indian Journal of Anaesthesia. 2007;51(2):100-105.	Yes	No
		14	Rudra A, Chatterjee S, Kirtania J, Sengupta S, Moitra G, Sirohia S, Wankhade R, Banerjee S. Postoperative delirium. Indian Journal of Critical Care Medicine. 2006;10(4):235-240.	Yes	No
		15	Dutta Gupta S (Editor). Anesthesiology Updates for Postgraduates (2010), Edition: 1/e. Book Chapter: Hepatic physiology and anaesthetic considerations in acute and chronic liver diseases. Jyotirmay Kirtania. ISBN: 9789351520962. Jaypee Brothers Medical Publishers (P) Ltd.	ISBN: 9789351520962	
II	Dr Shreyasi Ray	1	Ray S, Kirtania J. Effects of Passive Head-and-Neck Movements on the Performance of i-gel® Supraglottic Airway Device in Anesthetized Patients - A Randomized Crossover Trial. Anesth Essays Res. 2020;14(2):305-311.	Yes	Yes
		2	Ray S, Kirtania J. Waiting time of inpatients before elective surgical procedures at a State Government Teaching Hospital in India. Indian J Public Health. 2017;61(4):284-289.	Yes	Yes
		3	Ray S, Kirtania J. Randomised double-blind study of intrathecal bupivacaine-morphine versus systemic morphine analgesia for major abdominal surgery in a resource poor setting. J. Evolution Med. Dent. Sci. 2017;6(75):5345-5352.	Yes (Select Citations of the Journal)	No
		4	Kirtania J, Ray S. Test-retest reliability of assessment of anaesthetist's performance in managing serious adverse events on a screen-based computer simulator. J. Evolution Med. Dent. Sci. 2017;6(79):5575-5579.	Yes (Select Citations of the Journal)	No
		5	Kirtania J, Ray S. New Onset Generalized Tonic Clonic Seizures after Intravenous Tramadol with Ondansetron. International Journal of Medical and Pharmaceutical Case Reports. 2015;5:1-5.	No	No
		6	Maitra S, Kirtania J, Pal S, Bhattacharjee S, Layek A, Ray S. Intraoperative blood glucose levels in nondiabetic patients undergoing elective major surgery under general anaesthesia receiving different crystalloid solutions for maintenance fluid. Anesth Essays Res. 2013;7(2):183-188.	Yes	Yes

		7	Ray S, Kirtania J, Das A, Halder B, Kundu AK. General Anesthesia Preceded by Awake-Trial of LMA in a Child with Freeman-Sheldon Syndrome. J Anesth Clin Res. 2013;4:269-271.	No	No
		8	Kirtania J, Ray S. Beware of lung complications when using guidewire-assisted nasogastric tube insertion. Anesth Analg. 2013;116(1):263-264.	Yes	Yes
		9	Kirtania J, Ghose T, Garai D, Ray S. Esophageal guidewire-assisted nasogastric tube insertion in anesthetized and intubated patients: a prospective randomized controlled study. Anesth Analg. 2012;114(2):343-348.	Yes	Yes
		10	Ray S, Pal R, Pal S, Kirtania J, Sarbapalli D, Sarkar U, Kundu KK. Preclusion of pain on injection with propofol: Evaluating the effects of lignocaine or fentanyl pretreatment. Anesth Essays Res. 2011;5(1):33-38.	Yes	Yes
III	Dr Uddalak Chattopadhyay	1	Chaudhuri S, Banerjee S, Chattopadhyay U, Hussain SS. Comparison of recovery times by using bispectral index monitoring versus end-tidal agent concentration monitoring in patients undergoing inhalational general anaesthesia. Indian J Anaesth. 2022;66(Suppl 3):S161-S168.		
		2	Daga D, Mishra A, Sharma SS, Rai AK, Valsareddy SK, Singh U, Chattopadhyay U, Prakash G. Safe Delivery of Surgical Care in Head and Neck Cancer Patients During COVID-19-an Audit of Pattern of Presentation and Treatment Strategies in an Oncology Centre in the Northern India. Indian J Surg Oncol. 2021;30:1-7.	Yes	Yes
		3	Chattopadhyay U, Mallik S, Ghosh S, Bhattacharya S, Bisai S, Biswas H. Comparison between propofol and dexmedetomidine on depth of anesthesia: A prospective randomized trial. J Anaesthesiol Clin Pharmacol. 2014;30(4):550-554.	Yes	Yes
IV	Dr Nikhil Kumar Singh	1	Valasareddy SK, Singh NK, Chaudhari G, Mishra A. Unanticipated intraoperative airway emergency due to near-total transection of endotracheal tube during partial maxillectomy. Airway 2021;4:48-50.	No	No
V	Dr Shalini Chaudhuri	1	Chaudhuri S, Banerjee S, Chattopadhyay U, Hussain SS. Comparison of recovery times by using bispectral index monitoring versus end-tidal agent concentration monitoring in patients undergoing inhalational general anaesthesia. Indian J Anaesth. 2022;66(Suppl 3):S161-S168.	Yes	Yes
		2	Chaudhuri S, SenDasgupta C, Goswami A, Sinha S. Comparison of Effects of Prophylactic Amiodarone versus Lignocaine and Magnesium Sulphate versus Placebo in Prevention of Arrhythmias in Patients Undergoing Valve Replacement Surgery. Clinical and	No	No

			Interventional Cardiology. 2021;1(1):004.		
		3	Anesthesiology Updates for Postgraduates (2014), Edition: 4/e. Pediatric Anesthesia: An Overview. Purnima Mukherjee, Shalini Chaudhuri. ISBN: 9789351520962. Jaypee Brothers Medical Publishers (P) Ltd.	ISBN: 9789351520962	
VI	Dr Sandipan Banerjee	1	Chaudhuri S, Banerjee S, Chattopadhyay U, Hussain SS. Comparison of recovery times by using bispectral index monitoring versus end-tidal agent concentration monitoring in patients undergoing inhalational general anaesthesia. Indian J Anaesth. 2022;66(Suppl 3):S161-S168.	Yes	Yes
VII	Dr Syed Sadaqat Hussain	1	Chaudhuri S, Banerjee S, Chattopadhyay U, Hussain SS. Comparison of recovery times by using bispectral index monitoring versus end-tidal agent concentration monitoring in patients undergoing inhalational general anaesthesia. Indian J Anaesth. 2022;66(Suppl 3):S161-S168.		
		2	Pramanick S, Hussain SS. Attenuation of haemodynamic response to different doses of dexmedetomidine during extubation in patients undergoing peripheral vascular surgery. Indian Journal of Basic and Applied Medical Research 2016;5(4):740-751	No	No
VIII	Dr Monotosh Pramanik	1	Pramanik M, Chattopadhyay M, Sarkar A. Anaesthetic management of cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC) in a patient with severe uncorrected coarctation of aorta (CoA): A case report. Indian Journal of Anaesthesia. 2020;64(5):441.	Yes	Yes
		2	Pramanik M, Sarkar A, Gupta A, Chattopadhyay M. Postoperative pulmonary complications in robot-assisted uro-oncological surgeries: Our experience in a tertiary cancer care centre. Indian journal of anaesthesia. 2020;64(3):238.	Yes	Yes
		3	Chakrabarti A, Pramanik M, Das SR. A clinical study on effect of dexmedetomidine added to spinal hyperbaric bupivacaine in lower abdominal surgeries. International Journal of Contemporary Medical Research 2016;3(8):2434-2437.	No	No

IX	Dr Shashank Tiwari	1	Bakshi S, Rana M, Gulia A, Puri A, Harsha TS, Tiwari S, Gotur A. "Prevalence of chronic pain following resection of pelvic bone tumours: A single centre prospective observational survey". Br J Pain. 2022;16(3):263-269.	Yes	Yes
		2	Sharma S, Tiwari S, Sharma K, Nair N. Randomized controlled trial comparing the efficacy of pectoral nerve block with general anesthesia alone in patients undergoing unilateral mastectomy. Indian J Surg Oncol. 2021 Mar;12(1):158-163.	Yes	Yes
X	Dr Pradeepika Gangwar	1	Bajpai V, Patel TK, Dwivedi P, Bajpai A, Gupta A, Gangwar P, Singh Y, Agarwal R, Kishore S. Dexmedetomidine versus clonidine as an adjuvant to local anaesthetic in brachial plexus blocks: a meta-analysis of randomised controlled trials. Braz J Anesthesiol. 2023 Sep-Oct;73(5):665-675.	Yes	Yes
		2	Agarwal S, Gupta K, Gangwar P. Persistent buccopharyngeal membrane: Anaesthetic management. Airway. 2019;2(3):148.	No	No
		3	Gupta K, Gangwar P, Agarwal S, Kumar A. Videolaryngoscopy-assisted intubation in a patient of Pendred syndrome with a pendulous goiter. The Indian Anaesthetists' Forum. 2019;20(2):107.	No	No
		4	Bajpai V, Gangwar P, Gupta A. Ultrasound Guided supraclavicular brachial plexus block to compare the effect of addition of clonidine or dexmedetomidine with 0.5%Bupivacaine: A comparative study. International Journal of Medical and Health Research. 2019;5(7):97-102.	No	No
		5	Gangwar P, Kothari N, Bhatia P, Jaju R. Early recovery of facial nerve palsy after plasmapheresis in a patient of Gullian Barre Syndrome: A Case Report. Journal of Medical Science and Clinical Research. 2019;7(1):772-775.	No	No
		6	Can ultrasound-guided subcostal transverse abdominis plane block be used as sole anesthetic technique? Saudi journal of anaesthesia. 2017;11(1):111.	Yes	Yes
		7	Mishra LS, Singh N, Gautam R, Giri M, Gangwar P. Comparison of pre-emptive and intra-operative administration of epidural ketamine or dexamethasone with 0.2% ropivacaine for post-operative analgesia in lower abdominal surgery. Anaesthesia Update. 2014;17(2):31.	No	No

XI	Dr Souvik Mukherjee	1	Mukherjee S, Jain A, S S, Waindeskar V. Clinical outcome of perioperative airway and ventilatory management in patients undergoing surgery for oral cavity cancer: a prospective observational study. J Korean Assoc Oral Maxillofac Surg. 2024 Jun 30;50(3):146-152.	Yes	Yes
		2	Mukherjee S, Waindeskar V, Molli K, Koovakattil AK. An unusual case of delayed recovery from spinal anesthesia in a patient with Lambert-Eaton myasthenic syndrome—a case report. Ain-Shams Journal of Anesthesiology. 2023 Mar 23;15(1).	No	No

Educational Programs:

1. MD Anesthesiology course (3 years full time PG degree course) – two (02) seats permitted by the National Medical Commission, admission of students commenced from the academic year 2022-23.
2. SOAPC Fellowship (1 year full time training program) in Onco Anesthesia and Perioperative Medicine: 02 seats, affiliated with Society of Onco Anesthesia and Perioperative Care (SOAPC), commenced from 2024.
3. Bachelor of OT Technology (BOTT) – Four (04) seats in paramedical degree course under the Atal Bihari Vajpayee Medical University commenced from the academic year 2022-23.

Schedule of Post Graduate Academic Sessions at Department of Anesthesiology, Critical Care & Pain	
Teaching-Learning Session	Day of the week
Theory Classes*	Monday
Clinical Seminars*	Tuesday
Central Multidisciplinary Academic Meetings (held at 5th Floor Lecture Hall, on various topics): CPC, Monthly Morbidity Mortality Meetings, Guest Lectures, Departmental Audit, Landmark Paper, Topic of Medical Interest	Wednesday
Journal Clubs Meetings*	Thursday
Group Discussions (Clinical Case Discussion / Problem Based Learning)*	Friday
Tutorials (Clinical Skills Workshop)*	1st, 2nd, 3rd Saturday
Research Project Meetings*	4th Saturday

**held at 4th Floor OT complex classroom*

Ongoing Research Activities:

All the faculty and resident doctors are encouraged to involve themselves in biomedical research addressing contemporary and relevant research questions that directly impact the practice of anesthesia, critical care and pain.

S/N	Name of the Study
1.	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 - III). WHO ICTRP ID: NCT04493905
2.	Practlce pattern of INtraoperative FIUid therapy in elective major gaStrointestinal cancEr surgeries in India (I-INFUSE)– A multicentre observational study. CTRI Registration no. CTRI/2023/04/052011
3.	Evaluation of ventilator associated events in critically ill patients with invasive mechanical ventilation: A prospective observational study at a tertiary care cancer centre in Northern India.
4.	Is nasotracheal intubation a better choice over orotracheal intubation in prolonged laparoscopic abdominal surgeries? A prospective observational study. CTRI Registration no. CTRI/2024/02/063253
5.	Effects of low normal versus conventional minute ventilation on the incidence of hypotension after induction of general anesthesia in adult patients for major cancer surgery - a randomized controlled study. (PG thesis). CTRI Registration no. CTRI/2023/06/054245
6.	Comparison between transtracheal and intravenous 2% lignocaine in attenuating hemodynamic stress response following direct laryngoscopy and endotracheal intubation. CTRI Registration no. CTRI/2023/06/054125
7.	Efficacy of lingual nerve block in preventing hemodynamic response due to surgical stimulation in patients undergoing tongue cancer resections. CTRI Registration no. CTRI/2023/01/049309
8.	Ionized Calcium Levels and Intraoperative Vasopressor requirements during major cancer surgeries (iCaLIV) - a retrospective cohort study. (PG thesis). CTRI Registration no. CTRI/2024/03/064270
9.	Awake Video-bronchoscopic Tracheal Intubation for Prevention of pulmonary Aspiration associated with general anesthesia induction (AV-TIPA) - a clinical registry based real-world-evidence study. (PG thesis). CTRI registration no. CTRI/2024/02/062425
10.	Postoperative outcomes of oncology patients undergoing radical visceral resections - a multi-centric observational study (RaVisRO study). CTRI registration no. CTRI/2024/08/072057

List of important equipment available and their functional status in the Department of Anesthesia.

Equipment	Numbers / functional status / comments: All are functional.
1. Anesthesia Workstations	20 Anesthesia Workstations (Draeger Atlan - 4 nos., Draeger Fabius Plus - 8 nos., GE 9100c NXT - 6 nos., MindRay Wato EX30 - 2 nos.) 02 MRI compatible Anesthesia Workstations (GE).
2. Multi-channel Anesthesia Patient Monitor	15 Multiparameter Anesthesia Monitors with Anesthesia Gas Module 02 MRI compatible Multiparameter Anesthesia Monitors
3. Fiberoptic Laryngoscope	12
4. Video Bronchoscope	AMBU aView Monitor: 09 sets (7 sets in OT, 2 sets in ICU) with aScope Broncho 4 slim and regular
5. Resuscitation equipment (for teaching)	AmbuMan Advanced (High Fidelity ACLS Simulator): 1 set AmbuMan Airway (High Fidelity BLS Manikin with Airway): 2 sets AMBU Airway Management Trainer with cut section: 2 sets
6. Other equipment	<ul style="list-style-type: none"> ● Video Laryngoscope (Karl Storz C-MAC): 03 ● BPL Video laryngoscope: 02 ● Cardiac Monitor for ICU: 18 ● Cardiac monitor with NMT: 03 ● Multiparameter Monitor for OT Recovery Room: 12 ● Biphasic Cardiac Defibrillator with manual and AED Modes and transcutaneous pacemaker: 03 ● Biphasic Cardiac Defibrillator with manual and AED Modes: 02 ● Automated External Defibrillator (AED): 03 ● Continuous Cardiac Output Monitor Module (Nihon Kohden ProAQT with PiCCO): 02

	<ul style="list-style-type: none"> ● Bispectral Index (BIS) Monitor: 02 ● Non-invasive Continuous Cardiac Output (PWTT based esCCO): 1 ● Peripheral nerve stimulator (Plexygon) for regional anesthesia: 02 ● Forced Air Warmer (Convective Patient Warmer): 25 ● Fluid & Blood Warmer: 12 ● ICU Ventilator: 19 ● Portable USG Machine for point of care USG guided procedures in OT & ICU: 04 ● Portable Echocardiography machine with adult and pediatric echocardiography probes: 01 ● Hemodialysis Machine with portable RO plant (for bedside dialysis in ICU): 04 ● ABG Machine (Radiometer ABL800 flex): 02 ● HemoCue 201+ point-of-care hemoglobinometer: 01 ● Syringe Infusion Pump: 50 ● Volumetric Infusion Pump: 40 ● 2nd generation supraglottic airway devices: 12 sets ● Portable Electric Suction Machine: 12 ● Target Controlled Infusion Pump (BD Alaris Plus TCI pump): 02 ● Manual jet ventilators (Manujet): 04 ● Portable Multi Programmable PCA (Patient Controlled Analgesia Pumps): 36 ● 12 channel ECG Machine with recorder: 04 ● HFNC Machine: 06 ● Crash Cart: 14
--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

List of book titles in Anesthesiology, Critical Care and Pain, available in Library

ISBN	Author	Title	Location
------	--------	-------	----------

	Keating, V	Anesthetic accidents	HBCH
9780323654074	Waldman, Steven D.	Atlas of interventional pain management	HBCH
9781496349033	Ballantyne, Jane C. (Ed.)	Bonica's management of pain	HBCH
9789386691323	Barash, Paul. G	Clinical anesthesia	HBCH
	Lundy, John	Clinical anesthesia : a manual of clinical anesthesiology	HBCH
	Evans, Frankis, T.	General anaesthesia techniques, special fields & hazards, Vol. 2	HBCH
978-9811508974	Chawla, Rajesh (Ed.)	ICU protocols : a stepwise approach, 2 Vol	HBCH
	Guedel, Arthur Ernest	Inhalation anesthesia : a fundamental guide	HBCH
	Davies, N. J.H (Ed.)	Lee's synopsis of anesthesia	HBCH
	Pryor, William J	Manual of anesthetic techniques	HBCH
978-0323612630	Gropper, Michael. A	Miller's anesthesia, 2 Vol	HBCH
	Evans, Frankis Tilney	Modern practice in anesthesia	HBCH
	Evans, Frankis T. (Ed.)	Modern trends in anesthesia	HBCH
9788190458351	Kulkarni. A.P (Ed.)	Objective anaesthesia review : A comprehensive textbook for the examinee	HBCH
	Leigh, Digby	Pediatrics anesthesia	HBCH

	Ballantine, Robert I.W	Practice of general anesthesia for neurosurgery	HBCH
	Hewer, Langton. C	Recent advances in anesthesia and analgesia	HBCH
	Hertzler, Arthur. E	Techniques of local anesthesia	HBCH
	Ostlere, Gordon	Trichlorethylene anesthesia	HBCH
9789390612406	Yao, Fun-Sun F.	Yao & Artusio's anesthesiology : problem-oriented patient management	HBCH
0808915800	Benumof, Jonathon, L. (Ed.)	Clinical frontiers in anesthesiology	HBCH
978-1119371502	George A. Gregory (Editor), Dean B. Andropoulos (Editor)	Gregory's Pediatric Anesthesia	MPMMCC
9781493977529	Samer N. Narouze (Editor)	Atlas of Ultrasound-Guided Procedures in Interventional Pain Management	MPMMCC
978-1496371256	JAFFE R.A. (Author)	ANESTHESIOLOGISTS MANUAL OF SURGICAL PROCEDURES	MPMMCC
978-1975126896	Pamela Flood (Author), James P. Rathmell (Author), Richard D. Urman (Author), Pamela Flood MD MA (Editor), James P. Rathmell MD (Editor), Richard D. Urman MD (Editor)	Stoelting's Pharmacology & Physiology in Anesthetic Practice	MPMMCC
978-0367386764	Pamela Macintyre (Author), David Rowbotham (Author), Suellen Walker (Author)	Clinical Pain Management : Acute Pain	MPMMCC
978-3030724863	Roshan Fernando (Editor), Pervez Sultan (Editor), Sioned Phillips (Editor)	Quick Hits in Obstetric Anesthesia	MPMMCC

9783319431673	Anna Clebone (Editor), Corey S. Scher (Editor), J. David Roccaforte (Editor), Levon M. Capan (Editor), Sanford M. Miller (Editor)	You're Wrong, I'm Right: Dueling Authors Reexamine Classic Teachings in Anesthesia	MPMMCC
978-3030513337	Chula Goonasekera (Editor), Zoka Milan (Editor)	Anesthesia for Hepatico-Pancreatic-Biliary Surgery and Transplantation	MPMMCC
978-1455704118	Lee A. Fleisher (Author), Stanley H. Rosenbaum (Author)	Complications in Anesthesia	MPMMCC
978-8131248935	Jean-Louis Vincent MD PhD (Author), Edward Abraham MD (Author), Frederick A. Moore MD MCCM (Author), Patrick Kochanek MD MCCM (Author), Mitchell P. Fink MD (Author)	Textbook of Critical Care: First South Asia Edition	MPMMCC
978-0323497985	Joel A. Kaplan MD (Author)	Kaplan's Essentials of Cardiac Anesthesia	MPMMCC
9789811507458	Jayashree Sood (Editor), Shikha Sharma (Editor)	Clinical Thoracic Anesthesia	MPMMCC
978-3030264765	Thomas L. Archer (Editor)	Obstetric Anesthesia: A Case-Based and Visual Approach	MPMMCC
978-9811309588	M.M. Begani (Editor), Dheeraj V. Mulchandani (Editor), Shagufta choudhary (Editor)	Anesthesia in Day Care Surgery	MPMMCC
978-0323796774	Manuel Pardo (Editor)	Miller's Basics of Anesthesia	MPMMCC
978-1108419536	Tim Cook (Editor), Michael Seltz Kristensen (Editor)	Core Topics in Airway Management	MPMMCC
978-1316636718	Albert J. Varon (Editor), Charles E. Smith (Editor)	Essentials of Trauma Anesthesia	MPMMCC

978-9389859911	Dr. Nishkarsh Gupta & Dr. Anju Gupta (Author)	Clinical Anesthesia- 2 Vol. set	MPMMCC
978-1108710961	Tom Peck, Benjamin Harris	Pharmacology for Anaesthesia and Intensive Care	MPMMCC
9783319493848	Ban C.H. Tsui (Editor), Brendan T. Finucane (Editor)	Complications of Regional Anesthesia: Principles of Safe Practice in Local and Regional Anesthesia	MPMMCC
978-0323848459	Baha Al-Shaikh (Author), Simon G. Stacey FRCA FFICM (Author)	Essentials of Equipment in Anaesthesia, Critical Care and Perioperative Medicine	MPMMCC
978-9390020508	Atul P Kulkarni (Author), JV Divatia (Author), Sohan Lal Solanki (Author)	Perioperative Critical Care	MPMMCC
978-8131256572	Agarwal Jyotsna (Editor), Aruna Parameswari (Editor)	Stoelting's Anesthesia & Co-Existing Disease, Third South Asia Edition	MPMMCC
978-0323277914	Charles E. Argoff MD (Author), Andrew Dubin MD MS (Author), Julie Pilitsis MD PhD (Author)	Pain Management Secrets	MPMMCC
978-0323640152	KEECH B.M. (Author)	ANESTHESIA SECRETS	MPMMCC
978-0198758143	Alastair Martin (Editor), Keith Allman (Editor), Andrew McIndoe (Editor)	Emergencies in Anaesthesia	MPMMCC
978-9390612536	Anju Gupta Dorsch, Nishkarsh Gupta (Author)	Understanding Anesthesia Equipment	MPMMCC
978-9354663901	Gautam Das (Author), Chinmoy Roy (Author), Debjyoti Dutta (Author), Kanchan Sharma (Author)	Basics of Pain Management	MPMMCC

978-8131255056	Polly E. Parsons MD (Author), Jeanine P. Wiener-Kronish MD (Author), Lorenzo Berra MD (Author), Renee D Stapleton MD PhD (Author)	Critical Care Secrets	MPMMCC
978-9390709021	TEMPE D.K. (Author)	CLINICAL PRACTICE OF CARDIAC ANAESTHESIA	MPMMCC
978-9380206929	BAHETI D K (Author)	NEUROANAESTHESIA PRACTICAL TIPS	MPMMCC
978-9385915239	PADVI A. (Author)	TEXTBOOK OF OBSTETRIC ANESTHESIA	MPMMCC

E-Books

Ovid	Access Mode
Bonica's Management of Pain	Read Only
Perioperative Transfusion Medicine	Read Only

List of Journals in Anesthesiology, Critical Care and Pain, available in Library

Journal Name with ISSN	Pubmed Indexed	Latest journal available upto
Anesthesia & Analgesia ISSN: 0003-2999	Y	Current issue
A&A Practice, ISSN: 2575-3126	Y	Current issue
Anesthesiology, ISSN 1528-1175	Y	Current issue
Critical Care Medicine, ISSN: 1530-0293	Y	Current issue
British Journal of Anaesthesia, ISSN: 1471-6771	Y	Current issue
Pain, ISSN: 1872-6623	Y	Current issue
Anesthesiology Clinics, ISSN 1932-2275	Y	Current issue
European Journal of Anaesthesiology, ISSN: 0265-0215	Y	Current issue
BJA Education, ISSN: 2058-5349	Y	Current issue
Journal of Clinical Anesthesia, ISSN: 0952-8180	Y	Current issue

The Journal of Pain, ISSN: 1526-5900	Y	Current issue
Critical Care Clinics, ISSN:0749-0704	Y	Current issue
Critical Care and Resuscitation, ISSN: 2652-9335	Y	Current issue
