

From Editors Desk

Dear IAPA Family,

Welcome to the 16th edition of the IAPA newsletter, a carefully curated biannual Newsletter for well-read IAPA members!

I am delighted to announce that we have gone paperless, with the Newsletter now available on the website in advance of our national conference. As I was tacking together the content for this issue, I could feel IAPA's passion, creativity, knowledge, and administrative skills on various fronts in 2023.

What an accomplished year was 2023!

Let me explain why I believe so. Whether it was expansion, education, research, administration, or creativity, IAPA was at its best.

IAPA's humble beginnings have grown into a lively paediatric anaesthesiology association with seven state branches and one thousand and forty-three members.

Karnataka and Uttar Pradesh state branches were established and one hundred and seventy-one members joined IAPA in 2023. The disruption produced by the epidemic as well as the changes it brought to the education sector, prompted IAPA to reinvent and understand the power and potential of deploying an online educational platform. We accomplished by coordinating 20 educational initiatives, both offline and online, through various state chapters last year. Central online teaching under the leadership of Dr Nandini Dave has reached not only IAPA paediatric fellows but all the paediatric fellows who are IAPA members, highlighting the inclusive nature of our association. Thirteen such online teaching discussions were conducted by well-known paediatric anaesthesia faculty.

Another component of IAPA's growth is research; IAPA is expanding rapidly in research and launching multicentric studies in our country, which will aid in data collection from India.

Projects have been initiated by the IAPA research team and one such project is "Incidence Of Perioperative Adverse Events In Overweight and Obese Children In India- A Prospective Observational Multicentric Study" under the leadership of Dr Rakhee Goyal which is undergoing data collection. International collaborations by research-oriented IAPA members have been initiated, such as WUS (on hold), which was commenced by Dr Elsa and Dr Subramanyam and is still in the process of becoming operational. Dr Rakhee Goyal, Dr Sandhya Y, Dr Elsa and I are in the process of initiating a few international projects, though not directly under the IAPA umbrella but with many IAPA members.

Our President's vision emphasizes the importance of collaboration now more than ever before.

IAPA members have been more actively involved in administration and representing India on international fronts like the Asian Society of Paediatric Anaesthesiologists (ASPA), and the World Federation Of Societies of Anaesthesiologists(WFSA).

The IAPA platform provides paediatric anaesthesia aspirants with an excellent opportunity to advance academically, engage with paediatric anaesthesia mentors, and participate in research activities across the country.

IAPA is not restricted to academics; it also encourages its members to display their creativity outside of anaesthesia. In this edition, we've introduced a new section titled "Beyond Anaesthesia". I will encourage all members to share their inventions and hobbies, which can be showcased in the Newsletter to inspire other members to discover themselves.

I, on behalf of the IAPA Newsletter team, invite all IAPA members to actively contribute to the Newsletter through photo quizzes, crossword puzzles, case reports, and creativity.

I hope you appreciate reading the newsletter as much as we enjoyed putting it together.

I am incredibly grateful to my lovely, diligent Newsletter team for their assistance in finalizing this edition. My team and I are looking forward to your critical recommendations and feedback.

With best wishes, I sign off.

Ekta Rai

Newsletter Editor



Dr Ekta Rai
Vellore

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The pandemic taught us resilience and introduced us to a new way of teaching and learning. Remote learning via web-based platforms made it convenient, safe, and also effective to share knowledge. The IAPA Online masterclass was conceptualized with the intent of bringing all the fellows registered for paediatric anaesthesia fellowship courses across various centres in India, to one common platform. We have a wealth of knowledge, experience and expertise, with teachers and experts in paediatric anaesthesia across different states and academic institutions.



This platform offered an opportunity for the students to meet interact and learn from some of the best in the field, and all this without having to travel large distances or wait for opportunities such as conferences for the same. Medicine is as much an art as it is a science. Fellows and students of paediatric anaesthesia were thus presented with an opportunity to understand the nuances of paediatric anaesthesia, varied anaesthesia practices (apart from their institutions) and different views and counterviews.

The online sessions commenced in January 2022, with an academic activity scheduled twice monthly, every other Friday between 6-7 pm. At the end of one year, we took stock and invited opinions from past fellows on areas of improvement. We incorporated case-based discussions, with fellows presenting cases in the subsequent year. We are in our third year, and we look forward to strengthening the program further.

We are deeply indebted to all the teachers who have supported the program; and unflinchingly shared their time, experience and knowledge. We believe (and we have the past fellows who vouch for this) that the sessions helped to better prepare the candidates for the fellowship exit exams. The program has grown from strength to strength; we have on average 50 participants attending every session. Any student is admitted, provided they are an IAPA member. My heartfelt thanks are due to Dr. Sujata Rawlani and Dr. Priyanka Karnik from NH SRCC Children's Hospital, Mumbai who took on the onerous responsibility of coordinating between the faculty and students, setting up and conducting the webinar with discipline, punctuality and commitment.

"If I have seen farther than others, it is because I have stood on the shoulders of giants".

Indeed, the IAPA online masterclass offers the students a great opportunity to hear from, learn from, and be inspired by the leaders in paediatric anaesthesia.

"In any classroom, it's not just the students who are there to learn.."

The animated discussions following the sessions were as much a wealth of information as the session itself, with teachers exchanging notes about their preferences and practices!

I am grateful to the IAPA leadership, and friends and colleagues who shared my vision and offered their unconditional and wholehearted support to this educational endeavour.

Dr. Nandini Dave

Mumbai.

Vice President, IAPA

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Postoperative Pain Relief In Pediatric Patients

Dr. Ranju Singh, New Delhi

Dr. Pooja Singh, New Delhi

Introduction

The Declaration of Montreal states that “access to pain management is a fundamental right”, but still approximately 80% of the global population is affected by insufficient pain management. The greatest burden of inadequate pain management is carried by the elderly, pregnant, and breastfeeding women and children. Despite increasing efforts to improve the perioperative pain management of children, there are still a substantial number of children suffering from postoperative pain. The reasons are multifactorial and reflect differences in knowledge, infrastructure, organization, and healthcare economics. Even in more affluent settings, pediatric postoperative pain management is highly variable and still suboptimal. Preoperative anxiety, history of preoperative pain, neurologic surgery, and surgical incision length size greater than 10 cm are some factors associated with severe postoperative pain in children.¹

What is the need for it?

Postoperative pain management in pediatric patients is of paramount importance for several reasons. First and foremost, uncontrolled pain can lead to unnecessary suffering in children. Effective pain management has a direct impact on the recovery process. When children experience pain, they may be less willing to participate in necessary postoperative activities such as coughing, deep breathing exercises and other aspects of postoperative physiotherapy. This reduction in activity or postoperative physiotherapy increases the risk of pulmonary complications (such as atelectasis and pneumonia), venous thromboembolism and poor wound healing, extending the length of hospital stay. Reducing pain improves a child's overall experience during hospitalization and fosters a sense of trust in medical professionals. Children who experience unmanaged pain may develop a fear of medical procedures, making future healthcare encounters more challenging. Inadequate pain control can also have long-term consequences like chronic post-surgical pain, disturbed sleep, reduced appetite, decreased school attendance, and declining academic performance and participation in sports. Thus, postoperative pain relief in pediatric patients is essential not only for immediate comfort but also for long-term health and well-being.

How to assess postoperative pain in pediatric patients?

Pain assessment among infants and children has always been a very difficult task, mainly because of their young age. Assessing postoperative pain in pediatric patients requires a tailored and sensitive approach. It is strongly suggested that standardized pain assessment for the duration of hospital stay should be used, preferably with validated age-appropriate pain assessment tools. A combination of objective and subjective measures should be employed to gauge a child's pain accurately.

There are three ways of measuring pain. First and the best measure is self-reporting. Children old enough to communicate will be able to report the site and severity of pain. The other two ways are behavioral and physiological. In children above 7 years, pain can be assessed by self-report using the Visual analogue scale (VAS). This tool is similar to the one used for adults and the child can point out the level of pain on a line 100mm long with one end representing ‘no pain’ and the other representing ‘worst pain’. The Wong-Baker FACES pain rating scale is also based on self-report but can be used for children as young as 3 years. The child chooses a face out of six faces based on how they are feeling. The faces are scored as 0, 2, 4, 6, 8 and 10 with face 0 being a happy face (no pain) while face 10 being the one that hurts the most. The FLACC (Face, Legs, Activity, Cry and Consolability) scale for assessment of pain in infants and children is a valid and reliable assessment tool for evaluating of acute and postoperative pediatric pain, which can be used for younger children ranging from 2 months to 8 years, FLACC can also be used up to 18 years for children with cognitive impairment and/or developmental disability. Each component is scored as 0, 1 or 2: with 0 corresponding to behavior associated with no pain and 2 corresponding to behavior associated with maximum pain. Parents or caregivers can also play a crucial role by providing information about changes in the child's behavior, sleep patterns and appetite. Continuous assessment and regular reassessment, especially after interventions, are essential to ensure optimal pain management and to adapt the approach to the child's evolving needs.

What are the methods of postoperative pain relief in pediatric patients?

Postoperative pain relief in pediatric patients requires a multifaceted approach, utilizing various methods to ensure effective analgesia while minimizing adverse effects. These methods can be broadly categorized into oral, rectal, intravenous (IV), and regional techniques, including central and peripheral blocks. Each method has its unique advantages and considerations.

1. Oral analgesics: Nonopioid oral analgesics, including nonsteroidal anti-inflammatory drugs (NSAIDs) and acetaminophen, play an important role as first-line agents in the management of mild-to-moderate pain in children (Ibuprofen 5-10mg/Kg, every 6-8 hrs). Their ease of dosing, widespread availability, parental acceptance, lack of opioid-type adverse effects supports their role in postoperative pain management. When used in combination with opioids, NSAIDs exhibit "opioid-sparing" effects. Factors such as the child's age, weight, and ability to swallow should be considered when determining the appropriate dose and formulation. The NSAIDs are contraindicated in patients with renal or hepatic disorders, increased bleeding risks, or are on nephrotoxic agents or anticoagulants; use should also be avoided in neonates. Acetaminophen an inhibitor of prostaglandin synthesis, is commonly used in the treatment of mild postoperative pain; however, compared to other agents, its analgesic potency remains low and ceiling effects may be observed. The loading dose of acetaminophen in neonates is 20-25 mg/kg followed by a maintenance dose of 12-15 mg/kg at intervals of 6 hours in term, 8 hours in preterm ≥ 32 wk and 12 hours in preterm < 32 wk.

2. Rectal analgesics: Rectal analgesics such as paracetamol can be used for both intraoperative pain as well as postoperative pain. They are useful when oral administration is not feasible due to young age, reduced consciousness or difficulty in swallowing. However, it is not well-received by older children or adolescents.

3. Opioid analgesics: With proper dosing and appropriate assessment and monitoring, opioid analgesics (such as injection fentanyl in the dose of 1-2 microgram/kg body weight) can be considered for the treatment of moderate-to-severe postoperative pain. The underutilization of opioids in the pediatric population may arise from the misconception that pain perception is diminished secondary to immature pain-processing pathways and that opioid receptors are incompletely developed. The response to an opioid analgesic varies greatly by age. In neonates, opioids are more likely to induce respiratory distress secondary to poor ventilatory reflexes and there is an increased risk of opioid accumulation due to immature hepatic enzymes. They have a greater percentage of total body water, thereby producing an alteration in the volume of distribution of these agents. Additionally, the renal excretion of opioids may be diminished secondary to decreased glomerular filtration rate and renal tubular secretion capacity. By adolescence, the metabolism and excretion of opioids reach the same levels seen in adults. Since children are at an increased risk for the development of opioid related adverse effects adherence to dosing and titration guidelines is essential. Monitoring of adverse effects should occur along with, and as frequently as, the assessment of the child's pain. These agents should be administered around the clock, rather than as needed, to avoid "chasing" increases in pain severity. Opioid infusions in form of patient-controlled or nurse-controlled analgesia (PCA or NCA), or continuous IV infusions are now commonly used in the management of pediatric postoperative pain.

4. Regional blocks: Regional anesthesia techniques play a significant role in pediatric postoperative pain management. These can be broadly categorized into central neuraxial blocks (spinal, caudal, epidural) and peripheral nerve blocks.

- Spinal Anesthesia: Spinal anesthesia provides excellent pain relief for lower abdominal and lower extremity surgeries. With use of additives, the analgesic effect may persist in the immediate postoperative period.

- Epidural anesthesia: Epidural analgesia is commonly used to manage postoperative pain.

The site of the surgery and the level of the epidural catheter determines the total volume for injection. In children, the usual recommended dose is 0.04mL/kg/segment as an initial bolus. However in children older than 10 years, the volume (in mL) per spinal segment to be blocked = $1/10 \times \text{age in years}$. Another way of calculating this would be to load with 0.25-0.5mL/kg of 0.25% bupivacaine for lumbar epidurals and approximately half that for thoracic. This dose of 0.25% can either be repeated with half the initial volume after 1-2 hours or a continuous low-dose infusion commenced at 0.2-0.4mL/kg/hour of 0.1% bupivacaine. However, maximum dose recommendations must be kept in mind. Drug accumulation may occur in infants, so infusion rates should be reduced. It can provide long-lasting pain relief for various surgeries and can be titrated to meet the child's needs over an extended period particularly with use of catheters for continuous infusions. Precise placement of epidural catheters ensures that the dermatomes involved in the surgical procedure are selectively blocked, allowing for lower doses of local anesthetics to be used. The approach to the epidural space can be at the caudal, lumbar, or thoracic level based upon the requirements.

- Caudal anesthesia: Caudal anesthesia is a type of epidural anesthesia specifically targeted to the caudal area. It is commonly used in younger children and infants for lower abdominal and pelvic surgeries. The volume of drug for caudal block is decided as per the modified Armitage formula (0.5 ml/kg for sacral, 0.75 ml/kg for thoracic (T10), 1.0 ml/kg for thoracic (T6) and 1.25 ml/kg for mid thoracic (T4). With use of suitable additives like morphine, fentanyl, clonidine dexmedetomidine, dexamethasone, neostigmine, magnesium sulfate this technique provides prolonged pain relief without the need for continuous epidural catheter placement.

- Peripheral nerve blocks(PNB): PNBs are commonly used regional blocks which provide excellent pain relief in the postoperative period. They are safe when generally performed under ultrasound guidance. A few decades ago, peripheral nerve stimulation technique was used to identify a nerve for blocks, unfortunately this technique could not rule out intraneural injections and injury to the nerve due to needling. It cannot be used in conjunction with muscle relaxants, and is unreliable in children with neuromuscular conditions and

Monitoring standards

The postoperative ward/ICU should adhere to monitoring standards that take into account factors such as age, co-morbidities, the nature and complexity of the surgery, and the utilization of sedative medications. Special consideration is needed for infants, particularly in cases involving opioid infusion techniques and intricate surgical procedures. Specific monitoring protocols must be applied to detect complications related to regional analgesic techniques. Clinical and electronic monitoring standards in the postoperative ward / ICU will depend on age, co-morbidities, extent and complexity of the surgery, and use of sedative medications. Particular care is required in infants <1 year of age, when opioid infusion techniques are used and where surgery becomes complicated. Specific monitoring for complications of regional analgesic techniques should be used, especially for continuous infusion techniques and in younger infants.

Conclusion

Effective postoperative pain relief in pediatric patients necessitates a tailored approach that considers the child's age, the type of surgery, and individual pain tolerance. Combining oral, rectal, or intravenous analgesics with regional anesthesia techniques, such as central and peripheral nerve blocks allow healthcare providers to achieve optimal pain control while minimizing the risks associated with systemic medications. This comprehensive approach not only ensures the child's comfort but also contributes to a smoother recovery and improved overall postoperative experience.

Table 1. Dosing of non-opioid analgesics for postoperative pain in children

Medication	Usual Dose and Frequency	Suggested Maximum dosing
Acetaminophen	10-15 mg/kg orally or 20 mg/kg rectally every 4-6 h	5 doses in 24 h
Ibuprofen	5-10 mg/kg orally every 6-8 h	40 mg/kg/day
Ketorolac tromethamine	0.25-1 mg/kg IV every 6 h or 0.25 mg/kg orally every 6h	48 h with IV formulation; 5 total days of treatment

Must read articles

1. Mekonnen ZA, Melesse DY, Kassahun HG, Flatie TD, Workie MM, Chekol WB. Prevalence and Contributing Factors Associated With Postoperative Pain in Pediatric Patients: A Cross-Sectional Follow-up Study. *Perioperative Care and Operating Room Management*. 2021;23:100159.
2. Vittinghoff M, Lönnqvist P.A, Mossetti V et al. Postoperative pain management in children: Guidance from the pain committee of the European Society for Paediatric Anaesthesiology (ESPA Pain Management Ladder Initiative). *Pediatr Anesth*. 2018;28:493-506.
3. Walker SM. Pain after surgery in children: clinical recommendations. *Curr Opin Anaesthesiol*. 2015;28:570-576.

Table 2. Dosing of opioid analgesics for postoperative pain in children

Medication	Route of administration	Usual Dose and Frequency
Morphine	Oral	0.3 mg/kg every 3-4 h
	IV	0.05-0.1 mg/kg every 3-4 h
	Continuous infusion	2-30 mcg/kg/h (dependent upon age and pain severity)
	PCA (bolus dose)	10-30 mcg/kg
Hydromorphone	Lockout	6-10 minutes
	Basal rate	10-30 mcg/kg/h
	Hourly limit	0.1-0.15 mg/kg
	PCA (bolus dose)	3-5 mcg/kg
Fentanyl	Lockout	6-10 minutes
	Basal rate	3-5 mcg/kg/h
	Hourly limit	0.015-0.02 mg/kg
	IV	0.5-1.0 mcg/kg every 1-2h
Fentanyl	Continuous infusion	0.5-3.0 mcg/kg/h (dependent upon age and pain severity)

IAPA NEWSLETTER
Activities in Paediatric Anaesthesiology
July 2023 - December 2023

IAPA Midterm CME, IPGMER and SSKM Hospital, Kolkatta, West Bengal. (12-08-2023 to 13-08-2023)

The IAPA Bengal state chapter organised the IAPA Midterm Meet 2023 with a two-day CME on a novel theme "**Paediatric Anaesthesia-Learning, Unlearning and Relearning**" on 12th and 13th August 2023 at IPGMER and SSKM Hospital, Kolkata. The target audience was the postgraduate anaesthesia trainees and occasional paediatric anaesthesiologists.

The CME was designed to cover three aspects of paediatric anaesthesia: Learning the basics, unlearning the unsafe practices, and relearning the newer and updated concepts. The CME aimed to develop insight into common paediatric anaesthesia scenarios faced daily in real life, in an open and educative atmosphere. Invited faculties included paediatric anaesthesiologists not only from the state of West Bengal but also from different parts of the country. In addition, professionals from other specialty disciplines, such as Paediatric Psychiatry, also delivered lectures. There were over a hundred registrations and the delegates included a mixed group of postgraduate trainees, practicing and occasional paediatric anaesthesiologists.

The first day began with the fellowship exit examination with 10 examinees appearing for both theory and practical assessments. This was followed by the poster presentation by the postgraduate trainees and fellows from different parts of the country. Twenty-two posters were presented in two groups and two prizes were awarded in each group.

Group 1: 1st prize - Dr Jenifer Maria (GKNM Hospital, Coimbatore), 2nd prize - Dr Sandip Bose (IPGMER, SSKM Hospital, Kolkata)

Group 2: 1st prize - Dr Pratik Kumar Singh (AIIMS, Patna), 2nd prize - Dr Eesha Banerjee (INK, Kolkata)

The CME included topics of interest to all anaesthesiologists, such as Errors in paediatric anaesthesia, NORA in children with special needs, Paediatric ERAS, Perioperative transfusion guidelines, Non-technical skills in paediatric anaesthesia, Medico-legal issues, Challenges in pain management in neonates, Current guidelines on preoperative investigations and Sugammadex: the new kid on the block. There was one panel discussion on critical events in paediatric anaesthesia and two pro-con sessions, which the delegates found interesting and thought-provoking.

Day 2 started with a keynote address by the past National President of IAPA, Dr Elsa Varghese on "Fears and apprehension behind anaesthetising a child: How to overcome them", followed by the inaugural function. Lamp lighting ceremony and felicitation of the IAPA National President, Vice President, Secretary, Treasurer and Dr Vibhavari Naik for her recent achievements in paediatric anaesthesia in the global platform, were carried out. Dr Elsa Varghese then released the online biannual IAPA Newsletter, and launched the book - 4th Edition of Understanding Paediatric Anaesthesia- with Dr Rebecca Jacob as the editor and Dr Vibhavari Naik as the associate editor.

A one-minute silence was observed as a mark of respect for the bereaved souls of our loving Dr Poornima Mukherjee and Dr Indrani Mitra. Dr Debasish Mitra announced prize money of Rs. 6 lakhs in the name of Dr Indrani Mitra. The function concluded with a vote of thanks by the IAPA Bengal founder secretary and CME organising secretary Dr Anisha De.

The academic activities continued with a news bulletin on Recent Advances in Anaesthesia by Dr Writuparna Das and Dr Koel Mitra, followed by a novel session based on Soft skill development in students appearing for Viva Voce exams. The session consisted of three common case scenarios conducted in the form of role-play by examiners and the examinees. Three prototypes of examinees were selected to make the role play more realistic and useful. Each session was followed by a debriefing session highlighting the dos and don'ts of viva voce. This session received lots of accolades and praise.

The participants recognised the need and importance of the process of unlearning and relearning the concepts and practices of paediatric anaesthesia and agreed that the contents of the CME were aligned with their expectations and as need of the hour. They also expressed the necessity of such programs in future. Almost all the participants found the interaction with speakers to be enlightening and professionally helpful.



IAPA Tamil Nādu and Puducherry- Online CME. Neonatal Anaesthesia series - Congenital Diaphragmatic Hernia- An online live case-based discussion (16-08-2023)

IAPA Tamil Nadu & Puducherry initiated an online series on Neonatal Anaesthesia, in which the challenges of anaesthetic management in neonates are discussed for the benefit of fellows and postgraduate trainees. An interactive live case-based discussion on congenital diaphragmatic hernia was presented by Dr. Ditty Nissi from Christian Medical College, Vellore. The session was moderated by Dr. Krishnan from the Institute of Child Health and Hospital, Chennai. The online interactive session was attended by 74 attendees and seniors from IAPA and was well appreciated. Dr. Krishnan shared tips and clinical pearls from his many decades of extensive experience in paediatric anaesthesia.



TamilNadu and Puducherry Chapter of IAPA
(Indian Association of Paediatric Anaesthesiologists)

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CME series on NEONATAL ANAESTHESIA

Our 1st CME will be on 16th August at 7 pm
Type: Virtual [Zoom Platform]

Topic : Congenital Diaphragmatic hernia

Presentation by: Dr Ditty Nissi Goldwin
CMC, Vellore

Moderator: Dr N. Krishnan, Retd. HOD and
Professor of Paediatric Anaesthesia,
Institute of Child Health, Chennai

Time to update and further your knowledge
with basics and recent trends in the
management of neonates

Target: All anaesthesia postgraduates,
fellows in paediatric anaesthesia and
practicing paediatric anaesthesiologists

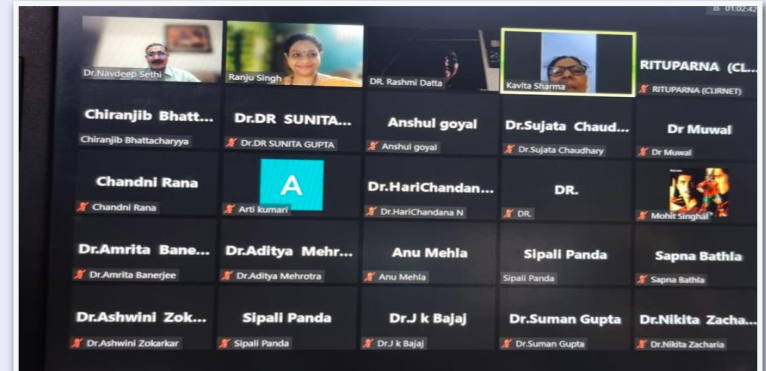
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Department of Paediatric Anaesthesia,
Kanchi Kamakoti CHILDS Trust Hospital, 12 A, Nageswara Road, Nungambakkam, Chennai - 600 034.
Tel : 86677 97337 Email : lapatn2@gmail.com

IAPA Delhi–Online Session-Peri-operative Fluid Management in Neonates and Infants.(24-08-2023)

A webinar was organised by IAPA-Delhi on “Peri-operative fluid management in neonates and infants.” Various aspects of peri-operative fluid therapy including the requirements and management based on literature and recent guidelines were discussed by Dr. Rashmi Dutta. Dr Ranju Singh, President IAPA Delhi and Dr Navdeep Sethi welcomed the online participants and conducted the discussion. The session ended with a vote of thanks by Dr Kavita Sharma.



IAPA Telangana State - Bi-monthly Clinical Hybrid meet- Hyderabad. (31-08-2023)

The IAPA Telangana Bimonthly meet was held at the Yashoda Hospital, Hyderabad on 31 August 2023. Thirty IAPA members, including senior members as well as postgraduate students attended the meeting. The program started with presentations by the postgraduate students. The first presentation was "Peri-operative management of cut-throat injury in a child" by Dr. G Yesasvi, from Gandhi Medical College. It was followed by "Anaesthetic management of a child with pheochromocytoma-A case report" by Dr. Tejaswini, from Niloufer Hospital. Dr. K Prabhavati, Senior Anaesthesiologist at NICE Hospital and Advisor for IAPA Telangana, delivered a guest lecture on "The Apert's Twins - A Craniofacial Experience", based on her vast experience in managing such cases. This was followed by an interesting panel discussion on "Place of premedication in paediatric anaesthesia practice", moderated by Dr. Ravi Naga Prasad, EC member IAPA National. The panelists included senior anaesthesiologists Dr. Aavula Muralidhar, Dr. Basant Rayani, Dr. Renuka Sridevi, Dr. P. Sunidhara Reddy, and Dr. Venu Gopal Kulkarni. The program ended with a vote of thanks by the Secretary, Dr. K Sailaja and was followed by a sumptuous dinner.



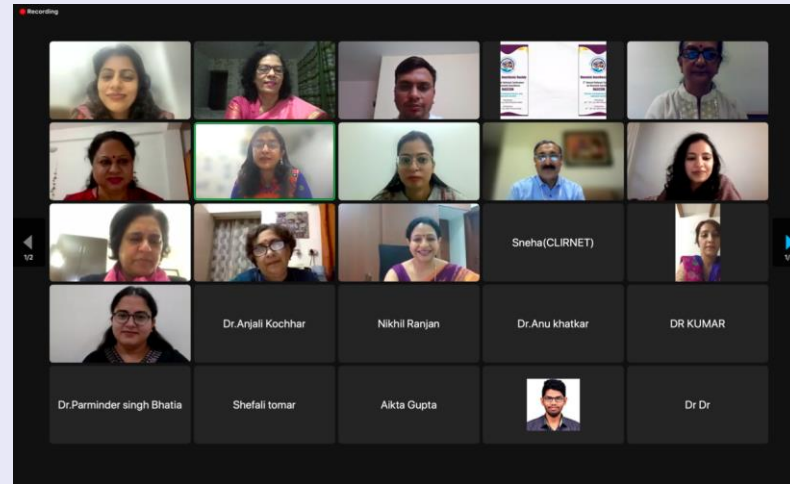
IAPA Tamil Nādu and Puducherry - Online CME. Neonatal Anaesthesia series – Tracheo-Esophageal Fistula. (13-09-2023)

An online discussion on a case of Trachea-Esophageal Fistula was organized by the IAPA-TN & Puducherry state chapter. The case was presented by Dr. Prithviraja and Dr. Akshaya from MMC, Chennai. The session was moderated by Dr. Ramesh, KKCTH and Dr. Sanjay Prabhu, Apollo Children's Hospital, Chennai. The session was very interactive. The moderators shared their experience with such cases. This online session was attended by more than 70 delegates.



IAPA Delhi - Online clinical meet – Vardhman Mahaveer Medical College and Safdarjung Hospital, Delhi. (28-09-2023)

An online Paediatric Anaesthesia clinical meet was organised by IAPA Delhi and the Department of Anaesthesiology and Intensive Care, Vardhman Mahavir Medical College on 28th September 2023. Dr Geetika Khanna, Principal VMMC along with Dr Sujata Chaudhary, Head of Department of Anaesthesiology, welcomed the delegates to the academic event. Around 150 residents and senior doctors from anaesthesia specialty attended the meeting. A study comparing foot length-based and weight-based formulae to determine the appropriate depth of endotracheal tube in neonates was presented along with two interesting case reports. The presentations led to interesting discussions on various aspects of paediatric anaesthesia. The meeting concluded with a vote of thanks by Dr Kavita Sharma.



IAPA Telangana State – Paediatric Anaesthesia Workshop, ISACON Andhra Pradesh- 32nd Annual State Conference, Visakhapatnam. (06-10-2023)

IAPA Telangana, Rainbow Children's hospitals along with ISA Andhra Pradesh organised an excellent single day paediatric workshop on 06/10/2023, in Andhra Medical College, Visakhapatnam. The workshop was spearheaded by Dr. Sunidhara P Reddy, who was assisted by her colleagues. Around 40 delegates from all over Andhra Pradesh as well as from Telangana state attended this workshop. Four hands-on stations were set up in the forenoon:

Station-1: Management of difficult airway using Supraglottic airway devices, Ambuscope, Videolaryngoscope, Needle cricothyroidotomy, etc. on ventilating and intubating mannequins.

Station-2: Training in paediatric neuraxial blocks- both blind and USG guided, using a specially designed sacral model.

Station-3: Training in difficult IV access using USG, and IO cannulations with drill over eggshells (in association with Teleflex)

Station-4: Training in PALS and NALS

The latter part of the day had interactive sessions on the management of cleft lip and palate, retrieval of foreign body bronchus, management of sick laparotomy and ventilation strategies of thoracoscopic and laparoscopic surgeries. There was overwhelming response from the delegates with an average feedback score of 7-8 for all stations reflecting the usefulness of the workshop and satisfaction of the delegates.



IAPA Tamil Nadu and Puducherry - Online CME. Neonatal Anaesthesia series- Anaesthetic considerations in neonates.(21-10-2023)

In continuation of the Neonatal Anaesthesia series conducted online by IAPA TN & Puducherry, a lecture on "Anaesthetic considerations in Neonates" was delivered by Dr. Ilavajady Srinivasan from Hospital for Sick Kids, Toronto. The session was moderated by Dr. Ekta Rai from CMC, Vellore. The session was attended by 80 delegates and was well appreciated. Dr Ilavajady shared his lecture notes with the delegates after the lecture.

Knowledge & Wisdom

CME SERIES ON NEONATAL ANAESTHESIA

Topic : ANAESTHETIC CONSIDERATIONS IN NEONATES

SPEAKER

Dr. Ilavajady Srinivasan, MD (Anes), FRCA, FRCP, Consultant Paediatric Anaesthesiologist, The Hospital for Sick Children, Toronto, Canada

MODERATOR

Dr. Ekta Rai MRCA, M.D., FIAPA Paediatric Fellowship (Singapore) Professor & Head Department of Anaesthesiology, Christian Medical College Vellore, Tamilnadu, India

Who can Attend

- All PG's
- Paediatric Anaesthesia fellows
- Practicing Paediatric Anaesthesiologist

LAUNCH ZOOM ID: 853 3785 9244 PASSCODE: 297890

IAPA Telangana state - Bi monthly Clinical meet - Online and Offline - Hyderabad.(25-10-2023)

The IAPA Telangana Bimonthly meeting was held at Uchvas Transitory Care Centre, Hyderabad. Thirty-one members attended the meeting onsite, while several attended online too. The program started with an online presentation on "Dilemmas in Paediatric Anaesthesia" by an international faculty Dr. Nirmala Saundarajan, UK. It was followed by a lecture on "Clinical Pearls on Paediatric Regional Anaesthesia" by Dr. Balavenkat. Dr. Pandu Naik delivered a guest lecture on "Anaesthesia for Liver Transplant". Two interesting case presentations followed: "Crisis management: Massive bleed after thoracoscopic biopsy" by Dr. Nidhi Dabral and "Extra-luminal bronchial blocker for lung isolation in a 3-year-old" by Dr. K Kavyasree. Apart from the academics, there was a small birthday celebration for Dr. PV Shiva. The program ended with a vote of thanks by the secretary, Dr. K Sailaja, which was followed by a sumptuous dinner.



IAPA Delhi - Perioperative Paediatric Simulation workshop, Vardhman Mahaveer Medical College and Safdarjung Hospital, Delhi.(18-11-2023)

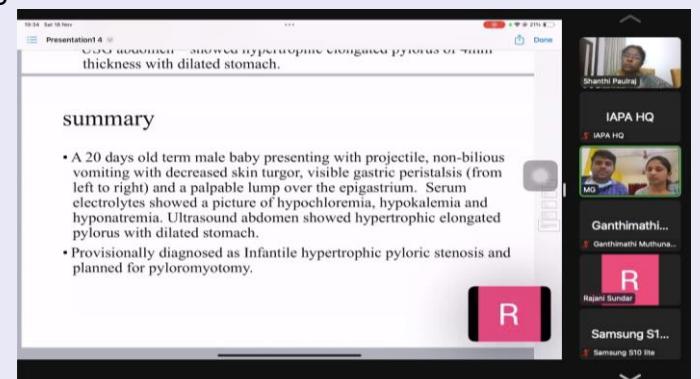
Peri-operative Paediatric Simulation Workshop of IAPA, Delhi branch was organised by Vardhman Mahavir Medical College at Safdarjung Hospital, New Delhi. The event was attended by 32 delegates from various institutions. The program started with a welcome address by Dr Vandana Talwar, Medical Superintendent, Dr Sujata Chaudhary, Head of Department of Anaesthesiology, and Dr Ranju Singh, followed by a vote of thanks by Dr Kavita Sharma, Secretary IAPA Delhi.

Fourteen faculty members, experienced in paediatric anaesthesia and simulation skills, from Vardhman Mahavir Medical College, Lady Harding Medical College and AIIMS Delhi conducted the hands-on interactive sessions. Real life scenarios including difficult airway, massive blood loss situation, post extubation laryngospasm and local anaesthesia toxicity were conducted on high fidelity simulation neonatal, infant and child manikins at 4 simultaneously running stations.



IAPA Tamil Nadu and Puducherry - Online CME. Neonatal Anaesthesia series- Congenital Hypertrophic Pyloric Stenosis. (18-11-2023)

The third case discussion in the neonatal series conducted by IAPA TN & Puducherry was a case of Congenital hypertrophic pyloric stenosis, presented by Dr. Gokul, Paediatric anaesthesia fellow, Kanchi Kamakoti Child Trust Hospital, Chennai. The session was moderated by Dr. Rajini Sundar from GKNM Coimbatore and Dr. Shanthi Paulraj from Thanjavur Medical College. Dr Rajini shared useful clinical pearls with the delegates. The webinar was attended by about 60 delegates.



IAPA Uttar Pradesh and WFSA - Conducted SAFE Paediatric Anaesthesia course - Lucknow. (01-12-2023 to 03-12-2023) :

On the occasion of inauguration of the IAPA UP branch, a 3-day SAFE Paediatric Anaesthesiacourse was conducted at the King George Medical University (KGMU), Lucknow from 1st -3rd December, 2023. The first day consisted of a Training of Trainer course, led by Dr Gita Nath, WFSA course coordinator for IAPA along with Dr Ravi Nagaprasad, Dr Arun Patra, Dr Sunil Kumar and Dr Renuka Sridevi. The local team was led by Prof. GP Singh and Dr Anita Malik, President-IAPA UP. Ten new facilitators were trained for the SAFE course.

Forty-four participants attended the course on the next 2 days. Many of them were anaesthesia trainees from Lucknow. Their mean (SD) pre-test score of 74.7 (7.5) improved to 92.2 (4.5). The feedback from the participants about the course was positive.

The WFSA SAFE course aims to enable anaesthesia providers to deliver competent and safe anaesthesia to children even in low-resource settings. The course consists of a combination of lectures, low-tech simulation, discussions and role-play, delivered in small groups. Meticulous time management is necessary for the effective delivery of this course and may be challenging unless the course organisers have first-hand experience.



IAPA Delhi - Workshop on Safe Injection Practices in Children - Delhi 23-12-2023

IAPA Delhi organised a workshop on "Safe Injection Practices in Children" on 23.12.2023 at Lady Hardinge Medical College under the chairmanship of Dr. Ranju Singh (President, IAPA Delhi) and Dr. Preeti Goyal Varshney as organising secretary. The workshop comprised five stations viz. hand washing and donning of gloves, intravenous cannulation, care of intravenous cannula, intra-osseous cannulation and waste disposal. Around 40 delegates, including OT technicians, pre-trauma technician (PTT) trainees, interns and first year MD Anaesthesia residents attended the hands-on workshop. There were 10 instructors which included faculty and residents from the Department of Anaesthesia, LHMC. Steps of hand washing and donning sterile gloves were practiced by each delegate, emphasizing the need for asepsis. Demonstration of techniques of intravenous and intra-osseous cannulation was followed by hands-on training of individual delegates on the mannikins. Fixation of intravenous cannula, preparation of intravenous infusions, precautions to be taken and detecting the signs of inflammation were taught at the station "Care of intravenous cannula". Finally, the importance of disposing of the generated waste in the correct bins and how to do it safely, was also described with practical examples. The workshop was much appreciated by the delegates, with the earnest request to conduct such practically useful workshops more frequently.



ASPA IAPA PPLS workshop

A one-day paediatric perioperative life support (PPLS) workshop under the aegis of the Asian society of Paediatric Anaesthesiologists (ASPA) and Indian Association of paediatric anaesthesiologists (IAPA) was held at the All India Institute of Medical Sciences, Patna, Bihar organized by the Department of Anaesthesia on 3rd December 2023. Dean and HOD of Department of Anaesthesia, Dr. Umesh Bhadani delivered an inaugural welcome to all the faculties and delegates, followed by lamp lighting. It was followed by lectures by various faculties (Dr. Elsa Varghese, Dr. Vibhavari Naik, Dr. Anisha De, and Dr. Kasturi Bandyopadhyay). Concise lectures were followed up by small group discussions, interactions, and skill stations: (3 groups of 10 delegates each). Role play on breaking bad news was conducted which was well appreciated by the audience. Questions were taken from the delegates. The delegates were encouraged to spread safe and quality Pediatric anaesthesia care at their respective workplaces. The delegates were encouraged to take up IAPA membership in large numbers. The program was concluded with a vote of thanks and a photo session with the delegates.



UPCOMING CONFERENCES : MARK THE DATES

1. **Society of Pediatric Anesthesiologists-American Academy of Pediatric Section (AAP) Pediatric Anesthesiology 2024**
April 12- April 14, 2024
Venue: Los Angeles CA, United States
2. **Asian Society of Paediatric Anaesthesiologists(ASPA) & Malaysian Society of Paediatric Anaesthesiologists(MSPA)**
Dates- July 11 – July 14 ,2024
Venue- Kuching(BCCK), Malaysia
3. **Canadian Pediatric Anesthesia Society(CPAS)**
Dates- September 13 – September 15, 2024
Venue – Ottawa, Canada
4. **European Society of Paediatric Anaesthesiology (ESPA)**
Dates- 26th September -28th September, 2024
Venue – Athens, Greece
5. **The Society for Paediatric Anaesthesia in New Zealand and Australia (SPANZA) and the Australian and New Zealand Society of Paediatric Otorhinolaryngology (ANZSPO)**
Date – October 23 –October 26,2024
Venue- Melbourne, Australia
6. **Indian Society of Anaesthesiologists (ISA)**
ISACON
Date- November 20-November 24, 2024
Venue- Patna, India

Answers Crossword IAPA

1.POCUS	2. SBAR	3. COPUR	4. VAS	5.FOURHANDT	6. RULEOFNINE	7. SOAPME
8.APGAR	9.WETFLAG	10. FLACC	11. AVPU	12. AMPLE	13. DOPES	14. MNEMONICS

PAEDIATRIC ANAESTHESIA AT YOUR FINGERTIPS

Dr Vibhavari Naik,
Hyderabad

Paediatric anaesthesia presents a formidable challenge, especially in cases where a small, sick child must undergo major emergency surgery. In such situations, the stress of a perioperative crisis can be compounded by the need for quick, reliable information. For the occasional paediatric anaesthesiologist, the situation may be further exacerbated by the lack of experienced assistance. While the internet has provided a valuable platform for accessing information within seconds, dedicated applications offer more focused and organized information that can prove invaluable in managing sick children, including during crises. In this regard, I would like to share a few mobile applications that I have found to be particularly useful in providing essential information on paediatric anaesthesia.

1. Pedi Crisis 2.0:



This app provides comprehensive information on crisis management. It is supported by the Society for Pediatric Anesthesia (SPA) and includes a 28-critical events checklist. For each event, there is a diagnosis including a quick differential and treatment including the dosages. It allows you to add important phone numbers that you may need to call for help. The patient's weight can be entered to get specific drug doses and related information. This app is free and available on both Apple and Android platforms.

2. Pedisafe:



Trainees and occasional paediatric anaesthesiologists may need basic information while conducting paediatric anaesthesia. This app is developed by I Anesthesia LLC. It includes all the essential information like vital signs, age and weight-related drug dosing, equipment sizing as well as a critical pathway checklist. It also has short reads on why children are not small adults and preparing your OR. The cherry on the top is a case brief that gives key points in managing common surgical procedures. It is a paid app available for both Apple and Android platforms and costs a little over 800 INR per year.

3. Paediatric Formulary:



We may occasionally struggle to remember the dose of an uncommonly used drug. This app is the intellectual property of Guy's and St. Thomas' NHS Foundation trust. This covers close to 500 commonly used medications in the perioperative and critical period in children. For each drug, there is indication-based dosage with notes on preparation and administration. A few pages are also dedicated to general information on prescribing and administration of drugs in children including some unlicensed yet commonly used indications.

4. iTIVA:



TIVA techniques are increasingly becoming popular but need specialised equipment for their conduct. This app is developed by David Ramirez, a Colombian anaesthesiologist. It allows the use of TIVA infusion techniques without the need for specialised TCI pumps. The app guides the user with the rate of infusion required for a specific plasma concentration. The pharmacokinetic and pharmacodynamic models incorporated can accurately predict the TIVA drug concentration. A multitude of drugs are included like analgesics, hypnotics, neuromuscular blockers and a few miscellaneous drugs. It is available on both Apple and Android platforms and costs 899 INR per year. It may be worthwhile to check out the iTIVA tutorial on YouTube before purchasing this app.

5. PediPop



Simple things can make a huge difference. This app is developed by Steven Bazan. It is a simple adjunct for inhalational induction in children. Here the child gets to choose the colour of the balloon and can simulate blowing into the balloon till it bursts. It is recommended for children 3 – 7 years old. It is available on both Apple and Android platforms and is free.

6. Pedi-Anesth:



This app is developed by the Auckland district health board and is supported by the textbook 'A Practice of anaesthesia for Infants and children' by Charles Cote. Serving as a quick reference guide, it includes drug calculator that covers a large number of essential drugs. Apart from age-based hemodynamic parameters, resuscitation, and difficult airway algorithm, it also covers the perioperative crisis scenarios. The most striking part is on congenital cardiac disorders which includes the description of the condition with a diagram and tips on anaesthetic management. It is a paid app configured for Apple phones only.

These six apps, I feel are diverse and comprehensive in the information they offer and would be much appreciated in day-to-day paediatric anaesthesia practice including critical events.

"Golden Mornings, Golden Moments: Embracing the Magic of Dawn."

Dr Azam Danish, Bangalore

On a serene summer morning at Ranthambore National Park, the golden sunlight bathed the landscape as nature awakened. Eager to explore the wilderness, we were the first to enter the park, waiting near the gate in anticipation. At 6 AM sharp, our adventure began as we embarked on the jungle track, eyes peeled for the majestic tiger.

Five kilometres into the heart of the jungle, a breath-taking sight unfolded before us. The magnificent Tigress T-60 emerged, strolling gracefully ahead, her sleek form illuminated by the early morning light. With bated breath, we marvelled at the beauty of this wild creature.

Guided by our skilled driver and guide, Hemraj Meena, we approached cautiously, ensuring a safe and respectful distance. As we inched closer, the T-60 turned towards us, a powerful yet graceful presence. In a surprising twist of events, she decided to yield the path to us.

Our jeep manoeuvred skillfully, safely overtaking the Tigress. The encounter continued for a remarkable three kilometres as we captured the essence of this regal creature, head-on, creating memories etched forever in the tapestry of our lives. It was a truly unforgettable day, where nature's wonders unfolded in the golden glow of a Ranthambore sunrise.



Mandala: A healing art form

Dr Anisha De,
Kolkata

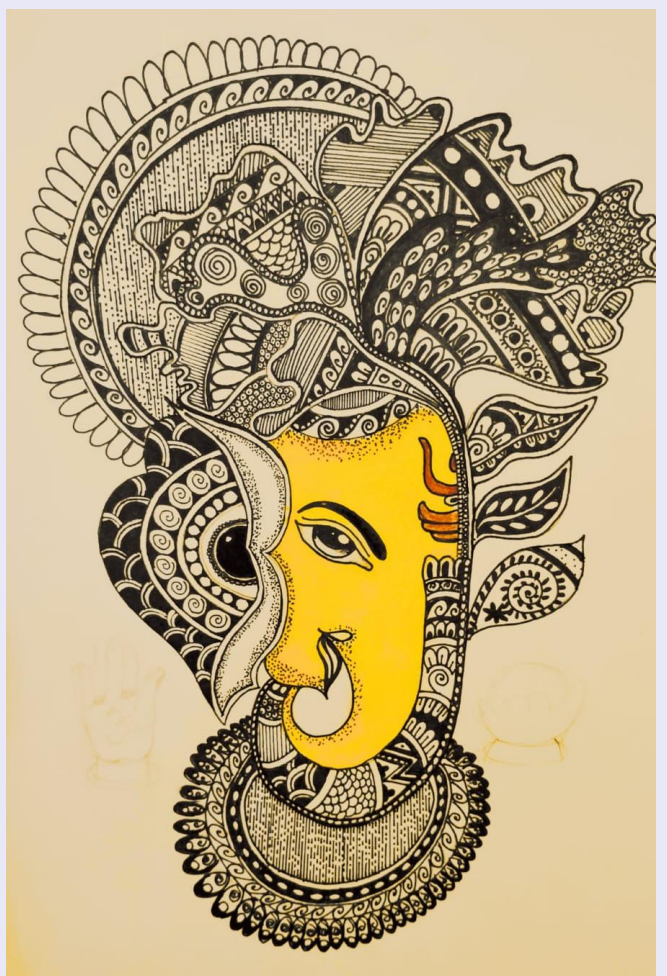
Since the evolution of mankind, art has always been given the same priority as all other basic survival strategies. Throughout the world, different art forms have been handed from one generation to the next as these are a tangible source of peace and integrity, and allow flow of positive energy.

One such ancient art form is Mandala art. It dates back to the 4th century BC and was primarily practiced in Tibet, India, Nepal, China, Japan, Bhutan and Indonesia.

Mandala is a Sanskrit word that means the centre. Originally considered to be a symbol of the universe, it aids in transforming earthly sufferings into pure joy and bliss and brings about a balance in our lives. It includes various intricate, symmetrical geometric patterns which give the artist a sacred space to meet the self.

The five primary components of a Mandala are symmetry, geometry, colour, number and intention. Once we combine them, we empower the practitioner of the art form, as well as those who view them.

Interestingly, Mandala is used as a tool for meditation, and also as a psychotherapeutic tool for healing by art psychotherapists for its ability to relieve stress and anxiety.



Fellow's experience Every child needs a champion.



**Dr. Anuja Asokan
Hyderabad**

I faced the skeptical eyes of my friends and family upon taking up one-year training in this young super speciality and not the other “superstar” specialities: the fact that one will hardly ever get an opportunity to anaesthetise a neonate or an infant during general anaesthesia practice, kept me in thinking until I started saying the golden mantra to myself “Child is not a miniature adult”. Soon I realized that it requires a completely different level of understanding, knowledge, and skill to care for.

When I started my journey with IAPA after joining the pediatric anaesthesia fellowship at Rainbow Children’s Hospital, Hyderabad (the hospital in the private sector taking the lion's share of paediatric surgical cases in Telangana); little did I know what was in the pack waiting for me.

One of the core lessons I learnt here was, “Even a minor event in the life of a child is an event of its parents’ world and hence it must be treated as a world event”. From the pre-anaesthesia clinics to the PACU, the role played by the paediatric anesthesiologist was extremely unique. This required not just an advanced level of skills but an enormous amount of patience. The anxiety-ridden faces of parents as they stood with moist eyes and trembling hands watching their little superstars being taken up for surgery, their endless queries about the ill effects of anaesthesia, their struggle to quieten a long-fasted child, and the pain they shared with their child in the post-operative all required us to be at our empathetic best.

The initial shifting of gears was never smooth, but I soon learnt to sit comfortably in the driver’s seat. The training hours were long and tedious, but the journey was never devoid of excitement. I fall short of superlatives here to describe the gratitude that fills my heart for our mentors Dr Subramanyam M, Dr Gita Nath and Dr Sunidhara Reddy who were always behind me, pushing me and encouraging me to walk through rugged paths with minds as cool as cucumbers. This was made possible by the security provided to all of us by the safety umbrella of standard practices, protocols and consensus set by the VIBGYOR team.

The constant exposure to an enormous number of surgical cases from all specialities was the highlight of my training program, which equipped me to handle not only the day-to-day general pediatric cases but also procedures of interventional pulmonology, thoracoscopy, neurosurgery, plastic surgery e.t.c. I was even fortunate to find myself at the head end of a few liver transplant surgeries.

The institute also had a well-structured academic program along with the regular IAPA classes. This helped all the fellows to keep updating their knowledge. Furthermore, we were motivated and persuaded to conduct controlled trials and audits under the guidance of our mentors. This was a stimulus that awakened the inquisitive researcher who lay half asleep within us.

The hands-on training was par excellence from securing an IV cannula and handling difficult airways to ultrasound-guided cannulations of artery, vein, and nerve blocks. We got time to master the skills by observing and performing the same under supervision and on our own.

The obsession & compulsion about precise and accurate drug dosing, labelling, fluid administration, and constant worry about maintaining ambient temperature, mop & gauze counts; over time turned out to be a habit and norm.

Apart from managing post-operative cases which even included post-operative cases of liver transplant donors and recipients, I had been posted for 2 weeks each in the PICU & NICU. This played a pivotal role in imbuing in to dive deeper into the vast ocean of pediatric and neonatal critical care. Leading the ‘code blue’ team during our on-call days did not just keep us on our toes but through constant practice ignited the fire within to strive towards improved dexterity and expertise in pediatric resuscitation through constant practice. IV sedation for NORA was equally challenging because we had to single-handedly conduct these procedures the same far away from the comforts of the OT zone. One week of training in cardiac anaesthesia not only helped me brush up on my awareness of cardiac anaesthesia but also exposed me to most pediatric congenital cardiac conditions. It was an opportunity for us to learn the basic principles of pediatric 2D Echo.

Taking this vulnerable population through their surgical journey with as little distress as possible and bringing them back to healthy, painful-free and comfortable condition is akin to flying an aircraft that has to take off and land safely and smoothly, this requires a mind that has the utmost mastery and understanding of the subject, and a heart that cares. Enrolling as an IAPA Fellow in Rainbow Hospital was a game-changing decision of my life, which instilled in me the confidence, patience and adeptness required to be in the cockpit of this aircraft.

But I know the journey of learning continues, and I still have miles to go

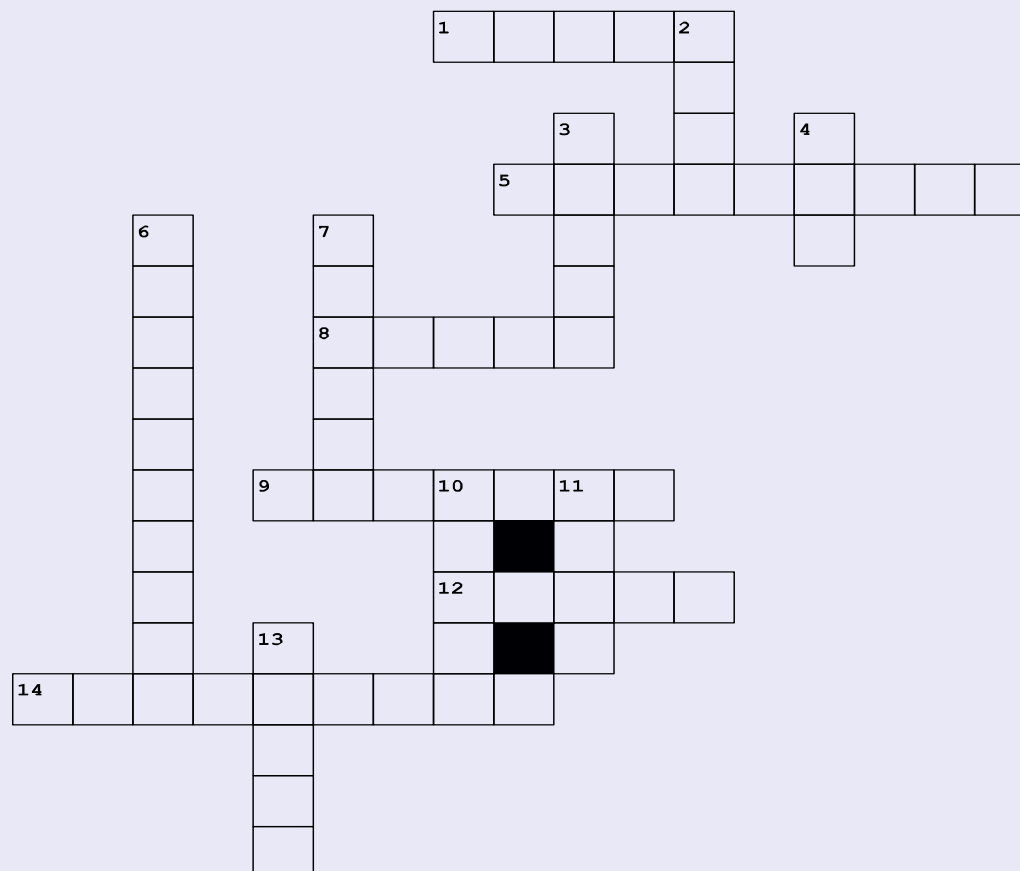
before I stop...there is still a long, long way to go...



Crossword

'Mnemonics in Paediatric Anaesthesia'

Dr Anisha De , Kolkata



Across

1. An extra eye to aid us with grey and white to know what is inside.
5. Reversible causes of Cardiac Arrest
8. A scoring system to assess the overall status of newborns.
9. Prepare well before you resuscitate.
12. A quick pre-operative evaluation- before you are ready to take up the child
14. Can be fun: Do we know them?

Down

2. A perfect handover for a perfect transition
3. Difficult airway assessment tool in child
4. The universal Pain score mnemonic in older children.
6. A calculator by Wallace to calculate burn %
7. RSI – Check. Check. Check.
10. A pain scale for the tiny tots who fail to express.
11. Assessing levels of consciousness
13. Rules out sudden deterioration in an intubated child.