INDIAN ASSOCIATION OF PAEDIATRIC ANAESTHESIOLOGISTS

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IAPA NEWSLETTER VOL. 17

August 2024

From Secretary's Desk

Dr Aavula Murlidhar
Hyderabad

Dear IAPA Family,

The medical support and services are very variable in our country. There are hospitals equipped with the most advanced technologies and trained people. In contrast, many hospitals lack the basic equipment like anaesthesia workstations, multichannel monitors and essential anaesthetic gadgets. There are hospitals where the paediatric cases are handled by only paediatric anaesthetists whereas we have hospitals that allow non paediatric anaesthesiologists or sometimes even non anaesthesiologists to provide anaesthesia for minor procedures to children, this gap in the care of smaller kids has been the main challenge and most important reason for poor outcomes in our country, as the anatomy and physiology of neonates and infants demand expert anaesthesiologists.

I have been working in state government-run hospitals and private secondary care hospitals since 2007, with around 18 years of exclusive (>90%) paediatric anaesthesia practice. As per my observation, improvement in the training of occasional anaesthesiologists who are occasionally anaesthetising neonates and children will significantly improve the perioeprative outcomes for our kids. I strongly believe in team training rather than individual training for improved care. I would like to highlight hospital-related issues which have placed challenges in the management of neonates. Since the neonatal group does not make the major bulk of the case load so the hospitals will compromise on equipment procurement, high-quality specific anaesthesia workstations, and multichannel monitors, this leads to further stress on the anaesthetists while taking care of the neonates, a high-risk group.

When it comes to patient-related issues; the parents of these neonates come mostly from low socio-economic backgrounds and sometimes are uneducated to understand the needs of the care for their high-risk babies, thus succumb to the financial pressures and decide to go for compromised situations and even sometimes decide to take the neonates back home against medical advice. Due to high workloads in government-run hospitals and thus,long wait ing, waiting periods, cleanliness etc, and they prefer small paediatric setups where 100% safety is not assured due to lack of facilities. Here, we have the opportunity to develop our system which is feasible, reliable and safe for our neonates and at the same time financially practical for our parents.

The occasional paediatric anaesthesiologists are generally established adult anaesthesiologists. Since they are rarely exposed to neonatologists, their skills and theoretical knowledge may not be as good as someone who is managing neonates regularly and in larger volumes. This makes them uncomfortable and less confident while managing They will frequently put a call to a paediatric anaesthesiologist in between procedures. Some doctors won't dare to give anaesthesia to neonates and if they do, they struggle and this leads to morbidity and mortality in extreme cases. With our LMIC background, it is not possible to provide resources like HIC, but education can be disseminated to empower the occasional paediatric anaesthesiologists for resuscitation and emergency care to keep our neonates safe.

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My suggestion to IAPA is

To improve the training for occasional paediatric anaesthesiologists-

1. Technical Training – Airway skills, Fluid management, Vascular access training, and assessment of sick neonates.
2. Address the difference in the physiology of neonates.
3. Understanding the fluid management principles.
4. Preoperative assessment and post-operative precautions all need training.
5. Focus on training all anaesthesiologists to the basic principles of neonatal anaesthesia and resuscitation.
6. Team training should be emphasized.

How to plan – under the guidance of IAPA.

1. Tra**ining to the team of paediatric OT' s staff** (Anaesthesiologists, OT nurses and technicians)
2. **Simulation based training**

a. IV Access crisis management
b. Hemodynamic crisis management
c. Fluid management
d. Neonatal Resuscitation

3. **Case-wise discussions with scenarios**

a. For major surgeries like TEF & CDH – we have to concentrate mainly on anaesthesia management DO'S & DONOT'S
b. Major blood loss surgeries – fluid management
c. Miner surgeries like circumcision, hernia etc
d. Surgeries on premature babies / LBW / VLBW etc

Like that, we have to plan and educate and sensitize our anaesthesiologists especially juniors.

Looking forward to initiating course in 2025 onwards.

Stay Safe!

IAPA State Branches

IAPA Telangana

IAPA Maharashtra

IAPA West Bengal

IAPA Delhi

IAPA TN – Puducherry

IAPA Karnataka

IAPA UP

ERAS in Paediatric Surgery

Dr Gita Nath,
Hyderabad

The Concept of Enhanced Recovery After Surgery (ERAS)

ERAS is a multimodal peri-operative care pathway, which aims at early recovery for patients undergoing major surgery. There are two basic components:

1. Traditional practices are re-examined and replaced with evidence-based best practices
2. It has a comprehensive scope, covering all areas of the patient's journey through the surgical process. It is also a multi-disciplinary effort, with stakeholders from surgical, anaesthetic, nursing and other ancillary departments involved in the patient's surgical care.

The basic principle consists not **of discovering new knowledge, but applying what we already know into practice most effectively!**

Evolution of ERAS

This was pioneered by a Danish surgeon, Henrik Kehlet, in the 1990's, he stressed upon the important role of anaesthetist in improving post-operative recovery by multimodal interventions.[1,2] The ERAS study group was formed in 2001 and they published evidence-based consensus protocol for colonic surgery (2005) and rectal surgery (2009).[3] The ERAS society formed in 2010 and ERAS concept was applied in other types of surgery, such as orthopaedic, gynaecology, urology, and obstetric. These concepts were also adopted by other countries – UK (NHS), Spain, Italy, Australia, New Zealand, US (Fast Track). Over the years, implementation of ERAS programs has been shown to improve outcomes in almost all major surgical specialties.[4] However, implementation of ERAS protocols in children has been slow. The reasons for this delay, the differences from adult protocols and evidence of improved outcomes will be discussed in this article.

Physiological Basis of ERAS

Any surgical procedure is associated with a stress response which includes the following:

- Sympathetic stimulation and release of cytokines from surgical site
- Hormonal effects – increased levels of ACTH, cortisol, growth hormone, ADH, glucagon, and absolute or relative insulin deficiency
- Metabolic effects – glycogenolysis, skeletal muscle breakdown. Increased catabolism.
- Other effects include hypercoagulability, fibrinolysis, and immunosuppression

These effects are augmented by the prolonged period of fasting, both pre- and post-operative, traditionally associated with surgery. The ultimate result of all these effects is a reduction in functional capacity which may last from days to weeks. The aim of the various interventions included in the ERAS protocols is to maintain the patient at their normal nutritional and physiological status, while avoiding catabolism and muscle breakdown, so that they return to the normal state as soon as possible. (Figure 1)

Elements of ERAS:

Timing	Intervention	Purpose
Preoperative	Pre-admission counselling	Patient included as stake-holder
	Minimise fasting period - 2 (1) hrs. for clear liquids Pre-operative "carbohydrate load"	Patient kept in "fed" state at start of surgery Reduced insulin resistance, earlier bowel function
	Avoid bowel preparation	Causes dehydration
Intraoperative	Multimodal analgesia including regional block if feasible Pre-emptive – start during surgery	Reduces surgical stress
	Fluid management Avoid dehydration at start of anaesthesia. Fluid restriction during major surgery Avoid hypovolemia – give fluids when indicated (goal directed approach) Treat hypotension due to epidural with vasopressors not fluid "Goldilocks" principle - Not too much, not too little, just right!	Perioperative weight gain related to worse outcome!
	Avoid hypothermia	
Post-operative	Multimodal analgesia	Avoid side effects of opiates
	Early oral intake No NG tubes Prevent PONV Facilitate early discharge	Will promote return of bowel function
	Early mobilisation and resting periods	Will promote return of bowel function
	Remove urinary catheter early, Venous thromboembolism prophylaxis Remediate anaemia	Within 24 hours

ERAS in Paediatrics

A scoping review by Pearson et al in 2016[5] included 1269 patients from 2003 to 2014. Only some of the elements of adult ERAS protocols were found to be included; namely, early postoperative feeding and mobilisation protocols, morphine-sparing analgesia, and reduced use of nasogastric (NG) tubes and urinary catheters. Even with this limited implementation, improved outcomes such as reduced length of stay (LOS), shorter times to oral feeding and first stool were observed.

Subsequently, ERAS guidelines were formulated specifically for children undergoing different types of surgery and improved outcomes have been demonstrated. The first Paediatric ERAS Society Committee was created in 2018 during the inaugural ERAS Society Paediatric World Congress, with the objective of guiding the development of paediatric ERAS.[6] Important elements of paediatric ERAS are listed in Figure 2.[7]

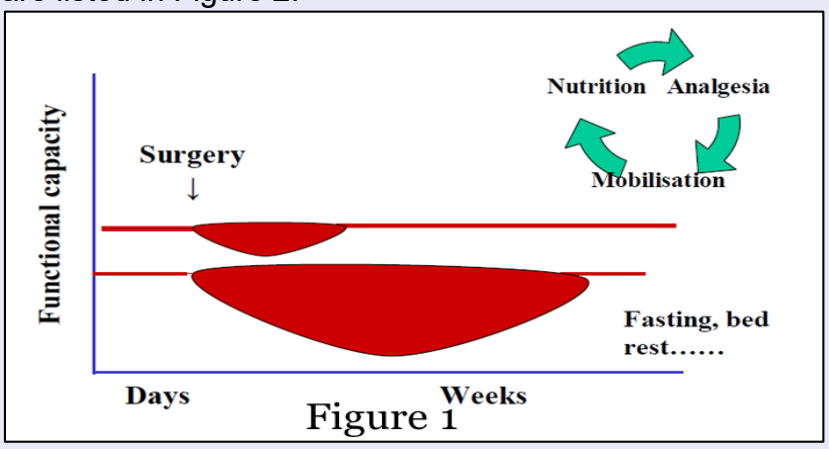

Figure 1

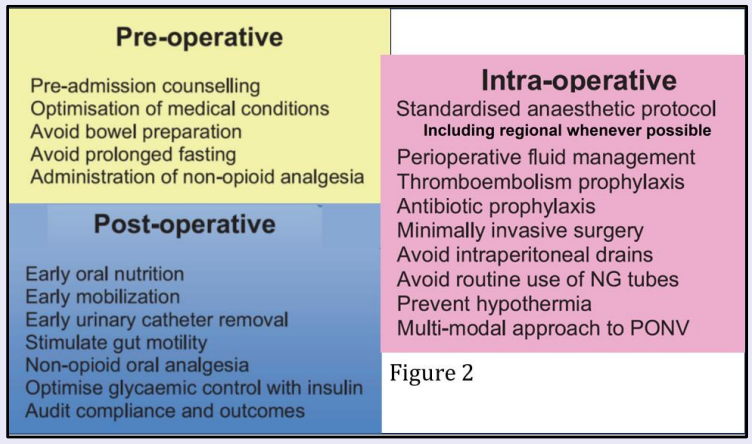

Figure 2

Differences from adult ERAS

Because of the physiological and psycho-social differences in children, ERAS elements may have to be modified. Though adolescent ERAS is more similar to adult protocols, paediatric and especially neonatal ERAS, requires customization.[8]

Preoperative education must involve the family as well as child in planning and setting expectations. Age-appropriate education has been shown to reduce anxiety, aid post-operative recovery, and improve overall satisfaction.

Recent consensus guidelines allow and actually encourage children to drink up to 3 ml/kg of clear fluids till 1 hour before surgery.[9] Gastric emptying in 3–7-year-old children was slower after ingesting 5 ml/kg of 5% dextrose and returned to baseline at 90 minutes.[10]

Mechanical bowel preparation (MBP) involves oral administration of hyperosmolar solution to clear the bowel of faeces. MBP increases morbidity by causing fluid/electrolyte disturbances among children. Due to lack of evidence that it is beneficial, MBP is one of the elements excluded from adult ERAS protocols. The other excluded element is glucose monitoring.[8]

Intraoperatively, excess fluid administration was associated with increased LOS, time to feeding and supplemental oxygen requirement. Hence fluid should be administered judiciously, to address specific clinical problems or guided by goal-directed assessment of fluid responsiveness.

Regional anaesthesia is an integral part of paediatric ERAS protocols. It decreases intraoperative requirements of anaesthetic agents, promoting earlier extubation. It also attenuates the pro-inflammatory and metabolic responses of the surgical stress response. In neonates, using neuraxial anaesthesia as an adjunct reduces exposure to drugs that may cause neuronal apoptosis.

Opioid-sparing multimodal analgesia can include paracetamol, midazolam, gabapentin, dexamethasone, clonidine, dexmedetomidine and NSAIDs; and may improve gut motility and reduce LOS.

Other intra- and ***post-operative*** elements common to adult and paediatric ERAS include avoidance or early removal of tubes and drains, prevention and treatment of nausea and vomiting, and early feeding. For non-abdominal surgery, feeding can be started in the recovery area once the child is fully awake. Even after intestinal surgery, early feeding has been shown to be beneficial; except in specific cases such as necrotising enterocolitis or ischaemic bowel, when a different approach should be used.[8]

Evidence for Paediatric ERAS

Several studies have demonstrated improved outcomes with ERAS interventions in the paediatric population. Philips et al report on a single institution retrospective comparative study comparing patients treated with an ERAS pathway to historical controls. Open and laparoscopic bowel surgeries were done for inflammatory bowel disease. The pathway emphasized minimal preoperative fasting, multimodal and regional analgesia, and early enteral nutrition after surgery. Their outcomes were decreased LOS and opioid use; and earlier feeding. There was no difference in complications.[11]

Another single institution retrospective comparative study comparing patients treated with an ERAS pathway to historical controls during reverse stoma surgery. They found decreased LOS (8.64 to 6.08 days), time to oral fluid intake (4.36 to 1 POD), and time to regular diet (6.14 to 3.23 POD). With implementation of ERAS protocol, TPN was gradually withdrawn.[12] Major urological surgery such as bladder augmentation was studied prospectively by Rove et al, who found significant reduction in preoperative fasting, avoidance of opioids, early discontinuation of intravenous fluids and early feeding in ERAS patients compared to historical controls.

ERAS in Paediatric Surgery

There was a reduction in complication rate and no difference in emergency department visits, readmissions, or reoperations.[13]

A meta-analysis of ERAS during abdominal surgery included 827 patients from 12 studies. They found decreases in LOS by 1.96 days, time to oral fluid intake by 3.37 days and time to stool by 4.19 days. Post-operative complications decreased by half and 30-day readmission by 36%.[14]

Consensus guidelines for neonatal ERAS

These were drawn up by the ERAS Society in 2020 and incorporate the following differences, as shown in Figure 3:[15]

- early introduction of breast milk
- urinary sodium monitoring
- mucous fistula feeding for patients with stomas
- limiting unnecessary antibiotics
- optimizing hemoglobin management
- Perioperative Team Communication

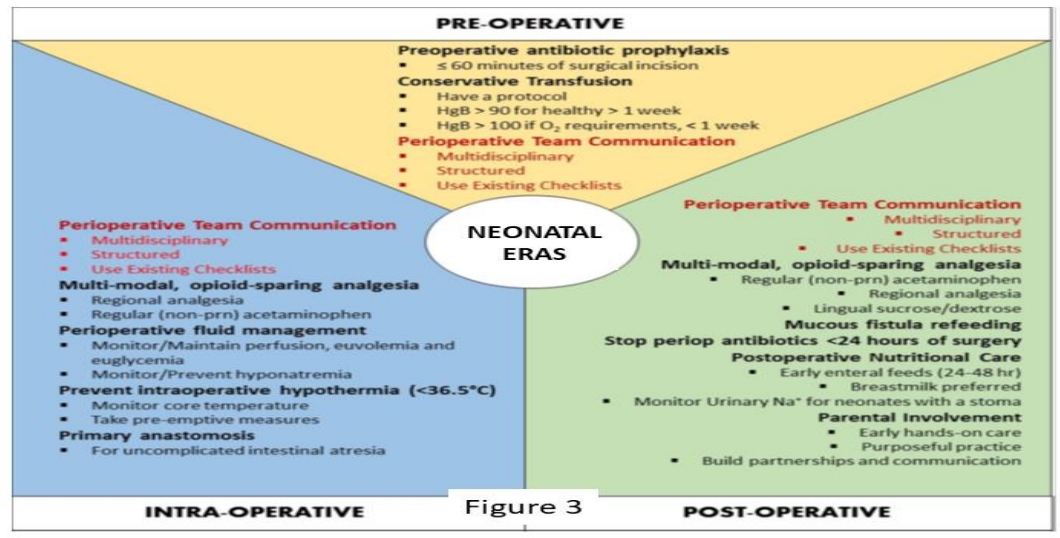

Figure 3

Barriers to implement ERAS

The heterogeneity in age and stage of development makes it difficult to extrapolate of data from adults. A lack of high-quality evidence is there for the introduction of the various elements in paediatric surgery, for example, venous thromboembolism prophylaxis.There is also the perception that there is less need to improve outcomes in children, since they have better baseline physiology; and the belief by many clinicians that “we are already doing ERAS!” One concern is that earlier discharge may lead to complications at home and higher readmission rates. It is necessary to get all the stakeholders on board, namely the surgical, anaesthetic and nursing teams. Administrative support is necessary to counter the concern that ERAS protocols in reduce operating room efficiency. The most important stakeholder is of course the patient and their family!

In conclusion

- ERAS protocols are well established for adults
- Paediatric ERAS protocols have been formulated
- Good outcomes demonstrated for several types of surgery – decreased complications and earlier recovery
- Now neonatal guidelines have been published
- Effective implementation requires multidisciplinary cooperation between the main stake-holders – surgical, anaesthetic and nursing teams

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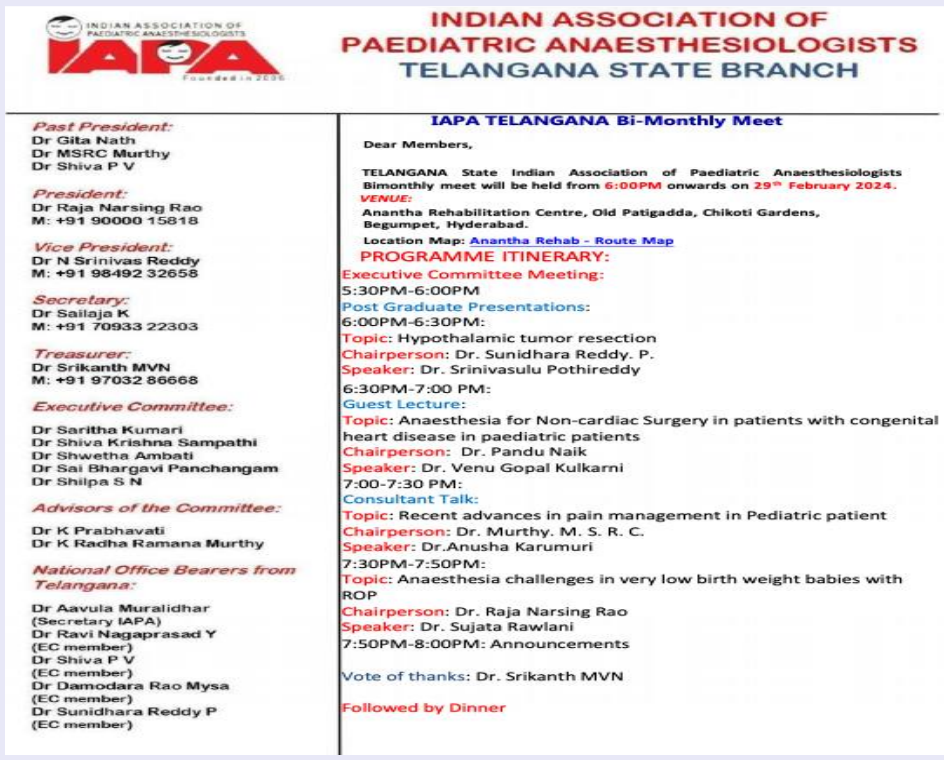
Glimpse of Activities under IAPA (February to August 2024)

CONFERENCE REPORT- IAPA 2024

The Department of Paediatric Anaesthesia, Postgraduate Institute of Child Health (PGICH), Noida successfully organised the 15th Annual National Conference of Indian Association of Paediatric Anaesthesiologists (IAPA) in association with IAPA UP Chapter from 9th to 11th February 2024 focusing on the theme “Paediatric Anaesthesia: From a subspeciality to a superspeciality”. The conference offered a comprehensive scientific program and was awarded 6 credit hours by the UP Medical Council. The event, held at PGICH, Noida and Hotel Crowne Plaza, Mayur Vihar, garnered significant attention and participation from medical professionals and experts in the field. The conference culminated successfully with the attendance of over 250 attendees (Faculty and Delegates) from all over the country. The conference was inaugurated by Honorable Prof Minu Bajpai, Executive Chairman, NBEMS, as the Chief Guest and Esteemed Prof Arun K. Singh, Director, PGICH, Noida as the Guest of Honour along with Dr. Neerja Bharadwaj, President IAPA National, Dr Muralidhar, Secretary IAPA National, Dr Mukul Jain, organising chairman IAPA 2024 and Dr Poonam Motiani, organising Secretary IAPA 2024. Renowned faculty from the premier medical colleges and hospitals of the country and Abroad participated as guest speakers, Chairpersons and Workshop instructors with their valuable insights and experiences. The Scientific sessions focussed on current perspectives and recent advances such as the scope and future of paediatric anaesthesia as a superspeciality, Finding purpose and passion, neurotoxicity from trials, technology integration, strategies for green and low carbon footprint anaesthesia, lung isolation techniques, airway surgeries, emerging trends of TIVA in children, Superspeciality sessions on paediatric trauma,organ transplant ,neonatal anaesthesia, ERAS and training students in paediatric anaesthesia to name a few in the form of invited orations and talks. Prof (Dr.) Mukul Jain,organising chairman IAPA 2024 highlighted the role of the paediatric anaesthesiologist in ensuring a safe outcome for the tiny tots undergoing surgery. Prof (Dr.) Poonam Motiani, organising secretary IAPA 2024 emphasized the unique challenges posed by paediatric patients, highlighting the importance of specialized care for children in anaesthesia practice, The panel discussions focussed on current perspectives and recent advances on widely debated topics in paediatric anaesthesia. The Pro-Con sessions, on difficult pediatric airway cases and the interactive sessions, including the “Meet the expert session” stimulated vibrant discussions and knowledge exchange among the participants.

Additionally, the Conference featured the E-Poster, Free Paper and Quiz competitions, which were met with enthusiastic participation with more than 65 entries. Highlights of the conference included the Hands-on training sessions and workshops, where delegates had the opportunity to enhance their skills in four superspeciality workshops on paediatric airway management, hemodynamic monitoring, simulation and regional anaesthesia, conducted by renowned and dedicated faculty. The conference concluded on a high note with a vote of thanks delivered by the organisers, expressing gratitude to all faculty, participants, organizers, and sponsors for their contributions towards making the event a resounding success.

Glimpse of Activities under IAPA (February to August 2024)



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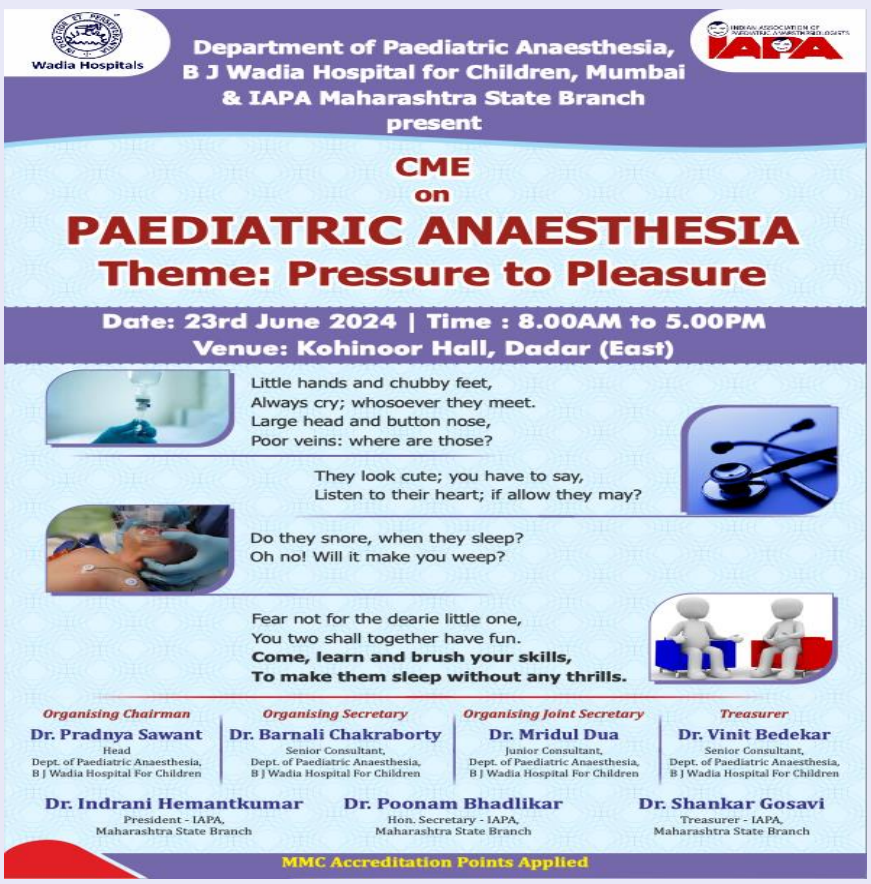
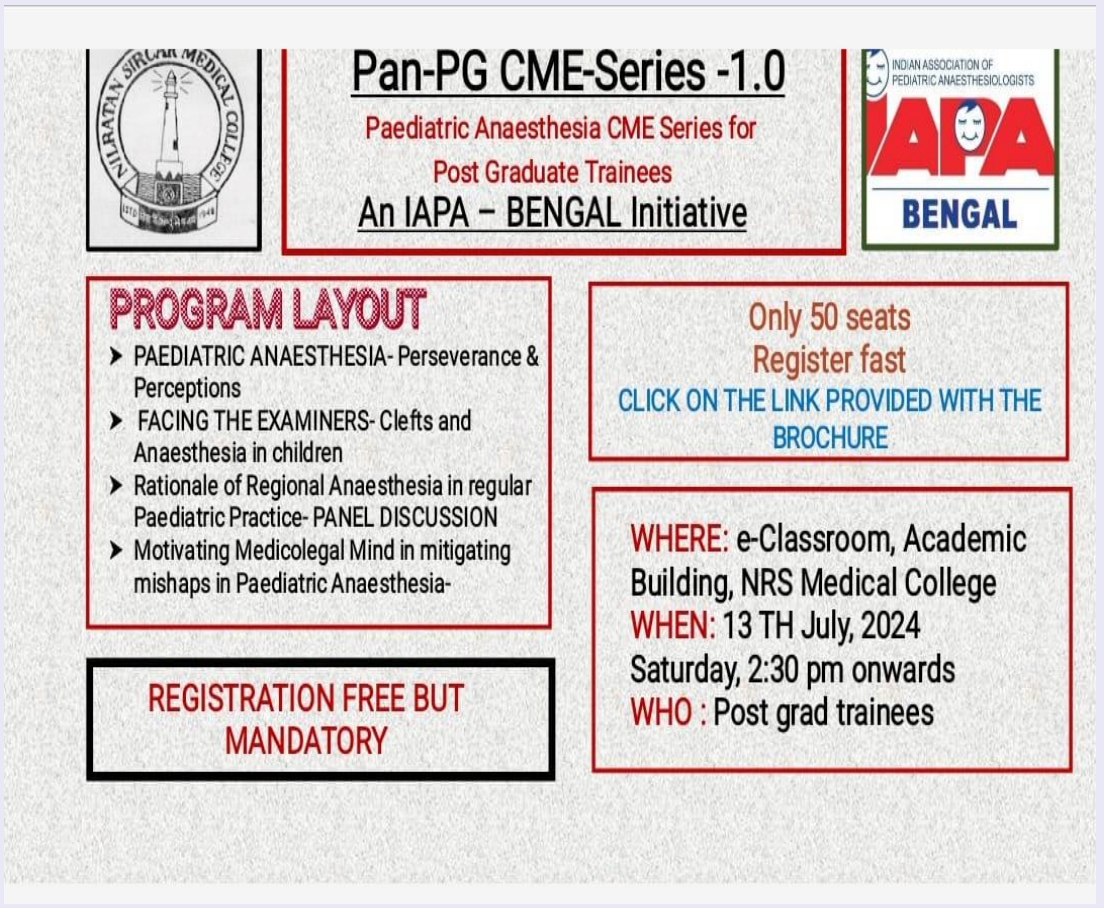
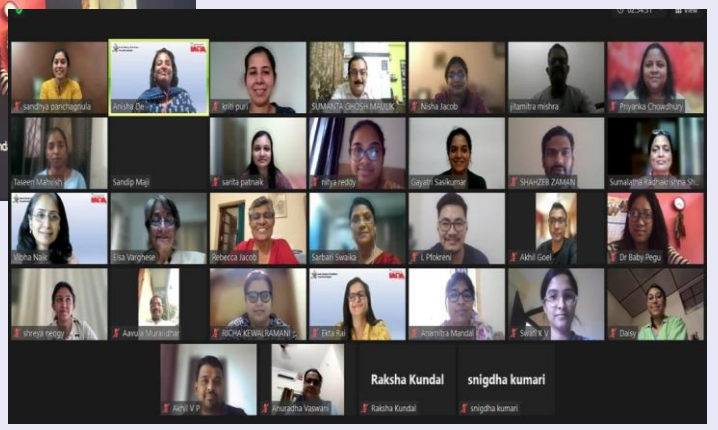




Glimpse of Activities under IAPA (February to August 2024)



6th ASPA IAPA E-PPLS Report

The IAPA in collaboration with ASPA organised the 6th Online Paediatric Perioperative Life Support (e-PPLS) Workshop on 26th May,2024, on Zoom platform under the able guidance of Dr Rebecca Jacob and Dr Elsa Varghese and leadership of Dr Vibhavari Naik and Dr Anisha De who along with Dr Gayatri Sasikumar managed the IT backup for the smooth orchestration of the workshop on the online mode.

The esteemed Faculty included Dr Rebecca Jacob, Dr Elsa Varghese, Dr Sumalatha Shetty, Dr Sarbari Swaika, Dr Aavula Muralidhar, Dr Gayathri Sasikumar, Dr Vibhavari Naik, Dr Ekta Rai and Dr Anisha De . The objective of organizing this programme was to familiarize practicing anaesthesiologists from various institutions with PPLS protocols and inspire them to pass on safe practices to fellow anesthesiologists.

The PPLS programme was an intensive one-day programme. Twenty-six anaesthesiologists from over ten states registered out of which twenty-five anaesthesiologists participated. This time we had a well spread group of enthusiastic participants from states including Assam, Manipur, Rajasthan, few districts from West Bengal, Raipur, Manipal and Jammu apart from the cities like Delhi, Pune, Hyderabad, Bhuvneshwar and Kolkata.

The program kick started with the welcome address by Dr Elsa Varghese and housekeeping rules explained by Dr Anisha. Short talks followed including topics like Common Causes of Perioperative Cardiac Arrests, Recognition of The Critically Ill Child, Update on Paediatric Resuscitation, and Breaking Bad News. These talks were interspersed between three breakout rooms with 8-9 participants in each group for interactive case discussions. The cases discussed included the following: Recognition of The Airway at Risk, Massive Blood Loss, Desaturation In Recovery, Tight Bag, Unexpected Cardiac Arrest In An Infant After A Caudal And Sudden Fall In Etco2 In The Infant During Surgery. Post lunch, the participants rotated through three Skills Stations which included: recognition and management of arrhythmias, effective CPR skills and IV access station. This was followed by a case-based discussion on Effective Team work during crisis involving all the participants which was well appreciated by the participants. The workshop was concluded by a Q/A session, vote of thanks and group photo session.

All participants were very enthusiastic and actively contributed in the group discussions and skill stations. Twenty-four participants completed the post test MCQ and feedback. Eighteen participants completed the course successfully while others received the participation certificate.

The majority of feedback received indicated that participants strongly agreed or agreed that the content of the workshop was very useful and that the speakers communicated effectively. We are looking forward to many more of e-PPLS in the coming years and reaching out to practitioners who are occasionally handling kids with inadequate training.

INDIAN REPRESENTATION IN ASPA 2024

The 20th annual conference of the Asian Society of Paediatric Anaesthesiologists (ASPA 2024) was held in conjunction with the 3rd Paediatric Anaesthesia meeting of the Malaysian Society of Paediatric Anaesthesiologists from July 11th to 14th, 2024, at the Borneo Convention Centre in Kuching, Malaysia. The conference featured pre-congress workshops on 'PPLS' (Paediatric Perioperative Life Support) and 'Airway,' as well as in-congress workshops on 'Perioperative POCUS' (Point of care ultrasound) and 'Meet the Research Expert'. The latter focussed on observational and registry studies and was conducted by Dr. Andrew Davidson and Dr. Nicola Disma. Delegates from 22 Asian countries attended the conference, with a notable number of participants coming from India. Dr. Rebecca Jacob paid tribute to Dr. David John Steward, a legendary pediatric anesthesiologist from SickKids, Toronto who has many laurels to his credit including authoring the Manual of Pediatric Anesthesia which continues to date as the 7th edition.

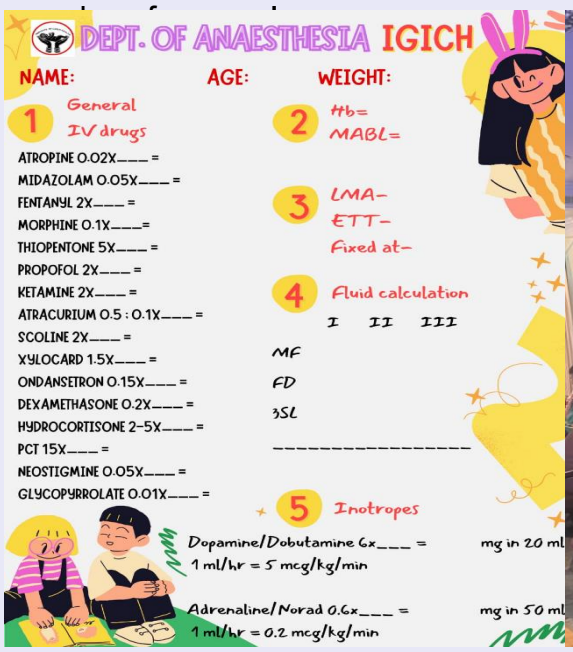
Glimpse of Activities under IAPA (February to August 2024)

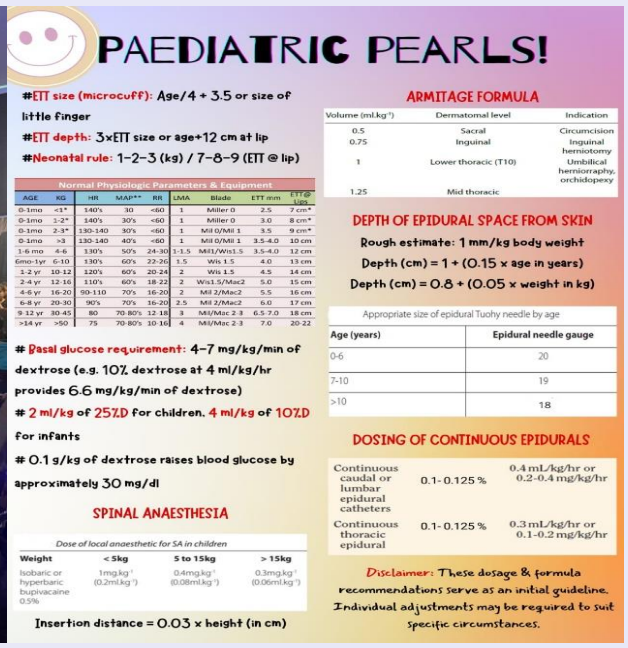
She also participated in the Smile Train session on "Crisis Detection and Management during Cleft Surgeries." Dr. Elsa Varghese shared her experience on "Monitoring: Common Problems and Possible Solutions." Dr. Vrushali Ponde gave an update on "Thoracic Blocks in Children," and Dr. Vibhavari Naik spoke about "Deep Vein Thrombosis - What the Anaesthesiologist Should Know." Dr. Ekta Rai presented an animated lecture on "The Role of POCUS in Perioperative Fluid Resuscitation," and Dr. Vrushali, Dr. Vibhavari, Dr. Ekta, and Dr. Amrita Rath facilitated the in-congress session on "Perioperative POCUS." The conference received an overwhelming response to the research submissions, with India having the highest. We had 14 poster submissions and 17 oral presentations, out of which 2 were selected as the best oral abstracts presented by Dr. Minal Bichewar from Tata Memorial Hospital, Mumbai, and Dr. Usha Shenoy from Jubilee Mission Medical College and Research Institute. The abstracts of these presentations will be published in Paediatric Anaesthesia journal.

The conference provided a valuable opportunity for pediatric anesthesiologists from various Asian countries to connect and display their work. The gala dinner enabled delegates and faculty members to mingle over a delightful evening of food, live music, and traditional performances. ASPA President Dr. Serpil Ozgen along with ASPA 2024 organisers Dr. Ina Ismiarti Shariffuddin, Dr. Rufinah Teo, and Dr. Marianne made sure that ASPA 2024 was both informative and entertaining. Delegates went back home with fond memories and eagerly anticipate the upcoming ASPA 2025 conference, which is set to take place in Kathmandu, Nepal on April 4th and 5th. We hope to see you there.

Advancing Paediatric Anaesthesia and Airway Care: A Breath of Fresh Air from IGICH

The recent CME on paediatric airway management, organized by IGICH and IAPA Karnataka, garnered high acclaim. The event brought together 160 anaesthesiologists, primarily postgraduates, to delve into advanced techniques and best practices for navigating complex paediatric airways. Esteemed faculty shared invaluable insights and real-world experiences on topics such as neonatal airway anatomy, effective tricks for opening the airway, POCUS, IGICH's innovations in one-lung ventilation, challenging airway management, shared airway strategies, and extubation mastery. Attendees were particularly captivated by the video presentations, the event's highlight. The hands-on workshops offered updates on the latest advancements in paediatric anaesthesia care and an excellent opportunity for skill enhancement. Participants praised the engaging format, informative airway exhibition, and eco-friendly practices. IGICH's team is excited to maintain this momentum with future CMEs





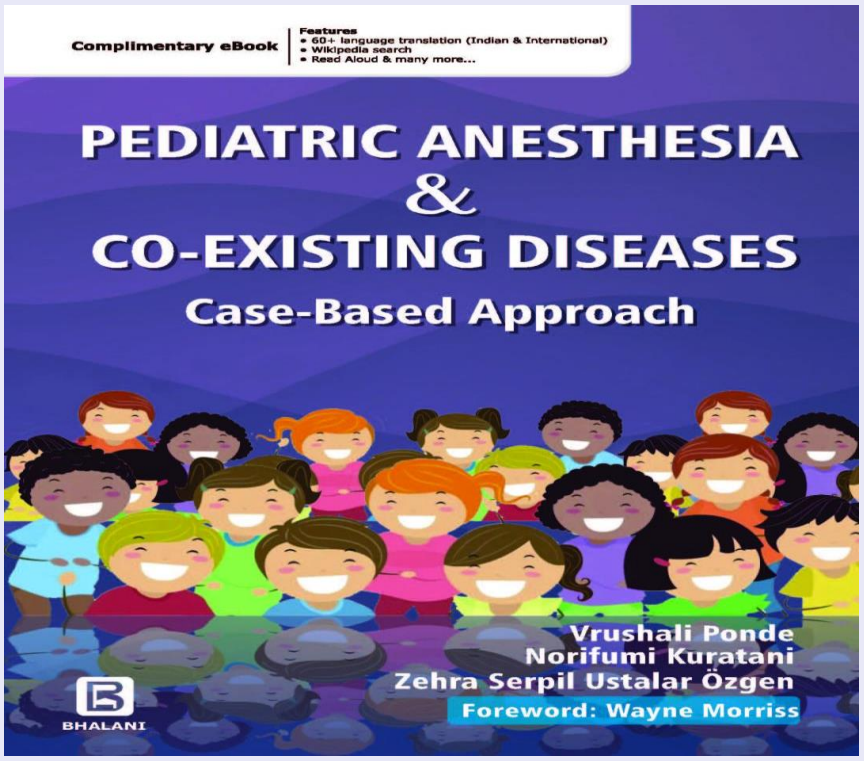
Impact of Wake up Safe

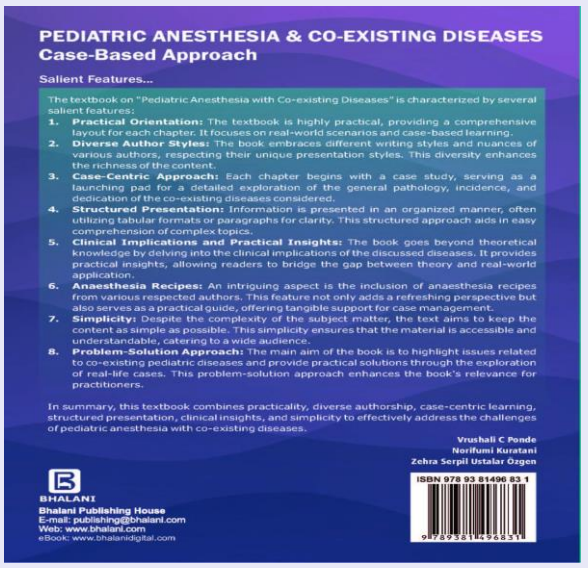
Collated by Dr Ekta Rai

- Pediatric Cardiopulmonary Arrest in the Postanesthesia Care Unit, Rare but Preventable: Analysis of Data From Wake Up Safe, The Pediatric Anesthesia Quality Improvement Initiative.
  Christensen RE, Haydar B, Voepel-Lewis TD. Anesth Analg. 2017 Apr;124(4):1231-1236. doi: 10.1213/ANE.0000000000001744.PMID: 28166099
- Medication Errors in Pediatric Anesthesia: A Report From the Wake Up Safe Quality Improvement Initiative.
  Lobaugh LMY, Martin LD, Schleelein LE, Tyler DC, Litman RS. Anesth Analg. 2017 Sep;125(3):936-942. doi: 10.1213/ANE.0000000000002279.PMID: 28742772
- Complications Associated With the Anesthesia Transport of Pediatric Patients: An Analysis of the Wake Up Safe Database.
  Haydar B, Baetzel A, Stewart M, Voepel-Lewis T, Malviya S, Christensen R.Anesth Analg. 2020 Jul;131(1):245-254. doi: 10.1213/ANE.0000000000004433.PMID: 31569160
- Perianesthetic neurological adverse events in children: A review of the Wake-Up Safe Database.
  Raghavan KC, Hache M, Bulsara P, Lu Z, Rossi MG.Paediatr Anaesth. 2021 May;31(5):594-603. doi: 10.1111/pan.14165. Epub 2021 Mar 4.PMID: 33630312 Review.
- How the Wake Up Safe pediatric anesthesia collaborative increased quality improvement capability and collaboration.
  Buck DW, Claure R, Tjia IM, Varughese AM, Brustowicz R, Subramanyam R.Paediatr Anaesth. 2022 Nov;32(11):1246-1251. doi: 10.1111/pan.14480. Epub 2022 May 20.PMID: 35527475 Review.

Upcoming Events- 2025

NEW RELEASE- A MUST READ





In the Quest for Peaks and Peace

-Dr Debashish Saha, Kolkata

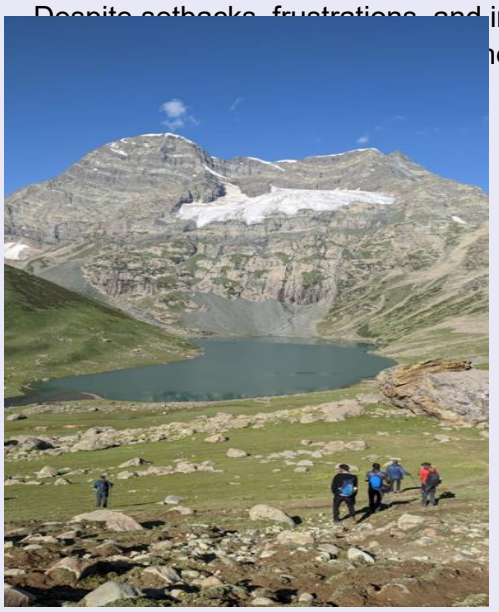
Because it's there" - George Mallory

As a young college student flipping through the pages of a book, I stumbled upon this line that sparked my interest in trekking. What began as a spontaneous decision to join like-minded friends on a mountain adventure soon became a transformative journey for me.The crisp air, serene landscapes, and the challenge of becoming one with nature captivated me from the

start. Each trek offered a profound sense of liberation, allowing me to escape the hustle of daily life and reconnect with nature's raw beauty. The mountains became my sanctuary, providing solace and perspective amidst life's chaos.

The allure of the mountains extends beyond their physical grandeur; they instil a profound sense of peace and freedom, making each trek a deeply soulful experience. Though every trek involves meticulous planning, substantial costs, and inherent risks, the moment I take up my stick and backpack and step into the unknown, the rush of adrenaline is incomparable.

Despite setbacks, frustrations, and inju… fee… new… ts— …y.



The Composer – Dr Esha Nilekani (Mumbai)

The Paediatric Anaesthetist
Whispers echo along the corridor
They are here !they are here!
And sure enough
Their entry into a chaos only ensures calm
Difficult intravenous line
Job done quicker than light
I can't intubate the child
Ring the bells of the ICU
Here ,do this, and
The relief on the face of the resident as the ETCO2 trace appears - immeasurable
My child is in pain - help
Quiet listening says Burp it's air
Suppository it's pain
Feed it's hunger
Soothe it's cry
But who does this problem solving
And whom do the helpless staff seek
Why it's the Paediatric anaesthesist
For whom smaller the child
Happier their faces
Calmer the shift to surgery
More content their hearts
Armoured with colourful scrub caps
Bright coloured shoes
They march their way into operation theatres
Happy to accompany children
For the entire surgical journey
And make haste not
Happy and calm faces only indicate
The tension and terror playing on their hearts alone
Only until the child is safe
And once outside and sleeping
In their mothers warm embrace
Off they alight like superman
To move on to the next tiny human
Awaiting a heroic action

PICTURE QUIZ - ANSWERS5.

7. B: Endo-tracheal intubation and esophagoscopy (Esophageal foreignbody). The foreign body can be seen behind the airway column in the lateral X-ray, suggestive of an esophageal foreign body.

8. D: A: Transverse process, B: Erector Spinae, C: Rhomboid Major, D: Trapezius (Erector spinae plane block). The drug is deposited between the erector spinae muscle and transverse process of the vertebra, which penetrates to the paravertebral space.

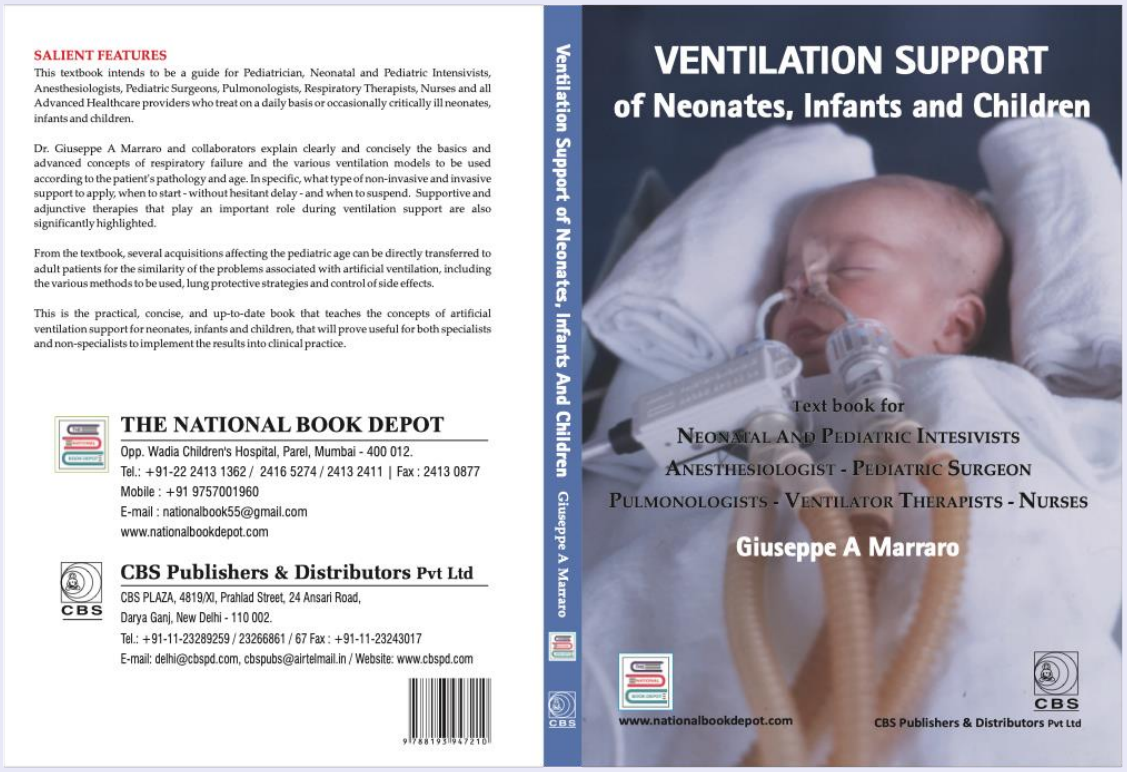
9.

Elastomeric pump: Permits the delivery of local anesthetic at a controlled rate. These devices contain a reservoir of local anesthetic which lasts several hours to days. The reservoir is surrounded by a balloon-like bulb that compresses the reservoir and infuses the drug when filled with air. A flow limiter in the tubing controls the infusion rate.

10. Laryngomalacia: Usually present in younger infants, with stridor which typically gets relieved in prone position. Warrants caution in the post-operative period.

(Image sources: Smith's Anesthesia for infants and children (9th edition), Internet sources)

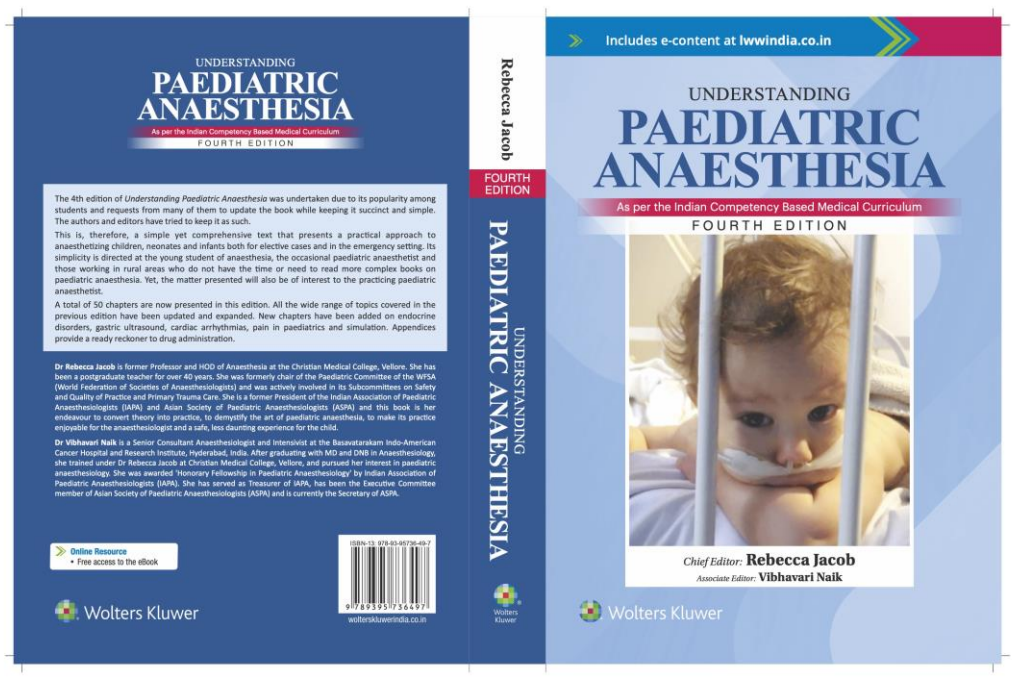
New Release- A Must Read



Ventilation Support of Neonates , Infants and Children

A must-read for paediatric anaesthetists who want to understand the ventilation in detail. It is concise, practical and up-to-date. The beauty of this book is that it not only covers ventilation appropriate for ICU

children but also sick children in OT as well.



Understanding Paediatric Anaesthesia

This book is a lucid and comprehensive compilation of the essential topics in pediatric anesthesia that could be useful both for the trainee as well as the practising anaesthesiologist.

Fellow's Experience

MY EXPERIENCE AT RAINBOW CHILDREN'S HOSPITAL

Dr Kavyashree HS

I, Dr Kavyashree H S, did my fellowship at Rainbow Children's Hospital, Marathalli, Bengaluru, from June 2023 to June 2024. My journey, apart from being enriching, was colorful just like the Rainbow. I think its apt for me describe my time at the institution by analogizing it with the colors of Rainbow. Violet stands for Wisdom, and there was never any shortage of means to gain more knowledge. Be it our institutional library, or the consultants with encyclopedic erudition, with an ever ready nature to share their pearls of wisdom gained through their vast experience. Indigo stands for integrity, and I have learnt ethical practices thanks to my teachers with steadfast principles. Blue stands for Trust, which was a two way street here. Green represents the balanced growth that I achieved here in abundance thanks to the unwavering guidance by all my teachers and colleagues. Yellow and orange betokens optimism and playfulness, in line with the amazing time I had with my entire team in the hospital, and while we took break to socialize outside of hospital as well. Apart from it being a team-building activity, it was also a respite from the high-pressures of our jobs as well. Lastly, the passion and energy represented by Red, emanates to no end by every single person in the pediatric anesthesia department. I couldn't be prouder to have been part of this wonderful team, and my fellowship training period has been the most fulfilling with respect to improving my skills, as well as a professional as a whole.

ANSWER TO PICTURE QUIZ

1. **B: Pincer grasp is not a primitive reflex. Palmar grasp, plantar grasp and rooting reflexes are neonatal primitive reflexes which normally disappear. Persistence of these reflexes suggest maldevelopment.**
2. **B: A: Omphalopagus, B: Ischiopagus, C: Craniopagus, D: Cephalopagus**
3. **C: Tetralogy of Fallot (Children with tetralogy of Fallot can undergo Tet spells/ cyanotic spells when crying/ during anesthesia induction). Knee chest position helps in increasing the systemic vascular resistance, thus decreasing the right to left shunt across the ventricular septal defect.**
4. **A: Infraorbital nerve (Cleft lip): Infra-orbital nerve block can be given for post-operative analgesia in cleft lip surgeries. For cleft palate we can block lesser, greater and naso-palatine nerves.**

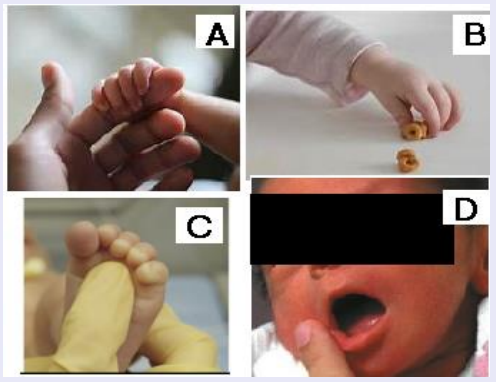
5. B: The contents come out lateral to the umbilicus (Omphalocele). It is a central defect below the umbilicus, covered by a sac.

6. D: Arndt bronchial blocker (Bronchial blockers are suitable in younger patients. Univent and double lumen tubes are appropriate in older children. Tracheostomy tubes cannot provide one lung ventilation.

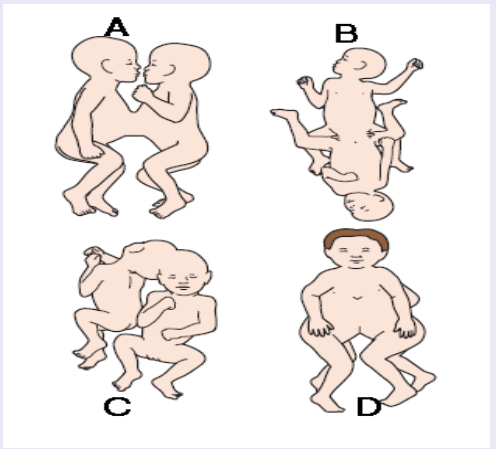
Picture Quiz

Dr Mridul Dhar, Rishikesh

1. Which of the following are not primitive reflexes?



2. Match the type of conjoint twins correctly to the figures.



a. A: Cephalopagus, B: Ischiopagus, C: Craniopagus, D: Omphalopagus
b. A: Omphalopagus, B: Ischiopagus, C: Craniopagus, D: Cephalopagus
c. A: Omphalopagus, B: Cephalopagus, C: Craniopagus, D: Ischiopagus
d. A: Ischiopagus, B: Omphalopagus, C: Cephalopagus, D: Craniopagus

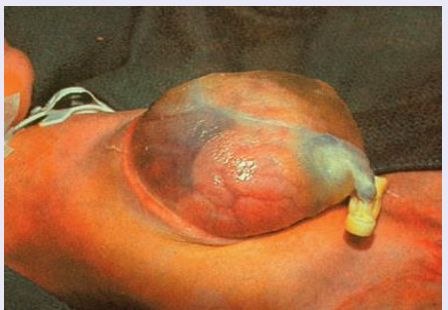
3. What congenital heart lesion is this child most likely to have based on the intervention being done?

a. Atrial Septal Defect
b. Ventral Septal Defect
c. Tetralogy of Fallot
d. Patent Ductus Arteriosus

4. In this child with a lip defect, blocking which nerves will provide analgesia post-surgery?

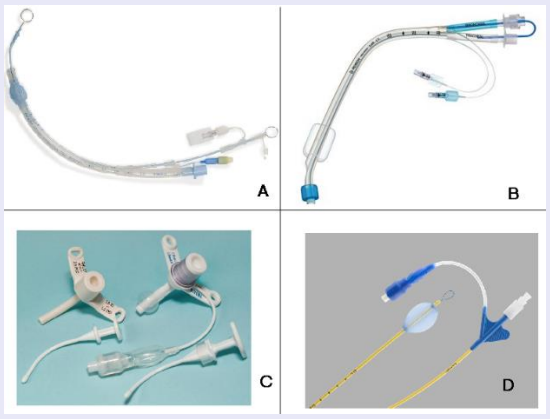
a. Infraorbital nerve
b. Supraorbital nerve
c. Mental nerve
d. Inferior alveolar nerve

5. Which of the following is an incorrect statement regarding the neonatal abnormality shown in the figure?

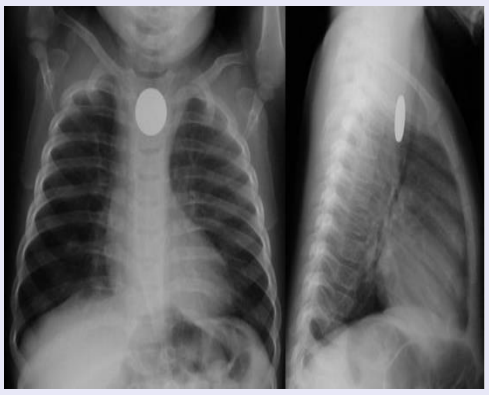


a. It is generally associated with other congenital anomalies
b. The contents come out lateral to the umbilicus
c. A sac covers the abdominal contents
d. Less chances of metabolic derangements

6. A 3-year-old child is being taken up for decortication surgery for chronic empyema. The surgeon has requested you to provide one lung ventilation. Which of the following techniques is best suited in this child?

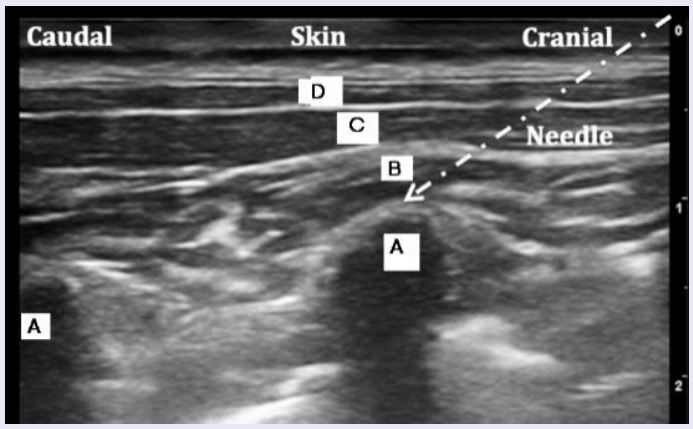


7. A child presented to the emergency department has the following X-ray findings. He is taken into the operation room for retrieval. What is the best strategy?



a. Thoracotomy and retrieval
b. Endo-tracheal intubation and esophagoscopy
c. Endo-tracheal intubation and rigid bronchoscopy
d. Ventilation by face mask and rigid bronchoscopy

8. A plane block is being given in the back of a 5-year-old child for post-operative pain relief in a thoracotomy. In the USG image choose the correct identification of the structures.



a. A: Transverse process, B: Trapezius, C:Erector Spinae, D: Rhomboid Major
b. A: Transverse process, B:Rhomboid Major, C:Erector Spinae, D: Trapezius
c. A:Erector Spinae, B: Transverse process, C:Rhomboid Major, D: Trapezius
d. A: Transverse process, B: Erector Spinae, C:Rhomboid Major, D: Trapezius

9. Identify this equipment, its use and mechanism of functioning?

10. A 2-month-old child has come for elective inguinal hernia surgery. During preanaesthetic evaluation parents give history suggestive of on and off stridor. In pre-operative visit, child was lying on the bed as shown in the image. What is the most likely diagnosis?