# 23rd Annual Conference of the Society of Anesthesiologists of Nepal

# Souvenir

## SANCON-2024

*"Advances in Anesthesia"*

29th to 30th March, 2024
Hyatt Regency, Kathmandu

**Organized By:**

**Society of Anesthesiologists of Nepal**

# 23rd Annual Conference of Society of Anaesthesiologists of Nepal (SANCON 2024)

## 29th & 30th March 2024

## Venue: Hyatt Regency Kathmandu, Boudha, Nepal

***Theme: Advances in Anaesthesia***

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Dear Esteemed Guests,
Seniors,
Colleagues and
Trainees

I am really feeling great and excited to welcome you all in our 23rd national conference of the Society of Anesthesiologists of Nepal SANCON 2024 at this beautiful Himalayan Kingdom.

Our theme for this conference is "Advances in Anesthesia" highlights the current developments, achievements, research and overall advances in the field of Anesthesia globally.

Nepal has achieved significant progress in the field of quality care delivery of anesthesia services including different specialty in anesthesia, critical care, pain medicine etc. PAP density has been significantly increased as the number of anesthesia graduates are increasing significantly in recent years.

The upcoming national conference with Thematic and Key Note speakers from different renowned hospitals, universities, academia of different parts of the world and hundreds of research papers from national and international speakers are highlights of the conference.

Finally, I am very much grateful for your contribution in different means to make the conference a grand success. Please enjoy the conference activities and feel homely at any points.

I must thank all my seniors for their valuable guidance, inputs and feedbacks. My sincere thanks and appreciation to all the members of the organizing committee and different working committee lead and members, workshop organizers, HoDs, Coordinators of different Academics and hospitals, logistic and admin coworkers and of course to the Hyatt Regency Kathmandu for their cooperation to make the conference successful.

Once again Thank you for joining with us.

Prof. Dr. Amir Babu Shrestha
Kathmandu, Nepal.
Organizing Chair, SANCON 2024
President, SAN
29th March 2024

# Message from the Chairperson of Scientific Committee, SANCON 2024

**Respected Seniors, Dear Colleagues and Beloved Residents**

**Namaste and Welcome to SANCON 2024!**

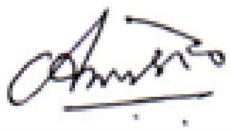
It's an honor for me to invite and welcome you all to the grand gathering of 23rd Annual Conference of Society of Anesthesiologists of Nepal (SANCON 2024) going to be held from 29th –30th March 2024 at Hotel Hyatt Regency in Kathmandu, Nepal.

The significant highlights of this conference are based on the theme "Advances in Anaesthesia" which will create awareness and understanding of the latest advancements achieved in the fields of anesthesia and its subspecialty including critical care, pain medicine and incorporation of artificial intelligence. Of particular note, our keynote address will delve into the revolutionary advancements at the intersection of anesthesia and the digital revolution in anesthesia, offering a pathway for integration into our practices. The five thematic speeches stand out as an inspiration, offering invaluable insights from esteemed experts. Over 600 delegates and more than 100 presentations by experienced experts across the country and abroad will be immersed in this august gathering through mixture of lectures, panel discussions, workshops and poster presentations on general issues, airway, pain, regional, obstetrics, pediatrics, neuroanesthesia, cardiac anaesthesia, trauma and critical care. It also provides the best platform for young anesthesiologists and residents to interact, experience, and grow their future careers. Prof Dr Roshana Amatya Oration is another highlighted session with Prof B M Shrestha as the orator. In addition, the anaesthesia residents have the opportunity to compete for the best in the category of best oral presentation and best poster presentation.

I extend my sincere thanks to all the members of the organizing committee and also the members of scientific committee for their wholehearted support for the scientific events.

We look forward to meeting you in this productive scientific gathering and appreciate your efforts to ensure that it is a grand success.

With kind regards,



**Prof. Dr. Ravi Ram Shrestha**
**Chairperson**
**Scientific Committee**
**SANCON 2024**

# Message from the Organizing Secretary, SANCON 2024

**Dear Delegates**

**Warm Greetings**

I am pleased to extend welcome to each one of you all for the upcoming 23rd Annual Conference of Society of Anaesthesiologists of Nepal (SANCON) , scheduled to be held on March 29-30, 2024 at Hyatt Regency, Kathmandu.

This Conference, themed "Advances in Anesthesia" provides is a significant platform to unite anesthesiologists from around the globe under the same roof, facilitating discussions on advancements in various super specialities of Anesthesiology. I am sure the attendees will find the discussion enlightening and the networking opportunities invaluable.

I express my gratitude to each and every one of you who is contributing to the success of this conference. I eagerly anticipate seeing you all at the conference.

I hope the conference will prove to be a memorable and insightful experience for all participants.

Thank you very much.

Parajuli

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**Dr. Basu Dev parajuli**
**Organizing Secretary**
**SANCON 2024**

# Message from Chairperson of Publication Committee, SANCON 2024

As the Chair of the Publication Committee, it is with immense pleasure that I introduce the digital Souvenir for the 23rd National Conference of Society of Anesthesiologist of Nepal (SANCON) with the theme "Advances in Anesthesia". This publication is a compilation of scientific papers and case reports authored by renowned experts from various parts of the country and overseas, intended to enhance and upgrade our professional knowledge. We hope that you will find it as enjoyable to read as we did in compiling it. We extend our heartfelt appreciation to all those who have contributed directly or indirectly to make this souvenir possible. Without their unwavering dedication, this publication would not have been possible. Despite our best efforts, there may be some errors for which we request your forgiveness. Let us therefore take pleasure in learning from the 23rd National Conference of the Society of Anesthesiologist of Nepal (SANCON) and cherish its memories through this souvenir.

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**Dr. Anuj Jung Karki**
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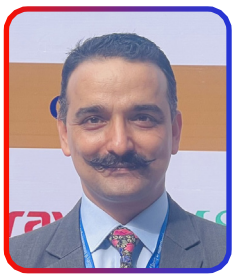

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SHARING EXPERTISE

# The 23rd Annual Conference of Society of Anesthesiologists of Nepal (SANCON 2024)

*Theme: Advances in Anesthesia*

29th-30th March 2024
Hyatt Regency, Kathmandu, Nepal
Scientific Program Schedule

## Day I

### Hall B

| AGENDA | Duration | Time Start |
|---|---|---|
| • Registration | | 1:00 PM |
| • Welcome Speech | 15 min | 1:45 PM |
| • Key Note Speech: B D Jha - Advances in anesthesia | 20 min | 2:00 PM |
| • Thematic Speech 1: Jayaram K Dasan - Advances in airway management technique | 20 min | 2:20 PM |
| • Thematic Speech 2: Haydn Perndt - Digital revolution in teaching and learning | 20 min | 2:40 PM |
| • Thematic Speech 3: Ronald George - Recent advances in obstetric anesthesia | 20 min | 3:00 PM |
| • Thematic Speech 4: Hemanshu Prabhakar - Recent advances in neuroanesthesia | 20 min | 3:20 PM |
| • Thematic Speech 5: Deepak Govil - Advanced POCUS in ICU | 20 min | 3:40 PM |
| • Break | 15 min | 4:00 PM |
| • Roshana Amatya Oration: Orator - B M Shrestha | 10 min | 4:15 PM |
| • Oration Speech: B M Shrestha - History and development of anesthesia services in Nepal | 20 min | 4:25 PM |
| • **Panel Discussion:** Non-technical skills in anesthesia. Panelists: Shyam Maharjan, Anil Shrestha, Pradip R Baidya, Rohini Sigdel, Sangina Ranjit. Moderator: Ritu Pradhan | 45 min | 5:30 PM |
| • Inauguration Ceremony | 30 min | 5:30 PM |
| • Cultural Program & Gala Dinner | | 6:00 PM |

# The 23rd Annual Conference of Society of Anesthesiologists of Nepal (SANCON 2024)

## *Theme: Advances in Anesthesia*

**29th-30th March 2024**
**Hyatt Regency, Kathmandu, Nepal**
**Scientific Program Schedule**

## Day II

## Hall A

| Agenda | Duration | Time Start |
|---|---|---|
| • **Registration** | | 8:00 AM |
| • **Session A1 (8:30 am - 10:10 am)** | 100 min | Day II (30th March 2024 |
| • **General (Chairpersons: Ronald George, Tamanna Bajracharya)** | | |
| 1. **Apurb Sharma** - Enhancing patient outcomes through "Patient Blood Management": a comprehensive overview | 15 min | 8:30 AM |
| 2. **Manjusha Shah** - Ethics in anesthesia practice | 15 min | 8:45 AM |
| 3. **Jing Ping Wang** - Endoscopy anesthesia managemen | 15 min | 9:00 AM |
| 4. **Anuj Jung Karki** - High flow nasal cannula: a potential solution for hypoxia in complex UGI endoscopic procedures? | 15 min | 9:15 AM |
| 5. **Resham B Rana** - Critical care practice status in NGMC teaching hospital | 15 min | 9:30 AM |
| 6. **Kalpana Kharbuja** - Intra-hospital transport of critically ill patient | 15 min | 9:45 AM |
| • Q & A | 10 min | 10:00 AM |
| • **Session A2 (10:20 am - 12:00 pm)** | 100 min | Day II (30th March 2024) |
| • **Obstetric (Chairpersons: Amir Babu Shrestha, Tara Gurung)** | | |
| 1. **Bryan Mahoney** - Epidural, combined spinal epidural or dural puncture epidural: advantages and disadvantages | 15 min | 10:20 AM |
| 2. **Ronald George** - Failed epidural catheter in labor room and cesarean theaters | 15 min | 10:35 AM |
| 3. **Angeleena Kumar Gupta** - ERAS evolution: time for paradigm shift | 15 min | 10:50 AM |
| 4. **Sangeeta Shrestha** - Perioperative fluid management in preeclampsia | 15 min | 11:05 AM |
| 5. **Basant Bhattarai** - Horner's syndrome follwing epidural analgesia for labor | 15 min | 11:20 AM |
| 6. **Bashu Dev Parajuli** - Experience of labor epidural analgesia at TUTH | 15 min | 11:35 AM |
| • Q & A | 10 min | 11:50 AM |
| • Lunch Break (12:00 pm - 1:00 pm) | 60 min | 12:00 PM |
| • Session A3 (1:00 pm - 2:25 pm) | 85 min | Day II (30th March 2024) |
| • **Neuroanesthesia (Chairpersons: Man Bahadur Chand, Hemanshu Prabhakar, Gentle Sunder Shrestha)** | | |
| 1. **Nidhi Gupta**- Awake craniotomy | 15 min | 1:00 PM |
| 2. **Indu Kapoor**- Brainheart crosstalk | 15 min | 1:15 PM |
| 3. **Ankur Luthra**- Cranial ultrasound and trancranial Doppler | 15 min | 1:30 PM |
| 4. **Panel discussion**- Physiological goals in neuroanesthesia and neurocritical care | 15 min | 1:45 PM |
| **Moderator:** Ritesh Lamsal<br>**Panelists**- Hemanshu Prabhakar, Gentle S. Shrestha, Indu Kapoor, Nidhi Gupta | 15 min | 2:00 PM |
| • Q & A | 10 min | 2:15 PM |
| • Break | 15 min | 2:25 PM |

# Day II | Hall A Continue

| Agenda | Duration | Time Start |
|---|---|---|
| • Session A4 (2:40 pm - 4:30 pm) | 100 min | Day II (30th March 2024) |
| • Critical Care (Chairpersons: Moda Nath Marhatta, Shital Adhikari, BD Jha) | | |
| 1. Y P Singh -Management of invasive fungal Infection | 15 min | 2:40 PM |
| 2. Ankit Rimal - The abnormality of normal saline | 15 min | 2:55 PM |
| 3. Ankit Agrawal - "HME filters- the facts and the caveats." | 15 min | 3:10 PM |
| 4. Sandeep Kumar - Biomarkers in sepsis | 15 min | 3:25 PM |
| 5. Panel discussion- Multidrug resistant infections in ICU.<br>Moderator- Sachit Sharma Rupakheti | 15 min | 3:40 PM |
| Panelists- Y P Singh, Deepak Govil, Anup Subedi, Anand Thakur | 15 min | 3:55 PM |
| • Q & A | 10 min | 4:10 PM |
| • Break | 10 min | 4:20 AM |
| • Closing Ceremony | | 4:30 PM |
| • General Body Meeting (Life members only) at Hall A | | 5:00 PM |
| • Post-conference Dinner (Venue: Smart Palace, Chuchepati) | | 6:00 PM |

# The 23rd Annual Conference of Society of Anesthesiologists of Nepal (SANCON 2024)

*Theme: Advances in Anesthesia*

29th-30th March 2024
Hyatt Regency, Kathmandu, Nepal
Scientific Program Schedule

## Day II

## Hall B

| AGENDA | Duration | Time Start |
|---|---|---|
| • Registration | | 8:00 AM |
| • Session B1 (8:30 am - 10:10 am) | 100 min | Day II (30th March 2024) |
| • Pain (Chairpersons: Bal Krishna Bhattarai, Binita Acharya) | | |
| 1. **Parineeta Thapa** -Evidence based epidural injection | 15 min | 8:30 AM |
| 2. **Christopher Liu** - Persistent pain after spine injury | 15 min | 8:45 AM |
| 3. **Hari Rijal** - Challenges of pain physician in Nepal | 15 min | 9:00 AM |
| 4. **Babita Ghai** - Bridging the Gap: addressing pain research in low and middle-income countrieS | 15 min | 9:15 AM |
| 5. **Renu Gurung** - Is musculoskeletal pain common among anesthesiologists and health care workers: what can we do? | 15 min | 9:30 AM |
| 6. **Ekta Rajeswari Thapa** - Comparative study in between percutaneous radiofrequency thermocoagulation of gasserian ganglion and balloon compression for idiopathic trigeminal neuralgia | 15 min | 9:45 AM |
| • Q & A | 10 min | 10:00 AM |
| • Break | 10 min | 10:10 AM |
| • Session B2 (10:20 am - 12:00 pm) | 100 min | Day II (30th March 2024) |
| • Regional (Chairpersons: Renu Gurung, Ashish Ghimire, Rupesh Kumar Yadav) | | |
| 1. **Prajjwal Raj Bhattarai** - Evolving trends in regional anesthesia: advancements in techniques, safety measures and pain services | | 10:20 AM |
| 2. **Praveen Talwar** - Thoracic continuous spinal anesthesia for major abdominal surgery | 15 min | 10:35 AM |
| 3. **Vinay Kumar** - Comparison of safety and efficacy of shoulder block with Interscalene block for shoulder surgeries: A systematic review and meta-analysis | 15 min | 10:50 AM |
| 4. **Ujma Shrestha** - Reviewing the landscape: ultrasound-guided stellate ganglion block in current practice | 15 min | 11:05 AM |
| 5. **Shalvi Mahajan** - Regional anesthesia in neonates | 15 min | 11:20 AM |
| 6. **Hemant Adhikari** - Epidural blood patch for post-dural puncture headache: A clinical experience at Nepal Mediciti Hospital | 15 min | 11:35 AM |
| • Q & A | 10 min | 11:50 AM |
| • Lunch Break (12:00 pm - 1:00 pm) | 60 min | 12:00 PM |

# Day II | Hall B Continue....

| AGENDA | Duration | Time Start |
|---|---|---|
| • Session B3 (1:00 pm - 2:25 pm) | 85 min | Day II (30th March 2024) |
| • Mechanical ventilation (Chairpersons: Subhash Prasad Acharya, Rupesh Gami) | | |
| 1. Bharat Paliwal - Refractory Hypoxemia | 15 min | 1:00 PM |
| Panel Discussion- Mechanical ventilation- from initiation to liberation<br>Moderator- Sarovar Upadhyaya<br>Panelists- Subhash P Acharya, Pradip Tiwari, Santosh Acharya, Anand Thakur | 1 Hours | 1:15 PM |
| • Q & A | 10 min | 2:15 PM |
| • Break | 15 min | 2:25 PM |
| • Session B4 (2:40 pm - 4:30 pm) | 100 min | Day II (30th March 2024) |
| • Research and Publication (Chairpersons: Apurb Sharma, Lalit Kumar Rajbanshi) | | |
| 1. Diptesh Aryal - Empowering early career: clinician with research capacity building | 15 min | 2:40 PM |
| 2. Surendra Bhusal - P value is hyped!! | 15 min | 2:55 PM |
| 3. Panel disucssion- Research & publication ethics: Common problems of early career researchers<br>Moderator- Pawan Kumar Hamal<br>Panelist- Gentle Sunder Shrestha, Diptesh Aryal, Hem Raj Paneru, Lalit Kumar Rajbanshi | 60 min | 3:10 PM |
| • Q & A | 10 min | 4:10 PM |
| • Break | 10 min | 4:20 AM |
| • Closing Ceremony | | 4:30 PM |
| • General Body Meeting (Life members only) at Hall A | | 5:00 PM |
| • Post-conference Dinner (Venue: Smart Palace, Chuchepati) | | 6:00 PM |

# The 23rd Annual Conference of Society of Anesthesiologists of Nepal (SANCON 2024)

## *Theme: Advances in Anesthesia*

**29th-30th March 2024**
**Hyatt Regency, Kathmandu, Nepal**
**Scientific Program Schedule**

## Day II

## Hall C

| AGENDA | Duration | Time Start |
|---|---|---|
| • Registration | | 8:00 AM |
| • Session C1 (8:30 am - 10:10 am) | | Day II (30th March 2024) |
| • Pediatric (Chairpersons: Nidhi Panda, ReshmaShrestha) | | |
| 1. **Shanta Sapkota** - Scenerio of pediatric anesthesia in Nepal | 15 min | 8:30 AM |
| 2. **Sadichhya Shah** - Enhanced recovery after surgery (ERAS) inpediatrics | 15 min | 8:45 AM |
| 3. **Parbesh Gyawali** - Strategies and challenges in anesthesia management for uncooperative children | 15 min | 9:00 AM |
| 4. **Utsav Acharya** - Pediatric procedural sedation – all is easy until it is not! | 15 min | 9:15 AM |
| 5. **Prakriti Pokhrel** - Challenges in pediatric anesthesia- overview from Tilganga Eye Hospital | 15 min | 9:30 AM |
| 6. **Bikash Ranjan Ray** - Advances in pediatric airway managemen | 15 min | 9:45 AM |
| • Q & A | 10 min | 10:00 AM |
| • Break | | 10:10 AM |
| • Session C2 (10:20 am - 12:00 pm) | | Day II (30th March 2024) |
| • Trauma (Chairpersons: Nagendra KC, Pradip R Baidya) | | |
| 1. **Kajal Jain** - Trauma in pregnancy | 15 min | 10:20 AM |
| 2. **Tanvir Samra** - Damage control resucitation | 15 min | 10:35 AM |
| 3. **Bishwo Ram Amatya** - Perioperative anesthetic management of polytrauma patients | 15 min | 10:50 AM |
| 4. **Panel discussion:** A case of trauma Siddhartha Koirala<br>Moderator: Ankit Rimal.<br>Panelists: Kajal Jain, Tanvir Samra, Bishow Ram Amatya, Pradip Tiwari | 45 min | 11:05 AM |
| • Q & A | 10 min | 11:50 AM |
| • Lunch Break (12:00 pm - 1:00 pm) | | 12:00 PM |

# Day II | Hall C Continue...

| AGENDA | Duration | Time Start |
|---|---|---|
| • Session C3 (1:00 pm - 2:25 pm) | | Day II (30th March 2024) |
| • Airway (Chairpersons: Shambu Acharya, Jay K Dasan) | | |
| 1. **Amit Kumar Malvia** - Flexible-Bronchoscope v/s video-laryngoscope forawake nasotracheal intubation in anticipated difficult airways - A randomizedcontrolled trial | 15 min | 1:00 PM |
| 2. **Arjun Gurung** - Tracheal resection and anastomosis | 15 min | 1:15 PM |
| 3. **Vishal Vaibhaw** -Airway management by emergency physicians- "sailing against the tide" | | 1:30 PM |
| 4. **Tom Murphy** - The implementation of a written information leaflet tosupplement the consent process for awake tracheal intubation | | 1:45 PM |
| 5. **Rahul Chaurasia** - Sonographic assessment of suprahyoid airway parameters in adult patients planned for Proseal placement: a pilot observational study | | 2:00 PM |
| • Q & A | | 2:15 PM |
| • Break | | 2:25 PM |
| • Session C4 (2:40 pm - 4:30 pm) | | Day II (30th March 2024) |
| • Liver & Renal Transplant (Chairpersons: Maya Lama, Abhaya Pokharel) | | |
| 1. **Ramesh Singh Bhandari**- The safe liver graft in live donor liver transplant | 15 min | 2:40 PM |
| 2. **Aarati Rai**- Prolonged anhepatic phase and its management | 15 min | 2:55 PM |
| 3. **Pankaj Joshi**- Hyper coagulability in end stage liver disease - what we need to know? | 15 min | 3:10 PM |
| 4. **Amit Sharma Bhattarai**- Cardiovascular issues in liver transplant and how to tackle them | 15 min | 3:25 PM |
| 5. **Ankita Kabi**- Recent advances in renal transplant anesthesia | 15 min | 3:40 PM |
| 6. **Anil Maharjan** - Renal transplant in patient with DCM: an expereince at KIST medical college | 15 min | 3:55 PM |
| • Q & A | 10 min | 4:10 PM |
| • Break | 10 min | 4:20 AM |
| • Closing Ceremony | | 4:30 PM |
| • General Body Meeting (Life members only) at Hall A | | 5:00 PM |
| • Post-conference Dinner (Venue: Smart Palace, Chuchepati) | | 6:00 PM |

# The 23rd Annual Conference of Society of Anesthesiologists of Nepal (SANCON 2024)

*Theme: Advances in Anesthesia*

29th-30th March 2024
Hyatt Regency, Kathmandu, Nepal
Scientific Program Schedule

## Day II

## Hall D

| AGENDA | | |
|---|---|---|
| • Registration | | |
| • Session D1 (8:30 am - 9:15 am) | | |
| • Artificial Intellegence (Chairpersons: Sangina Ranjit, Rohini Sigdel) | | |
| 1. Parveen Shaik -Role of AI in general anesthesia | | |
| 2. Sushmita Bairagi - Unlocking precision: revolutionizing USG guided regional anesthesia using artificial intelligence | | |
| 3. Vipin Kumar Goyal - Role of artificial intelligence in perioperative hemodynamic monitoring | | |
| 4. Ajay Das Shrestha - Artificial Intelligence (AI) in medicine: its applications in diagnosis, treatment, and patient care | | |
| • Session D2 (9:30 am - 12:15 pm) | | |
| • Novice Session I (8 mins X 6): 9:30 am -10: 25 am Chairpersons: Prabhat Ranjan Baral, Bishwo Ram Amatya | | |
| 1 | Manish Gupta | Correlation of left sided double-lumen tube size by conventional method andultrasonographic sub-glottic diameter measurement |
| 2 | Ashsih Raj Tiwari | Evaluation of Intubation Prediction Score as Assessment for Difficult Visualization of Larynx |
| 3 | Pragya Shrestha | Accuracy of ratio of height to thyromental distance in predicting difficult visualization of larynx: A Prospective observational study |
| 4 | Bishal Gaire | Correlation between hip to shoulder width ratio and level of sensory block following spinal anaesthesia with 0.5% hyperbaric bupivacaine in term parturients undergoing CS |
| 5 | Bibhesh Mandal | Assessment of endotracheal tube cuff pressure inflated by conventional method: An observational study |
| 6 | Biplov Neupane | Comparison of erector spinae plane block with TAP block for postop pain management inpatients undergoing total abdominal hysterectomy in TUTH: An RCT |
| • Session D2 (9:30 am - 12:15 pm) Day II 30th March SANCON 2024 | | |
| • Novice Session II (8 mins X 6): 10:25 am - 11:20 am Chairpersons: Bhuban R Kunwar, Siddhartha Koirala | | |
| 1 | Sushmita Gurung | Perfusion index as a predictor of hypotension following spinal anesthesia in elective lower segment caesarean section in a tertiary hospital in Kaski, Nepal |
| 2 | Sanjeeb Dhungana | A prospective comparative study of video laryngoscope and direct laryngoscope in terms of duration of tracheal intubation and glottis visualization |
| 3 | Poojan Kafle | Assessment of the change in right internal jugular vein diameter and cross-sectional area with right upper limb tourniquet application |
| 4 | Rashmi Thapa | Comparison between hyperbaric bupivacaine with and without fentanyl in reducing visceral pain during cesarean delivery under spinal anaesthesia |
| 5 | Amit Chaudhary | Study of Pregabalin as Premedication for Anxiolysis in Patients Undergoing Elective Surgery |
| 6 | Sushil Regmi | Comparison of hemodynamic response following spinal anesthesia in normotensive and controlled hypertensive patients undergoing infraumbilical surgeries |

# Day II | Hall D Continue...

| | | |
|---|---|---|
| • Session D2 (9:30 am - 12:15 pm) Day II 30th March SANCON 2024 | | |
| • Novice Session III (8 mins X 6): 11:20 am - 12:15 pm, Chairpersons: Ram Bhakta Koju, Shailendra Gautam | | |
| 1 | Nishchal Babu Neupan | Epiglottic cysts: An uncommon cause of difficult intubation and management alternatives |
| 2 | Ashru Neupane | Comparing phenylephrine, ephedrine, and ephentermine to maintain arterial pressure in spinal-induced hypotension |
| 3 | Janak Raj Pokharel | Comparison between intranasal Dexmedetomidine and Midazolam as premedication in children undergoing General Anesthesia |
| 4 | Sichu Singh Maharjan | Landmark versus ultrasonography assisted lumbar puncture for spinal anesthesia in cesarean section |
| 5 | Sujan KC | Effectiveness of magnesium sulphate in smoothness of extubation in patients undergoing laparoscopic cholecystectomy |
| 6 | Dipanjali Shrestha | Mallampati in Sitting versus Supine Position for Prediction of Difficult Intubation |
| • Session E (1:00 pm - 2:25 pm) | | |
| • Poster session screen A (1:00 PM -1:40 PM) Chairpersons: Ashish Amatya, Asish Subedi | | |
| 1 | Yashoda Khadka | Artificial intelligence in Anesthesia: Synopsis |
| 2 | Sanjiv chaudhary | Anaesthetic Management for Exploratory Laparotomy in Glucose 6 Phosphate Dehydrogenase Deficiency |
| 3 | Sandeep Khatri | A case of Imperforate Anus with Tetralogy of falot with pulmonary atresia with patent ductus arteriosus underwent Anoplasty under Caudal Anesthesia |
| 4 | Samata Dhungana C | Comparison of hemodynamic fluctuations to insertion of i-gel vs endotracheal tube in laparoscopic surgery |
| 5 | Pushkar Bishwokarma | Anaesthetic Management and Challenges for Carotid Body Tumour Excision: A rare case |
| 6 | Mahesh Acharya | Single Shot Spinal Anaesthesia for Caesarean Delivery of Parturient with Achondroplasia |
| • Poster session screen B (1:40 PM -2:20 PM) Chairpersons: Anil Shrestha, Sangeeta Shrestha | | |
| 1 | Helena Dunn | Volatile use in induction of anaesthesia |
| 2 | Priyanka Dahal | Anaesthetic management of a case of dilated cardiomyopathy with low ejection fraction with HTN, T2DM and COPD for laparoscopic nephroureterectomy |
| 3 | Pankaj Dhungana | Symptomatic Cholelithiasis with temporary pacemaker insertion for Sick Sinus Syndrome prior to OT |
| 4 | Rabi Paudel | A Case on Extra Cardiac Fontan Completion in a Patient with S/P BDCPS and MPA Banding for DORV: Management Challenges and Complications |
| 5 | Mukesh Paudel | Congenital Ranula: A real airway challenge in pediatrics |
| 6 | Barsha Karki | Intraoperative anaphylaxis in Caesarean section in a patient with mitral stenosis |

# Day II | Hall D Continue...

| | | |
|---|---|---|
| • Poster session screen C (2:20 PM -3:00 PM) Chairpersons: Basant Bhattrai, Ujma Shrestha | | |
| 1 | Nishchal Babu Neupan | Thoracic Segmental Spinal Anesthesia for Laparoscopic Cholecystectomy |
| 2 | Ashru Neupane | Perioperative Management of Laparoscopic Cholecystectomy in a Patient with Severe Factor X Deficiency |
| 3 | Janak Raj Pokharel | Assessment of Knowledge & retention of skills of first year MBBS students after BLS training as assessed by questionnaire and DOPS Score over one year |
| 4 | Sichu Singh Maharjan | Left Tympanoplasty in a child with uncorrected Tetralogy of Fallot |
| 5 | Sujan KC | Methylergonovine + Oxytocin vs. Oxytocin alone in non-elective cesarean sections, a retrospective cohort study |
| 6 | Dipanjali Shrestha | Palatoplasty in Fraser's Syndrome: An Anesthetic Dilemma with Subglottic Stenosis |

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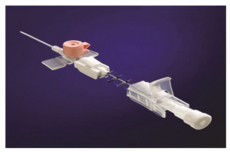
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# Pre and post conference workshops

- Labour Analgesia Workshop
- Hemodynamic Monitoring Workshop
- Obstetric Anaesthesia Simulation Workshop
- USG Guided Hands on Cadaveric RA Workshop
-
-

# Labour Analgesia Workshop

## Preconference SANCON 2024

## Paropakar Maternity & Women's Hospital, Thapathali, kathmandu

**28th March 2024**

Program Schedule

| Time | Topic | Speaker |
|---|---|---|
| 8.45-9.15 AM | Registration & **PRETEST | **Sangeeta /Aswini |
| 9.15- 9.30 | WELCOME | AOA TEAM |
| 9:30-09:45 | Setting a new labour analgesia service: BLUEPRINT | Kajal Jain<br>PGIMER Chandigarh<br>kajalteji@gmail.com |
| 09:50 - 10:05 | Labour epidural analgesia: patient preparation, consent and choices | Aswini Kuberan<br>JIPMER Puducherry<br>Ashdoctor.kuberan@gmail.com |
| 10:10-10:25 | Labour analgesia : An obstetrician's perspective | Vanita Jain<br>PGIMER Chandigarh<br>drvanitajain@yahoo.c |
| 10:30 -10:45 AM | Understanding foetal cardiotocographs | Rashmi Bagga<br>PGIMER<br>rashmibagga@gmail.com |
| 10:50-11:05 AM | Choosing from the menu: options for initiation of neuraxial labour analgesia | Shilpa Kasodekar<br>Hinduja Mumbai<br>drshe@rediffmail.com |
| 11:05- 11.15 | Discussion | |
| 11:15-11:30 | Teak Break | |
| 11:30-11:45 | Providing effective analgesia : how to choose drug regimens | Bryan Mahoney<br>Mount Sinai, NYC<br>Bryan.mahoney@mountsinai.org |
| 11:50-12:05 PM | Surgical anaesthesia for CD: conversion of EA | Tara Gurung<br>Paropakar Maternity & Women's Hospital, Kathmandu |
| 12:10 -12:25 | Labour Analgesia and Outcomes | Dr Anjeleena Kumar<br>Sri Ganga Ram Hospital , Delhi<br>anjeleenasgrh@gmail.com |
| 12:50-1:00 PM | Discussion | |
| 1:00-2:00 PM | Lunch | |
| 02:00 – 3:00 PM | STATION ROTATION | |
| I | DRUGS /EQUPIMENT, REGIMES AND SAFETY | Dr Bryan /Tara/Bashu |
| II | TROUBLESHOOTING: TIPS & TRICKS | Dr Kajal Jain / Elif/ Aswini Kuberan /V Jain |
| III | NEURAXIAL US | Dr Anjeleena /Shilpa/ Sangeeta |
| 3:00 – 4:00 PM | ENACTED SCENARIO | |
| | CONSENT | Dr Bryan/ Tara /Rashmi |
| | PDPH | Dr Kajal Jain / Shilpa / Elif |
| | UNRESOLVED MOTOR BLOCK | Dr Anjaleena /Aswini / Bashu |
| 4:00- 5:00 PM | ASK THE EXPERTS, PIC , FEEDBACK | All faculty |

# Hemodynamic Monitoring Workshop

## Preconference SANCON 2024

## Shahid Gangalal National Heart Center

**28thMarch 2024**

Program Schedule

| Time | Topic | Speaker |
|---|---|---|
| 8:30-8:50 | Registration | |
| 8:50-9:00 | Welcome/Pretest | |
| 9:00-9:20 | Physicsandphysiologyofarterialpressure monitoring | Dr. Sangina RanjitMalla |
| 9:20-9:40 | Physiologyofcentralvenousandpulmonaryartery pressuremonitoring | Dr. Ankit Rimal |
| 9:40-10:00 | Hemodynamicphysiology:Heartlunginteraction | Dr. BattuK Shrestha |
| 10:00-10:20 | Assessingneedforfluidtherapy:staticparameters andfluidchallengetest | Dr. Sushil Khanal |
| 10:20-10:40 | Assessingneedforfluidtherapy:dynamic parametersandpassivelegraisingtest | Dr. Ashish G Amatya |
| 10:40-10:50 | Qn A | |
| 10:50-11:00 | Break | |
| 11:00-11:20 | ROSEorSOSD | Dr. Pradip Tiwari |
| 11:20-11:40 | Echocardiographyinhemodynamicallyunstable patients | Dr. Rabin Baidya |
| 11:40-12:00 | Cardiacoutputmonitoring:invasivetonon-invasive | Dr. Kishor Khanal |
| 12:00-12:20 | Vasoactivedrugtherapyincriticallyillpatients | Dr. Basanta Gauli |
| 12:20-12:40 | Biochemicalmarkersforresuscitation | Dr. Subhash P Acharya |
| 12:40-12:50 | Qn A | |
| 12:50-13:30 | Lunch | |
| 13:30-16:30 | Workstations | |
| 16:30-16:45 | Qn A | |
| 16:45-17:00 | ClosingRemarks | |
| Workstations | | |
| 1 | CVP,PAcatheters,InvasiveBPline | Dr. Ankit Rimal, Dr. Arjun Gurung Dr. SubhashP Acharya |
| 2 | Advancedhemodynamicmonitoring,PICCO, FLOTRAC | Dr. BattuK Shrestha, Dr. Bibhush Shrestha, Dr. Sukirti Panta |
| 3 | Echocardiography:HemodynamicassessmentA | DrSangina Ranjit,DrSandip Bhandari |
| 4 | Echocardiography:HemodynamicassessmentB | Dr. Rabin Baidya,Dr. SushilKhanal Dr. Basanta Gauli |
| 5 | Simulation/Clinicalcasescenarios | Dr. AshishAmatya, Dr. KishorKhanal, Dr. PradipTiwari |

# Obstetric Anaesthesia Simulation Workshop

## Preconference SANCON 2024

## Maharajgunj Medical Campus

**28thMarch 2024**

Program Schedule

| Time | Topic | Speaker |
|---|---|---|
| 8:00 | Registration | |
| 8:30 | Breakfast/Tea | |
| 8:45 | Welcome Speech | |
| 9:00 | Simulation in Obstetric Emergencies | Bryan Mahoney, M.D. |
| 9:15 | Intrauterine Rescuscitation | Ronald George, M.D. |
| 9:30 | STAT Cesarean Delivery | Jingping Wang, M.D. |
| 9:45 | Maternal Hemorrhage/ACLS | Bryan Mahoney, M.D. |
| 10:00 | Intrauterine Rescuscitation | Ronald George, M.D. |
| | STAT Cesarean Delivery | Jingping Wang, M.D. |
| | Maternal Hemorrhage/ACLS | Bryan Mahoney, M.D. |
| 10:30 | STAT Cesarean Delivery | Jingping Wang, M.D. |
| | Maternal Hemorrhage/ACLS | Bryan Mahoney, M.D |
| | Intrauterine Rescuscitation | Ronald George, M.D. |
| 11:00 | Maternal Hemorrhage/ACLS | Bryan Mahoney, M.D |
| | Intrauterine Rescuscitation | Ronald George, M.D. |
| | STAT Cesarean Delivery | Jingping Wang, M.D. |
| 11:30 | lunch | |
| 12:30 | Simulation in Team Training | Bryan Mahoney, M.D. |
| 12:45 | Role Identification | Jingping Wang, M.D. |
| 13:00 | Communication | Bryan Mahoney, M.D. |
| 13:15 | Cognitive Aids | Elif Ugur, M.D. |
| 13:30 | Role Identification | Jingping Wang, M.D. |
| | Communication | Bryan Mahoney, M.D. |
| | Cognitive Aids | Elif Ugur, M.D. |
| 14:00 | Communication | Bryan Mahoney, M.D. |
| | Cognitive Aids | Elif Ugur, M.D. |
| | Role Identification | Jingping Wang, M.D. |
| 14:30 | Cognitive Aids | Elif Ugur, M.D. |
| | Role Identification | Jingping Wang, M.D. |
| | Communication | Bryan Mahoney, M.D. |
| 15:00 | Debrief | Jingping Wang, M.D. |
| 15:15 | Workshop Conclusion | |

# USG Guided Hands on Cadaveric RA Workshop

## Pre-Conference Workshop,

## Basic Science Building, Maharajgunj Medical Campus

**28th March 2024**

PROGRAM SCHEDULE

| Time | Schedule | Faculties |
|---|---|---|
| 8:00AM to 8:30AM | Registration and Inauguration | |
| 8:30 AM to 9:00 AM | Truncal Block<br>• Erector Spinale Block<br>• QL Block<br>• Paravertebral Block | Dr Asish Subedi (AS)<br>Dr Parineeta Thapa (PT) |
| 9:00 AM to 9:30 AM | Central Neuraxial Block<br>• Spinal<br>• Epidural<br>• Caudal | Prof Dr Anil Shrestha (AnS)<br>Dr Renu Gurung (RG)<br>Dr Binita Acharya (BA) |
| 9:30 AM to 10:00 AM | Lower Limb Block<br>• Ilioinguinal/hypogastric nerve<br>• Obturator nerve<br>• PENG block | Dr Bigen Man Shakya (BMS)<br>Dr Hari Rijal (HR) |
| 10:00 AM to 11:00 AM | Lunch | |
| 11:00 AM to 12:30 PM | Practical Session 1 | AnS/RG/BA/BMS/AS/PT/HR |
| 12:30 PM to 2:00 PM | Practical Session 2 | AnS/RG/BA/BMS/AS/PT/HR |
| 2:00 PM to 3:30 PM | Practical Session 3 | AnS/RG/BA/BMS/AS/PT/HR |
| 3:30 PM to 3:45 PM | Tea Break | |
| 3:45 PM to 4:00 PM | Feedback and Closing Session | |

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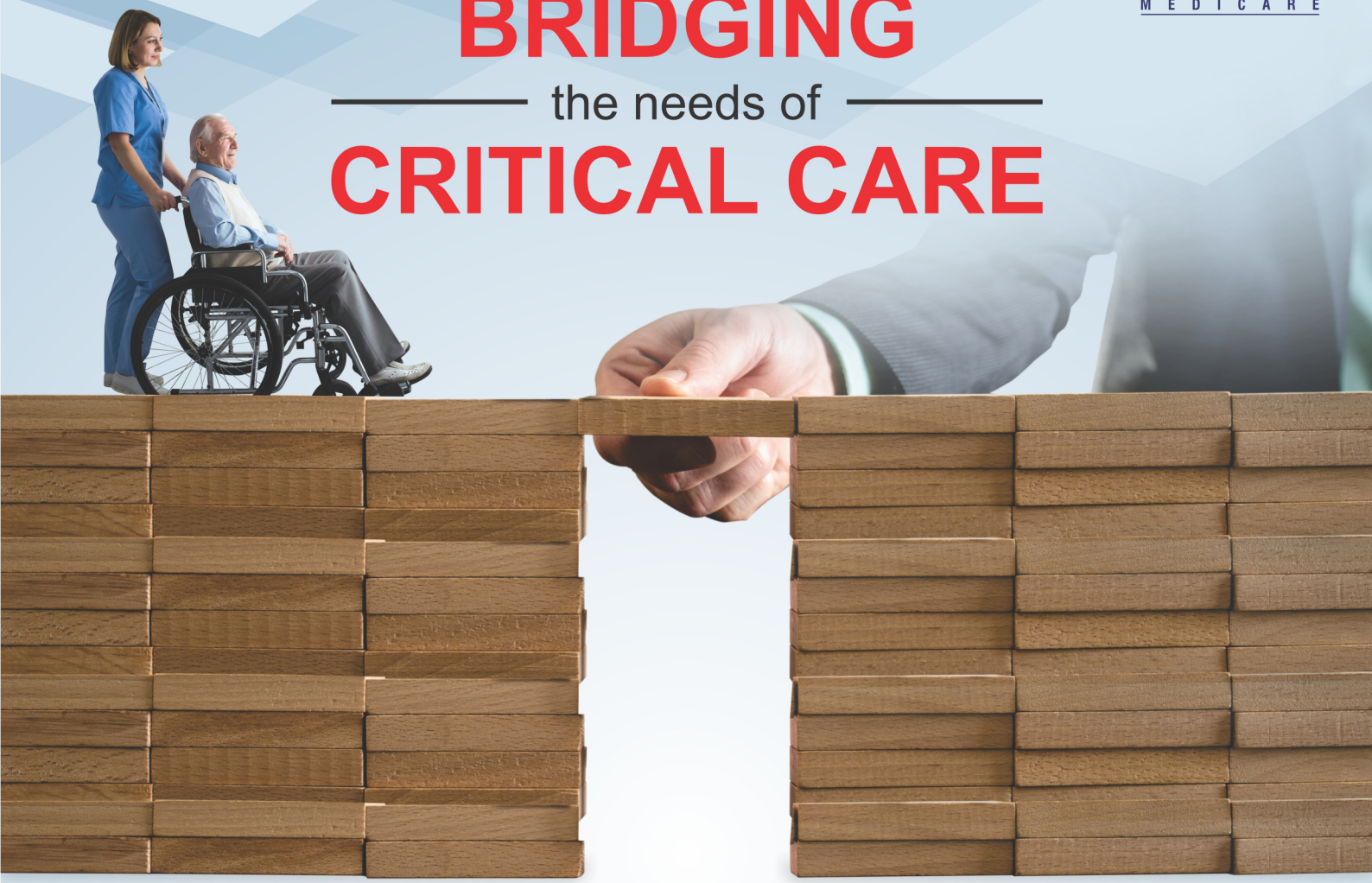

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# Study of Pregabalin as Premedication for Anxiolysis in Patients Undergoing Elective Surgery

Amit Chaudhary

## Abstract

**Introduction:** Anxiety is an uneasy feeling of discomfort accompanied by anticipation of danger. Pre-operative anxiety is a potential and preventable risk factor for post-operative complications. It is estimated that between 25% to 80% of patients admitted to hospital for surgery experience pre-operative anxiety and anxiety can negatively influence patient recovery.

Premedication with pregabalin 150mg prior to surgery reduces the anxiety of patient's undergoing elective surgery by producing inhibitory modulation.

**Methods:** A hospital based prospective observational study included 50 patients of American Society of Anesthesiologists Physical Status I and II who planned for elective surgery under general anesthesia. Patients who fulfilled the inclusion criteria were assessed pre operatively in the ward. Baseline Beck's Anxiety Inventory (BAI) score (Nepali version) was recorded using questionnaire tool by the investigator. BAI is a 21 questions multiple-choice self-reporting inventory. Each answer scored on scale value of 0 (not at all) to 3 indicates (more severe anxiety symptoms). Baseline BAI score was recorded. Pre-medication with oral Pregabalin 150mg was done and BAI score was recorded after 120 minutes.

**Results:** Among 50 patients enrolled in the study 47(94%) had minimal, 2(4%) had mild and 1(2%) moderate preoperatively anxiety and mean BAI was 2.22±2.85 and median BAI was 1.5. After 120 min post-premedication with pregabalin 150 mg, all 50 (100%) patients had minimal anxiety with mean BAI 14±1.41 and median of 1 and P value of 0.003.

**Conclusion:** Preoperative medication with pregabalin 150mg in patients undergoing elective surgery reduces preoperative anxiety level.

**Keywords:** Beck anxiety inventory, Elective Surgical Procedures, Pregabalin, Premedication, Preoperative anxiety

# Flexible-Bronchoscope v/s Video-Laryngoscope for Awake Nasotracheal Intubation in Anticipated Difficult Airways - A Randomised Controlled Trial

**Aritra Kundu, Nishant Patel, Arshad Ayub, Rakesh Kumar, Amit Kumar Malviya***

**All India Institute Of medical Sciences, AIIMS, New Delhi, India (110029)**

## Abstract

**Introduction:** Flexible bronchoscope and video-laryngoscopes have emerged as an efficient airway management tools for difficult airways, but no previous studies have compared them in patients with limited airway access. Our study compared both devices for awake nasotracheal intubation in patients with restricted airway access planned for maxillofacial and otorhinolaryngology surgeries.

**Methods:** A hundred patients planned for maxillofacial surgery and awake, nasotracheal intubation with limited mouth opening (1.5-2.5cm) were recruited. Preoperatively, the airway was anaesthetised with nebulisation, topical spray, and gargling with lignocaine. Patients were sedated with injection dexmedetomidine infusion and allocated to either group-FB for Flexible bronchoscopy or group-VL for video laryngoscopy (C-MAC with D Blade) guided tracheal intubation. Intubation characteristics, including intubation time, first attempt success rate, intubation scores, number of attempts, boluses of injection propofol, satisfaction scores, etc., were recorded and compared for both groups.

**Results:** Demographic and other baseline variables were comparable between the groups. The median mouth opening was 2cm(1.5-3) in group-FB, and 2(2-2.5)cm in group-VL. The intubation time was significantly longer in the group-FB (median time 136.2(120.6-144.6 [79.2-202.2]) sec versus 63.6 (32.4-71.1 [23.4-120.6]) sec ($p<0.0001$). However, FB had more success in the first attempt (68% versus 32%, $p=0.0004$). Intubation with FB needed fewer attempts, had better intubation scores, less requirement of propofol, and better anaesthetist and patient satisfaction scores.

**Conclusion:** Video laryngoscope needs lesser time for awake intubation. However, a flexible bronchoscope increases the first attempt success, requires fewer attempts and better intubation scores in patients with limited airway access.

**Keywords:** Awake intubation, Difficult Airway, Fibreoptic bronchoscopy, Nasotracheal intubation, Video laryngoscopy

# Onco-Anesthesia : An Introduction

Amresh Kumar Singh

**Consultant at B&C Medical College and Teaching Hospital, Birtamod, Jhapa, Nepal.**

## Abstract

Cancer is one of the leading cause of death globally and as per WHO, by the end of 2030 the new cancer cases annually will be around 22 million. Globally 1 out of 6 deaths occur due to cancer. Cancer Anesthesiology or Onco - Anesthesiology is a growing subspecialty of anesthesiology. With advances in oncology and early diagnosis of cancers in different areas of the body, more cancer patients are coming to the operating table. Perioperative care in cancer patient needs specialized and dedicated care with an understanding of cancer biology, the effect of chemotherapeutic drugs on the body, and its effect on anesthesia management and post-operative effects. Onco - Anesthesiology as a sub-specialty helps positively influence the surgical outcome. Most of the cancer patients require surgery or surgical intervention for diagnostic, therapeutic, or palliative purpose. Over the years, advances in perioperative care of cancer patients results in better postoperative outcomes and establishment of unique Onco – Anesthesiology.

**Keywords:** Head neck cancer surgeries, Onco-anesthesia, anesthesia technique and cancer recurrence, chemotherapy and its implication in anesthesia, prehabilitation

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# ERAS Evolution: Time for Paradigm Shift

**Anjeleena K Gupta**

**Senior Consultant, Institute of Anaesthesiology, Pain & Perioperative Medicine Sir Ganga Ram Hospital, New Delhi (INDIA)**

## Abstract

**Enhanced recovery after surgery (ERAS)** is a tool for process management. It refers to a patient-centered, evidence-based multidisciplinary team approach to reduce the stress response to surgery. It is generally recognized that surgical stress induces a catabolic state that results in altered gastrointestinal and pulmonary function, increased insulin resistance, relative tissue hypoxia, and increased cardiovascular demand. Incorporation of ERAS protocols aim to optimize the physiologic function and facilitate early patient recovery.

ERAS protocol were first established in 1994 by Engelman for use in patients scheduled for cardiac surgery. Since then, these protocols have been widely used in various surgical specialties and now they are gaining popularity for obstetric patients undergoing caesarean section. Nineteen key elements have been incorporated in the pre-, intra-and post-operative period in-order to cover the entire perioperative care pathway. These elements lay emphasis on preoperative patient education, antacid prophylaxis, minimal fasting period, carbohydrate loading, multimodal analgesia, thromboprophylaxis, prevention of nausea and vomiting with early mobilization.

These protocols offer multiple clinical benefits like improved maternal-infant bonding, quicker functional recovery, reduction in length of stay in the hospital, decreased complications, improved maternal satisfaction and decreased chances of re-admission. Additionally, it offers benefits to the health system in the form of lower overall treatment cost and quicker patient turnover.

ERAS protocols should now be considered as a standard model of care. Effective teamwork and senior clinical leadership are essential for the protocols to be implemented successfully.

**Keywords:** Caesarean section, ERAS

# Recent Advances in Renal Transplant Anesthesia

**Ankita Kabi**
**Associate Professor, AIIMS, Gorakhpur, AIIMS Gorakhpur, Gorakhphur 273008, Uttar Pradesh, India**

## Abstract

Renal transplant anaesthesia requires a thorough understanding of the metabolic and systemic abnormalities in end stage renal disease, familiarity with transplant medicine and expertise in managing and optimizing these patients for the best possible outcome. Additionally, the complexity of anesthesia, pain management, and perioperative morbidity and mortality are increased by the co-morbid conditions. Therefore, it's essential that these patients receive good perioperative care. Further improvements can be achieved by applying the principles of enhanced recovery after surgery. To achieve successful outcomes after renal transplantation, surgical teams, anesthesiologists, and other healthcare professionals must work together.

**Keywords:** Advances, Enhanced recovery, Multimodal analgesia, Perioperative care, Renal , Transplant

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# Brain Ultrasonography

**Ankur Luthra**
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## Abstract

Transtemporal insonation of the skull allows a 2-dimensional imaging of the brain parenchyma and intracranial vessels with B mode imaging, colour Doppler imaging of the Circle of Willis and Pulse Wave Doppler of individual intracranial vessel segments. B mode anatomy can visualize the midbrain in the axial plane visible as a "butterfly shape" with cerebral peduncles and colliculi. TCCD (Transcranial Colour Coded Duplex scanning) combines B-mode imaging along with colour-coded identification of vessels of the Circle of Willis followed by the application of Pulse Wave Doppler to identify the waveform morphology, blood flow direction and velocities to identify various cranial pathologies including calculation of non-invasive ICP and CPP assessment.

Cranial ultrasound has potential applications in point-of-care assessment of intracranial pathology in neurocritical care patients. This application has promising use in directing therapy in patients who are otherwise unstable for transport and may provide a noninvasive, radiation-free diagnostic tool for serial neuroimaging. Patients with a hemicraniectomy have better temporal windows available since a portion of their skull has been removed. In such patients, ultrasound can provide a non-invasive method to serially assess midline shift, intracranial hematomas, and focal ischemia at the bedside.splantation, surgical teams, anesthesiologists, and other healthcare professionals must work together.

**Keywords:** Brain Ultrasound, Hydrocephalus, Midline shift, Transcranial colour coded duplex

# High flow nasal cannula: a potential solution for hypoxia in complex upper gastrointestinal endoscopic procedures?

**Anuj Jung Karki**

**Associate Professor, National Academy of Medical Sciences(NAMS), Bir Hospital, Kathmandu, Nepal**

## Abstract

Hypoxia is common during complex upper gastrointestinal endoscopic procedures with deep sedation using conventional oxygen therapy, such as a simple nasal cannula. Previous studies have shown hypoxia rates ranging from 16% to 42%. Various factors contribute to hypoxia, including prolonged procedure duration, higher American Society of Anesthesiologists physical status, older age, obesity, history of sleep apnea, and the severity of underlying disease.The primary oxygenation method used is the simple nasal cannula, but the high-flow nasal cannula, offering heated and humidified air at a flow rate of 10-70L/min with FIO2 titration, is gaining popularity. High-flow nasal oxygen has been recommended to be more effectively maintain the oxygenation than conventional low flow variable performance oxygenation device. This review presentation will cover the latest articles also including studies done in our setup for technique of anesthesia,oxygenation option during complex upper gastrointestinal endoscopic procedure , with a focus on the high-flow nasal cannula, which has become prominent as an oxygenation device in the post-Covid-19 pandemic era.

**Keywords:** Complex upper gastrointestinal endoscopic procedure, High flow nasal cannula, Hypoxia, Simple nasal cannula

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# Enhancing Patient Outcomes Through "Patient Blood Management": A Comprehensive Overview

**Apurb Sharma**

**Head, Department of Anesthesia and Pain Management, Nepal Mediciti, Sainbu, Lalitpur, Nepal**

## Abstract

Patient Blood Management (PBM) represents a paradigm shift in perioperative care. It emphasizes a proactive approach to optimizing patient outcomes while minimizing unnecessary blood transfusions. This presentation aims to create awareness among anesthesia professionals about the fundamental principles of PBM, its benefits, and practical strategies for implementation. In this interactive session we will define the PBM approach to managing anemia, blood loss, and hemostasis to improve patient outcomes. PBM advocates for a holistic approach to patient care that extends beyond the operating room. We will discuss how implementation of PBM offers benefits like reduced exposure to blood transfusions and associated risks, improved clinical outcomes, shortened hospital stays, significant cost savings and aligns with the principles of patient safety and quality improvement. We will also delve into how PBM goes beyond the conventional restrictive transfusion strategy in the perioperative setting. The presentation will also touch on the Three Pillars of PBM namely: optimizing erythropoiesis, minimizing blood loss, and harnessing and optimizing physiological reserve. Understanding these pillars equips anesthesiologists with the framework necessary to develop tailored strategies for individual patients, thereby enhancing clinical outcomes and resource utilization.

**Keywords**: Anemia, Anesthesia, Blood transfusion, Coagulopathy, Hemorrhage

# Evaluation of Intubation Prediction Score as Assessment for Difficult Visualization of Larynx

Ashish Tiwari

**Resident, Maharajgunj Medial Campus, Maharajgung, Kathmandu, Nepal**

## Abstract

**Background:** Endotracheal intubation is an airway management technique indicated in various clinical situations which can be challenging at times. Proper planning is paramount in these situations. An unanticipated difficult airway can lead to improper management which may potentially cause severe complications including irreversible brain damage or death. Prediction of difficult airways, thus, has great importance. The study was conducted to assess the intubation prediction score (IPS) as an airway assessment tool for the prediction of difficult visualization of the larynx. Methods: Eighty-eight American Society of Anaesthesiologists Physical Status I and II patients undergoing elective surgery requiring general anaesthesia with endotracheal intubation were enrolled in this prospective, observational study. Airway assessment of the patients was done with modified Mallampati classification (MMP), thyromental distance (TMD), inter-incisor gap (IIG), and IPS. After induction of anaesthesia and achieving adequate muscle relaxation, laryngoscopy was done by an anaesthesiologist unaware of the IPS. Modified Cormack-Lehane grading (MCLG) was recorded as the standard test for difficult intubation prediction. If MCLG was 2b or higher, optimal external laryngeal manipulation was done and MCLG was noted again. The sensitivity, specificity, positive predictive value, negative predictive value, and likelihood ratios were calculated. Results: The prevalence of difficult intubation was 17.1%. The sensitivity, specificity, PPV, NPV, positive and negative LR of IPS were 78.6%, 63.2%, 30.6%, 93.5%, 2.14, and 0.34 respectively. Conclusion: IPS is a combination of MMP, length of mandible, and atlantooccipital joint extension and can be used for the prediction of difficult visualization of the larynx.

**Keywords:** Intubation Prediction Score, atlanto-occipital joint extension, difficult intubation, mandibular space, modified Mallampati classification

# Comparing phenylephrine, ephedrine, and mephentermine to maintain arterial pressure in spinal-induced hypotension

**Ashru Neupane**
**MD 2nd-year ,Department of Anesthesiology and Critical Care, NAMS**

## Abstract

**Background:** Spinal anesthesia is recommended for cesarean section but hypotension is a major drawback. Despite non-pharmacological and pharmacological measures to treat hypotension, vasopressors are the preferred choice. Phenylephrine, ephedrine, and mephentermine are commonly used vasopressors, but the best option to maintain blood pressure is debated.

**Methods:** 81 parturients (ASA- II) who underwent elective cesarean section and developed post-spinal hypotension (blood pressure < 80% of the baseline or/and SBP<90 mmHg) were included in this cross-sectional study. Participants received either phenylephrine 100 mcg (n=27), ephedrine 6 mg (n=27), or mephentermine 6 mg (n=27) at the onset of hypotension (0 minutes). Baseline blood pressure and heart rate were recorded and repeated at 0 minutes, 2 minutes, and every 5 minutes till the end of surgery. Deleterious effects on the mother and fetus were recorded along with a total number of vasopressor boluses. A one-way ANOVA test was used for the comparison of three groups and Games- Howell test was used for intergroup comparison.

**Results:** The phenylephrine group saw a significant decrease in heart rate at 2 minutes (73.67+-13bpm; p-value <0.05) compared to the mephentermine (86.44+-16.02 bpm) and ephedrine (93.70+-16.95 bpm). The mean systolic blood pressure was comparable except at 30, 40, and 45 minutes. The phenylephrine group had mean systolic blood pressure (106.62+-12.91 mm Hg, 107.85+-8.75 mmHg, and 106.26+-6.04 mmHg) compared to ephedrine (109.48+-7.71mmHg, 113.15+-9.73 mmHg and 112.29+-9.79 mmHg) and mephentermine (114.04+-9.35 mmHg, 115.05+-9.89 mmHg and 117.25+-9 mmHg) at 30, 40 and 45 minutes respectively, which was significant (P<0.05). The number of repeat boluses and the mother and newborn adverse effects did not differ significantly between the groups.

**Conclusions:** Phenylephrine, ephedrine, and mephentermine were effective in treating spinal-induced hypotension with comparable maternal and neonatal outcomes. Phenylephrine was associated with bradycardia with a brief pressor effect compared with mephentermine and ephedrine.

**Keywords**: Anemia, Anesthesia, Blood transfusion, Coagulopathy, Hemorrhage

# Bridging the Gap: Addressing Pain Research in Low and Middle-Income Countries

**Babita Ghai**
**Prof and Pain clinic Incharge, PGIMER, Chandigarh**

## Abstract

Pain research in low and middle-income countries (LMICs) is notably underfunded and undervalued, facing stark disparities in comparison to high-income countries. This neglect significantly impacts life quality, economic productivity, and health outcomes, as chronic and acute pain remains poorly managed due to barriers such as restricted access to essential medications, regulatory constraints, and a lack of healthcare infrastructure and trained professionals. Additionally, cultural stigmas around pain and its treatment further limit effective management and open discourse.

Despite these challenges, there are substantial opportunities for advancing pain research in LMICs. Strategies include fostering community engagement, utilizing telehealth technologies, and blending traditional practices with evidence-based medicine, all underpinned by international partnerships that respect and integrate local knowledge. Such collaborative efforts can bridge the gap in pain research, ensuring interventions are culturally sensitive, accessible, and affordable.

Advocating for a focused approach on pain research entails policy reforms, enhanced education for healthcare providers, and increased public awareness to destigmatize pain. By highlighting successful interventions and prioritizing pain research tailored to the unique needs of LMICs, significant advancements in pain management can be achieved. This requires a coordinated effort from global health stakeholders to share knowledge, allocate resources, and implement comprehensive pain management strategies. Ultimately, prioritizing pain research in LMICs can lead to improved health and well-being for affected populations, demonstrating the critical need for a concerted focus on this area.

**Keywords:** LMICs, Low Middle Income Countries, pain research

# Horner's Syndrome following Epidural Analgesia for Labor

**Basant Bhattarai**

## Abstract

Epidural Analgesia is considered to be gold standard technique for labor analgesia, with low incidence of complication. It is important for the professionals caring expectant mother to identify and recognize the problems arising from epidural inserted for labor analgesia. Though the incidence of Horner's syndrome ranges from 1.33 to 5%, most of the cases have been reported as a complication of epidural analgesia for labor. Though the course is self-limiting and resolves after discontinuation of local anesthetic, understanding this complication allows women in labor to be re assured, as well as staff to be vigilant about the complication. We present a case of Horner's Syndrome, following insertion of epidural for labor analgesia in a primiparous women highlighting the importance of this complication.

**Keywords:** Epidural Analgesia, Horner's Syndrome, Labour Analgesia

# Assessment of Endotracheal Tube Cuff Pressure Inflated by Conventional Method: An Observational Study

**Bibhesh Mandal**

**Resident, Department of Anaesthesiology, Maharajgunj Medical Campus, Institute of Medicine, Kathmandu, Nepal.**

## Abstract

**Introduction:** A critical function of the endotracheal tube (ETT) cuff is to seal the airway. Inappropriate ETT cuff pressure can lead to various complications. The effectiveness of our existing practices of cuff inflation and the possible need to modify them can be achieved by measuring the cuff pressure of a conventionally inflated ETT cuff with an aneroid manometer and assessing the postoperative complications related to the ETT cuff pressure.

**Methods:** This is a prospective observational study conducted on 67 patients. After the usual method of general anaesthesia with endotracheal intubation, and ETT cuff inflation, cuff pressure was measured using an aneroid manometer within 60 minutes of intubation and before positioning, whichever came earlier. Sore throat, hoarseness of voice, and cough were assessed at 1 hour, 6 hours, and 24 hours after extubation.

**Result:** Fifteen patients (22.4%) had ETT cuff pressure within the normal range of 20-30 cm H2O, whereas, 47 patients (70.1%) had cuff pressure above the normal range, and 5 patients (7.5%) had cuff pressure below the normal range. The mean cuff pressure was 53.1 cm H2O with a standard deviation of 29.4 cm H2O. Six (40%) patients with normal ETT cuff pressure and 32 (68.1%) patients with higher ETT cuff pressure had postoperative complications related to ETT cuff pressure.

**Conclusion:** The ETT cuff inflated by the conventional method had a higher cuff pressure. The postoperative complications related to ETT cuff pressure were also significantly higher in patients with higher ETT cuff pressure.

**Keywords:** Endotracheal tube, endotracheal tube cuff pressure, postoperative complications

# Comparison of Erector Spinae Plane Block with Transversus Abdominis Plane Block for Postoperative Pain Management in Patients Undergoing Total Abdominal Hysterectomy in Tribhuvan University Teaching Hospital: A Randomized Controlled Trial

**Biplov Neupane**
**PGY 3 Anaesthesiology(MMC, IOM, TU), MBBS, Kirtipur, Kathmandu, Nepal**

## Abstract

**Introduction:** Transversus Abdominis Plane (TAP) block and the Erector Spinae Plane (ESP) block are commonly used regional anaesthesia techniques for abdominal surgery. Here we aim to compare the efficacy of ESP block with TAP block in patients undergoing total abdominal hysterectomy.

**Methods:** This prospective, randomised, interventional study included consenting participants undergoing total abdominal hysterectomy under GA started after ethical approval from IRC, Institute of Medicine and NHRC. Total 44 participants were recruited, randomly allocated into two groups of 22 each: Group A received ESP block and Group B received TAP block. In both blocks, 20 ml of 0.25% bupivacaine was used. Pain scores were recorded using the Numerical rating scale (NRS) at rest at 0,1,6,8, 12, and 24 hours.

**Results:** The median time of rescue analgesia in each of the groups was 1 hour(p=0.408). The median dosage of rescue analgesia in Group A was 50mg and in Group B was 100mg (p = 0.022). NRS following the surgery at 0, 1, 6, 8, 12, 24 hours was 1.5, 2, 2, 2 ,3 ,3, 3 in group A and 2.5, 3, 3, 3, 3, 3 in group B respectively. The NRS at 0, 1 hours was statistically significant with p of 0.010 and <0. 01 respectively. Hemodynamic variables and complication rate were similar.

**Conclusions:** The USG guided ESP block provides similar duration of pain control when compared to TAP block for open total abdominal hysterectomy although lower NRS at 0 and 1 hours and lower rescue analgesia dosage.

**Keywords:** ESP, Postoperative pain, TAH, TAP

# Correlation Between Hip to Shoulder Width Ratio and Level of Sensory Block Following Spinal Anaesthesia with 0.5% Hyperbaric Bupivacaine in Term Parturients Undergoing Cesarean Section

**Bishal Gaire**

**Department of Anaesthesiology, Maharajgunj Medical Campus, IOM, TU**

## Abstract

**Introduction:** Spinal anaesthesia is the preferred anaesthetic technique for cesarean section (CS) and its spread is affected by various factors. One factor is the hip-to-shoulder width ratio, which could theoretically impact the distribution of intrathecal anaesthetic agents. This study aims to explore the potential correlation between patients hip-to-shoulder width ratio (HSR) and the resulting level of sensory block achieved after administering 0.5% hyperbaric bupivacaine for spinal anaesthesia.

**Materials:** This prospective observational study included 82 term parturients. Preoperative measurement of hip width between highest point of two iliac crest and shoulder width between tip of two acromian process were taken with patients in the sitting position. The level of the sensory block achieved was measured after SA given in lateral position, with loss of cold sensation using alcohol swab. The number of segments blocked were noted from the S5 segment. Correlation between HSR and level of sensory block was calculated using Pearson correlation coefficient.

**Results:** The maximum level of sensory block achieved was T2 with majority of parturients having sensory block of T4 (37%). Among the parturients with HSR > 1, 84.7% had attained sensory block of T4 and higher. This study revealed a significant positive correlation between HSR and the level of sensory block ($r = 0.389$, $p = 0.003$) in term parturients undergoing CS under spinal anaesthesia.

**Conclusions:** Patients with HSR >1 were more likely to achieve a higher level of sensory block compared to those with HSR ≤1.

**Keywords:** Cephalad spread, hip-to-shoulder width ratio, sensory block, spinal anaesthesia

# Perioperative Anaesthetic Management of Polytrauma Patients : Recent Updates and Challenges in A Resource Limited Settings

Bishow Ram Amatya

## Abstract

As per WHO report on global burden of disease, trauma is one of the major cause of death around the world. Every five seconds someone in the world dies as a result of an injury. More than 90% of the world's deaths from injuries occur in low and middle income countries. Management of polytrauma patients has improved over time with timely resuscitation starting from prehospital care, emergency hemodynamic resuscitation, adequate preoperative preparation and stabilization of patient. Role of anaesthesiologists in these patients is proper assessment of airway, breathing, circulation, disability particularly cervical spine stabilization and exposure mainly prevention of hypothermia. Anesthesiologist need to be involved at an early stage on arrival of polytrauma patients in emergency department for airway management, intravascular access with monitoring and suitable peripheral nerve block before transporting to operative room for pain relief. The anaesthetic technique of choice in the perioperative manageent of trauma patients depends on different factors such as neurological status, cardiovascular stability, type and duration of surgery and coagulation status. Regional anaesthesia should be chosen whenever feasible and indicated . Management of hemorrhagic shock should be continued through out the perioperative period with adequate fluid and blood resuscitation. Transfusion ratio of packed cells, plasma and platelet is debatable and should be individualized based upon clinical judgement, type of injuries, type of surgeries, coagulation status and comorbidity. Availability of evidences in adjuncts like tranxanemic acid has been found to be beneficial in outcome. Anaesthesia for polytrauma patients can be challenging but a multidisciplinary approach with proper planning, preparation and communication among the surgeon can help to improve the outcome.

**Keywords:** Anesthesia, Challenges, Polytrauma, Updates

# Persistent Pain after Spine Surgery

Christopher Liu

## Abstract

Throughout the world, the number of spine surgeries have increased dramatically over the last 2 decades. Of which, lumbar fusion surgery has increased most dramatically, with a more than 2 fold increase noted between 1998 and 2008. Although it is hoped that improved surgical techniques can reduce the number of patients with chronic pain after spine surgery, the evidence shows that this problem has not decreased with these improved techniques. Consequently, the number of patients who present with persistent pain after spine surgery has also increased in similar proportions over the last 10 years. Chronic pain after spine surgery can be attributed to many causes including improper patient selection, inadequate surgery, progressive disease and adjacent segment disease. Currently, there are no specific recommendations pertaining to the treatment of chronic pain after spine surgery. Therefore, the treatment is similiar to primary low back pain. Conservative approaches includes medications, physical therapy and psychological treatments when needed. If these fail, a variety of interventional pain techniques can be used to treat these patients. And finally, in some patients, a repeat surgery may be required if a correctable cause is found. In this presentation, we will discuss in detail how to work out the different causes of persistent pain following back surgery and how to treat this condition.

**Keywords:** Adjacent Segment Disease, Back Pain, Failed Back Surgery, Spinal Cord Simulation

# Mallampati in Sitting Versus Supine Position for Prediction of Difficult Intubation

Dipanjali Shrestha[1] , Dr. Pradip Raj Vaidya[2], Dr. Puspa Raj Poudel[3]

[1] MD 2ND YEAR RESIDENT, National Academy of Medical Sciences, Kathmandu, Nepal
[2] Associate Professor, NAMS, Bir Hospital, Kathmandu, Nepal
[3] Assistant Profressor, NAMS, Bir Hospital, Kathmandu, Nepal

## Abstract

**Introduction:** Mallampati grading is generally done in sitting position. However, not every circumstance makes it practical to assess the Mallampati test in this conventional way. If Mallampati test in supine position yields a similar prediction, it could help identify difficult intubation groups, thus, minimizing the possible risks associated with difficult intubation. This study was done to show the predictive power of Mallampati test in supine position, which could be very beneficial in preventing crash intubations or in patients for whom sitting position is not feasible. Materials and methods: A prospective observational study was conducted on 117 patients (ASA I and II) who underwent general anesthesia requiring endotracheal intubation, from March 2023 to February 2024, in Bir Hospital and National Trauma Center, Kathmandu. The preoperative Mallampati test in sitting and supine positions was compared to the Cormack-Lehane grade. Sensitivity, Specificity, Positive & Negative Predictive Values, Accuracy and Kappa agreement were calculated. Results: Out of 117 patients, 23 (19.7%) had difficult intubation. Mallampati III and IV were 35% in supine and 25.6% in sitting position. Sitting position showed Sensitivity of 47.8%; Specificity of 79.8%; Positive Predictive Value of 36.7%; Negative Predictive Value of 86.2%, whereas, Supine position showed Sensitivity of 65.2%; Specificity of 71.3%; Positive Predictive Value of 35.7%; Negative predictive Value of 89.3%. Kappa agreement was 0.248 for sitting and 0.278 for supine position. Higher sensitivity and Kappa agreement of supine position showed that Mallampati in supine is superior to sitting position for predicting difficult intubation. Conclusion: For prediction of difficult intubation, Mallampati in supine position is superior to sitting position and, thus, can be used as an alternative approach or in patients for whom sitting position is not attainable.

**Keywords:** Difficult intubation, Mallampati, Sitting position, Supine position

# Comparative Study in Between Percutaneous Radiofrequency Thermocoagulation of Gasserian Ganglion and Balloon Compression for Idiopathic Trigeminal Neuralgia

**Ekta Rajeswari Thapa**

**MD Anaesthesia, Senior Resident, Department of Anesthesia, Maulana Azad Medical College, Delhi**

## Abstract

**Introduction:** Trigeminal neuralgia is a chronic pain disorder featuring brief episodes of unilateral, and sudden electric shock-like pain, triggered by innocuous stimuli, involving divisions of the trigeminal nerve. Patients suffering from idiopathic trigeminal neuralgia who are resistant to drugs are subjected to treatments like radiofrequency thermocoagulation (RF) and balloon compression (BC). The present study compared the effectiveness of percutaneous balloon compression and radiofrequency thermocoagulation of Gasserian Ganglion in patients with idiopathic drug-resistant trigeminal neuralgia.

**Method:** The present study was conducted on 40 patients aged 18-65 years, diagnosed with idiopathic drug-resistant Trigeminal Neuralgia and underwent Radiofrequency thermocoagulation or Percutaneous balloon compression for pain management. The data obtained was collected and subjected to statistical analysis using IBM SPSS version 20.0 software at a significance level (p-value<0.05).

**Results:** Maximum patients were females, aged between 51-60 years, with right-side involvement. Mean values of vitals and NRS Scores were recorded, and statistically, the relation between both the groups was observed to be significant (p-value<0.05) in relation to all time periods, except the immediate post-operative time period. The intragroup comparison revealed a statistically significant (p-value<0.05) correlation for both group RF and BC. The number of complications in subjects treated with both procedures was also assessed and a statistically significant (p-value<0.05) correlation was observed for both groups RF and BC.

**Conclusion:** The present study revealed that both Radiofrequency thermocoagulation and balloon compression are efficient treatment modalities for trigeminal neuralgia, but both have the risk of complications. However, we found that the results of BC were slightly better than that of RF, although the risk of complications was higher with BC than with RF.

**Keywords:** Pain, Percutaneous ballon compression, Radiofrequency ablation, Trigeminal Neuralgia

# Recent advances in Neuroanesthesia

Harish Kumar

**Abstract**

Cardiac output (CO) is the volume of blood ejected by each ventricle per minute and is the product of stroke volume and heart rate.

• CO can thus be manipulated by alteration in heart rate or rhythm, preload, contractility and afterload.

• Thermodilution method using pulmonary artery catheter (PAC) is till date considered as gold standard method.

Here are various methods of CO monitoring based on

a) Ficks principle

b) Thermodilution

c) Doppler

d) Pulse contour analysis

e) Bioimpedance

An ideal CO monitor should be

1. Minimally or non-invasive

2. Continuous

3. Cost effective

4. Reproducible

5. Reliable during various physiological states

6. Have fast response time

• Methods of CO monitoring are broadly classified as follows

1. Invasive-Intermittent bolus pulmonary artery thermodilution, Continuous pulmonary artery thermodilution

2. Minimally invasive-Lithium dilution CO (LiDCO), Pulse contour analysis CO (PiCCO and FloTrac), Esophgeal Doppler (ED), transesophgeal echocardiography (TEE)

3. Non-invasive-Partial gas rebreathing, Thoracic bioimpedance and bioreactance, endotracheal cardiac output monitor (ECOM), Doppler method and Photoelectric plethysmography

**Keywords:** Cardiac, Monitoring, Output

# Volatile use in induction of anaesthesia

Helena Dunn

**Abstract**

**Introduction:** With anaesthetic gases making up 5% of the carbon footprint of NHS acute Hospitals4, action needs to be done to minimise the impact whilst maintaining patient safety. Sevoflurane is a widely used anaesthetic gas within St Helens and Knowsley Trust (STHK) for induction and maintenance of anaesthesia. Induction of anaesthesia is a time when high flows are used but they may not necessarily be contributing towards patient anaesthesia. This waste also contributes to economic losses.

**Aim:** To gain an understanding of the use of volatiles by anaesthetists in STHK during induction of anaesthesia and intubation in order to estimate the impact of gases wasted.

Method: An anonymous survey sent to all practising anaesthetists at STHK questioning their practice with volatiles during RSI and normal induction for intubation.

**Results:** Overall there were 24 responses to the survey. 29% of anaesthetists had their sevoflurane on during an RSI, on average at 3.4% with a flow of 8.94L/min. 20.8% also had their volatile on to intubate during an RSI. For a normal induction 91.7% had sevoflurane on whilst awaiting muscle relaxation to work, 8 of these 22 anaesthetists then turned the volatile off to intubate.

**Conclusion:** To make an estimate at "wasted" volatiles we can use our data alongside the Anaesthetic gas calculator, created by Tom Pierce, to calculate CO2 emissions2. During an RSI with an assumed average intubation of 33 seconds1, the wasted sevoflurane at 3.4% with flow of 8.94 l/min over 1 minute and 33 seconds would result in 565.75g of CO2. Using national UK estimates of petrol car travel, this is equivalent to 2.63 miles per RSI3. When delivering a normal induction, sevoflurane is "wasted" only during intubation. If the average practitioner has their sevoflurane at 3.4% at flows of 8.64 L/ min this is equivalent to 174g of CO2 over 33 seconds. This is equivalent to 0.8 miles in an average petrol car.

**Keywords:** Cardiac, Monitoring, Output

# Recent Advances in Neuroanesthesia

Hemanshu Prabhakar

**Abstract**

The practice of neuroanesthesia has expanded significantly in recent years. This has largely been due to improved technologies in neurosurgery. Some of the technological advancements include, Intraoperative use of CT scans and angiograms for vascular neurosurgery, Magnetic resonance imaging, neuronavigation, Minimally invasive neurosurgery, neuroendoscopy, Stereotaxy and performance of increasingly complex procedures. Therefore, neuroanesthesia as a specialty had to improve to cater to the needs of the advancing technologies and at the same time facilitating good patient outcomes.

A great interest has been regenerated in the recent years, on the use of ketamine in neurosurgical and neurological patients. Ketamine is now being used in the management of refractory status epilepticus. It's role as neuroprotectant has also been explored in patients with subarachnoid hemorrhage and traumatic brain injury.

Dexmedetomidine is being popularly used in clinical practice now, both in operation theatres and intensive care unit. Dexmedetomidine is proving to be a promising alternative to opioids and remains an important component of the 'opioid free anesthesia' techniques.

Awake craniotomies are becoming very popular and dexmedetomidine is commonly used for these surgeries.

Procedures like carotid endarterectomy and spine surgeries are being carried out under regional anesthesia techniques. The concept of enhanced recovery after surgery (ERAS) is also being practiced in specific cases now in neurosurgery. Anesthetic techniques have been suitably modified to allow intraoperative neuromonitoring, intraoperative magnetic resonance imaging and stereotactic procedures.

Neuroanesthesia techniques have now gradually evolved with advancement of neurosurgical practice. The techniques are safe to provide maximum patient comfort and a favourable outcome.

**Keywords:** Dexmedetomidine, Stereotaxy, Neuroanesthesia

# Epidural Blood Patch for Post-Dural Puncture Headache: A Clinical Experience at Nepal Mediciti Hospital

Hemant Adhikari

**Abstract**

Headaches following dural puncture, known as post-dural puncture headache (PDPH), can result from either accidental dural puncture during epidural procedures or intentional puncture in neuraxial techniques such as lumbar puncture or spinal anesthesia. Epidural Blood Patch (EBP) is a well-established procedure utilized in the management of post-dural puncture headache (PDPH). Nepal Mediciti Hospital implemented EBP as a treatment modality for patients experiencing severe PDPH, primarily aiming to alleviate debilitating symptoms and improve patient outcomes.

Out of a total of 27,085 cases documented between 2019 and 2023, 9,480 underwent central neuraxial blockade. Among these cases, there were 190 instances where management for Post-Dural Puncture Headache (PDPH) was necessary. Within this subset, five cases required an Epidural Blood Patch (EBP). All five cases were attributed to accidental dural puncture during labor epidural placement. One case was referred from another medical facility for EBP and had initially undergone a diagnostic lumbar puncture. Another case involved a patient who had undergone multiple surgeries and experienced PDPH, seeking EBP prior to air travel. Following EBP, all 7 cases experienced immediate pain relief and did not encounter further complications during long-term follow-up.

Our experience at Nepal Mediciti Hospital underscores the efficacy and safety of EBP in managing PDPH. By adhering to established protocols, ensuring procedural precision, and adopting a multidisciplinary approach, EBP is a valuable intervention in alleviating post-dural puncture headache and improving patient well-being.

**Keywords:** Accidental Dural Puncture, Epidural blood Patch(EBP), Post dural puncture headache (PDPH)

# Brain Heart Crosstalk

Indu Kapoor

**Abstract**

The interaction of brain and heart during an acute brain injury emerges in a very prominent way irrespective of the etiology. The etiology could be subarachnoid hemorrhage, traumatic brain injury, seizures disorders or even the central nervous system infections. These patients experience the cardiovascular abnormalities following acute brain injury. These abnormalities include clinical manifestations, electrocardiographic changes as well echocardiographic findings. This condition is known as Neurogenic Stress Cardiomyopathy. The most popular and accepted mechanism responsible for these cardiovascular findings in these patients is surge of plasma and blood catecholamine levels. The catecholamine levels sometimes remain elevated for days in these patients. Most of the times, the neurogenic stress cardiomyopathy is transient and self-limiting, resolves on its own in few days. However, that doesn't mean that these patients do not require monitoring. Studies have observed that even with single elevated biomarker level or isolated electrographic finding, patient could have worst outcome. Sometimes course itself is very dynamics associated with hemodynamic disturbances, arrhythmias, decreased cardiac output, and even cardiac arrest. For the treatment options, beta blockers are the commonest drug used to treat sympathetic surge in these patients. Other options include inotropes like milnirone, dobutamine and levosimendan for maintaining perfusion and decrease cardiac output. The future promising drugs include dexmedetomidine, magnesium and oestrogen therapy

**Keywords:** Brain, Heart, Etiology

# Comparison Between Intranasal Dexmedetomidine and Midazolam as Premedication in Children Undergoing General Anesthesia

Janak Raj Pokharel

**Abstract**

**Introduction:** Children undergoing surgery develop intense anxiety and fear in the preoperative period. It can be stressful for children and their parents. It has several negative impacts on anesthesia management. Therefore, to reduce anxiety and prevent postoperative psychological and behavioral changes and to allow smooth induction, the children should be premedicated. Various drugs and routes of administration have been evaluated to reduce the incidence of preoperative anxiety. Intranasal Dexmedetomidine seems to be better alternative to Midazolam to provide sedation and allay anxiety in children. We are conducting this study to compare the effects of intranasal Midazolam and intranasal Dexmedetomidine as a premedication in children for surgical procedures under general anesthesia.

**Methods:** This is a prospective, comparative, observational study. 92 children, aged 2-6years scheduled for elective surgery under general anesthesia were enrolled. They were divided into two groups having 46 children in each groups. Group D (Dexmedetomidine) received intranasal Dexmedetomidine (1mcg/kg) and group M (Midazolam) received intranasal Midazolam (0.2mg/kg), 45 minutes prior to surgery. After the instillation of drugs, vitals, sedation score and anxiety score was monitored every 5 minutes for 45 minutes. Then sedation score, anxiety score, parental separation score, Mask acceptance, hemodynamic and respiratory parameters were compared between two groups.

**Results:** The Sedation score was lower in the Dexmedetomidine group ($P<0.05$), lower anxiety levels ($P <0.05$) than children who received intranasal Midazolam. Child-Parental separation was satisfactory in 98% of children in Group D compared with 79 % in Group M ($P = 0.042$). Mask acceptance was significantly better in group D (98% vs 74%, $p<0.05$) at the time of induction than Group M.

**Conclusion:** Intranasal Dexmedetomidine was associated with lower sedation levels, lower anxiety levels, and easier child–parent separation compared to children received intranasal midazolam.

**Keywords:** Dexmedetomidine, Intranasal, Midazolam, Premedication

## Endoscopy Anesthesia Management

**Jingping Wang**
**Boston, USA, Massachusetts General Hospital, Harvard Medical School, USA., 55 Fruit St, Boston, MA 02114**

**Abstract**

Endoscopy plays a crucial role in diagnosing and treating gastrointestinal disorders, with the U.S. performing 6 million upper gastrointestinal and 11 million colonoscopies annually, aiding in the detection of 266,600 new gastrointestinal and 150,000 colorectal cancer cases, resulting in 194,300 related deaths. Screening guidelines recommend starting at age 45, with colonoscopies every 5 years. ERCP, flexible sigmoidoscopy, and upper gastrointestinal endoscopic ultrasound contribute significantly, totaling 310,000, 180,000, and 170,000 procedures yearly, respectively. Procedures range from common Esophagogastroduodenoscopy (EGD) to intricate ERCP techniques. Sedation and anesthesia levels are customized to patient needs and procedural demands, ensuring comfort and success. Recent studies emphasize effective sedation protocols, particularly using propofol, ketamine, and fentanyl combinations, notably in ERCP and colonoscopy, where fentanyl demonstrates superior analgesic properties. This lecture aims to elucidate the current status of endoscopy anesthesia management and its safe administration. In summary, endoscopy in the U.S. evolves with technological advancements and tailored sedation protocols, augmenting diagnostic accuracy and patient comfort. Understanding these trends is paramount for optimizing gastrointestinal healthcare delivery and improving patient outcomes.

**Keywords:** Anesthesia Management, Colonoscopy, Endoscopy, Esophagogastroduodenoscopy, Sedation

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## Perioperative Management of Cancer Patients

**Jyotsna Goswami**
**Senior Consultant & Head of Department of Onco-Anesthesia Tata Medical Center, Kolkata 700160**

**Abstract**

Surgical outcome depends on not only on surgical skill, but also on perioperative management. More so, in cancer patients, as, cancer surgery is usually one part of total cancer care pathway. Many a time the cancer patients had to undergo neo-adjuvant chemotherapy (NACT) or radiotherapy before surgery and/or adjuvant chemotherapy (CT) after surgery. There may be significant deconditioning due to the disease itself, associated comorbidities, poor nutrition, chemotherapy etc., which lead to postoperative complications and delayed recovery that deters the patient to have adjuvant CT on time leading to poor cancer outcome.

Enhanced Recovery after Surgery (ERAS) is an initive which typically includes several components spanning from preoperative, intraoperative to postoperative period. Preoperative components include preoperative patient counselling, preoperative optimization, prehabilitation, avoidance of an abdominal drain and naso-gastric or jejunal decompressive tube. Postoperatively early feeding, early stoppage of intravenous fluids, early removal of catheters, adequate analgesia and early mobilization are important. It has been seen, bringing all these components into practice in coordinated fashion, yields better surgical and oncological outcome. We shall discuss the perioperative management of a cancer patient in detail.

**Keywords:** Management, Outcome, Perioperative, Surgery

# Intra Hospital Transportation of Critically Ill Patient

**Kalpana Kharbuja**
**Critical Care Fellow, Dhulikhel Hospital Kathmandu University Hospital**

**Abstract**

The transportation of critically ill patient with in hospital poses persistent challenge. Intra hospital patient transfer is still necessary for admission to ICU from different departments and for diagnostic procedures as CT, MRI , angiography, and for treatment in operating room. Critically ill patient often have many medical conditions so many adverse events happens during transfers, requiring specialized equipment and constant monitoring. Around 10% of patients had adverse events, while in the literature the incidence varies from 3 to 75%. Moving them safely while maintaining medical stability is very complex. Adequate and trained medical personnel are vital factors during transfer to address potential consequences and manage accordingly. Careful planning, well trained staff and adherence to established protocol is essential to ensure safety and well being of critically ill patient during intra hospital transportation.

**Keywords:** Critically ill, Safety, Transportation

# Correlation of Left Sided Double-Lumen Tube Size by Conventional Method and Ultrasonographic Sub-Glottic Diameter Measurement

**Manish Gupta**

**Senior Consultant & Head of Department of Onco-Anesthesia Tata Medical Center, Kolkata 700160**

## Abstract

**Introduction:** Lung isolation techniques are essential for achieving one lung ventilation using Double Lumen Tube (DLT) for various surgical procedures. Conventional method of using height and sex is inefficient in determining appropriate size. It is crucial to adopt an individualized approach for selecting DLT size to avoid risk of laryngeal or bronchial trauma. This study aims to investigate correlation between size of left-sided DLT, as determined by ultrasonographic (USG) measurement of sub-glottic diameter, and the conventional method of selection.

**Methods:** A prospective, observational study among 33 adults undergoing elective thoracic surgery with lung isolation by DLT intubation were enrolled. Patients with history of tracheostomy, tracheal deviation, any tracheal or neck surgeries, presence of neck mass and difficult airway were excluded from the study. Subglottic diameter of trachea at cricoid level was measured by USG and size of DLT predicted. DLT size used according to conventional method and its accuracy was observed. The correlation of size of DLT between two methods was analyzed.

**Results:** The DLT size predicted by USG measurement and conventional method resulted in moderately strong positive correlation with Spearman correlation coefficient(r) 0.625 ($p<0.001$). The accuracy of the conventional method was 48.5% whereas remaining 51.5% were either undersized (21.2%) or oversized (30.3%).

**Conclusions:** Ultrasonographic measurement can be an alternative method to select size of DLT individualized to each patient, thereby minimizing risk associated with inappropriately sized DLT.

**Keywords:** Double lumen tubes, Subglottic cricoid diameter, USG measurement

# Ethics in Anaesthesia Practice

**Manjusha Shah**

**Senior Consultant & Head of Department of Onco-Anesthesia Tata Medical Center, Kolkata 700160**

**Abstract**

Anaesthesia is the medical speciality concerned with the total perioperative care of patients before, during and after surgery. It encloses anaesthesia, intensive care medicine, critical emergency medicine, and pain medicine.

Extant legislation, professional and societal ethics provide fundamental guidance to professionals in practising their profession. Legal rules are enforced by courts of law whereas rules of ethics are enforced by professional bodies like the Medical Council of India ( National Medical Commission).

Every anaesthesiologist must have some knowledge of law and ethics in order to protect himself/herself from avoidable litigation or disciplinary action.

It's very important to explore some of the principal guidelines that regulate medical ethics. The role of informed written consent is vital in safeguarding the patient as well the doctor's interests. Medical records document which includes patient's history and details of the procedure and are the only means to settle disputes as they provide legitimate, real-time and accurate details of events that have occurred in the past. Anaesthesiologists should keep confidential patients' medical and personal information. Anaesthesiologists should provide preanesthetic evaluation and care and should personally provide or participate in the process of informed decision-making, especially regarding the choice of anaesthetic technique.

Teaching ethics to medical students is one of the current topics of major interest. Issues of ethics pertaining to anaesthesia are unique with respect to the preoperative, intraoperative, and postoperative periods.

**Keywords:** Medical records, informed written consent, rules of ethics

# Congenital Ranula: A Real Airway Challenge in Pediatrics.

Mukesh Paudel[1], Krishna Bhattarai[2]

**MD Resident, 2nd year, Department of Anesthesiology and Intensive Care,**

**Assistant prof, Department of Anesthesiology and Intensive Care, Kanti**

## Abstract

Congenital ranulas are retention cysts or pseudocysts arising from the floor of the mouth. They are extremely rare with a reported incidence of 0.74%. As intraoral swellings, they present a unique challenge in bag and mask ventilation as well as in securing airway due to difficulty in laryngoscopy and danger of rupture of the swelling leading to spillage of contents and bleeding. Here a case of congenital ranula in an infant is reported with anticipated difficult ventilation and intubation. A case of 5 months female presented with swelling since birth on undersurface of tongue progressively increasing over time and not associated with feeding difficulty. Oral examination showed globular mass with dimension of approximately 4cm × 4.5 cm on undersurface of tongue covering entire mouth opening. However, a mouth opening of approximately 0.5cm could be seen on crying. The case was planned for marsupialization under general anesthesia with necessary preparation for difficult airway including videolaryngoscopy. Cricothyroidotmy was fail safe plan in case of inability to intubate. However the patient could be intubated by conventional laryngoscopy in first attempt with no adverse event in intra operative and post-operative period. Airway management of a case of congenital ranula can be a real nightmare for anesthesiologists. A stepwise planning and preparation is essential in management of such cases.

**Keywords:** Intubation, laryngoscopy, Ranula, Ventilation

# Assessment of Knowledge & Retention of Skills of First year MBBS Students After Basic Life Support Training as Assessed by Questionnaire and Directly Observed Procedural Skills Score Over One Year

**Navneh Samagh**

**Associate Professor, Dept of Anesthesiology, AIIMS Bathinda**

## Abstract

**Introduction:** It is currently uncertain how training in improvisational skills would affect the retention of Basic Life Support (BLS) abilities after one year. This study was designed to assess the knowledge and retention of skills of first year MBBS students over 1 year after BLS training.

**Methods:** Hundred first-year MBBS students participated in the study. They underwent a BLS training session followed by hands-on training on mannequins. Their knowledge was assessed using a pre-test, and a post-test questionnaire before and after the lecture. The skills were evaluated using Directly Observed Procedural Skills (DOPS) score before and after hands-on training and again after one month, six months, and one year after BLS training. A course feedback was also taken from the students after completion of their lecture and hands-on training.

**Results:** There was a statistically significant difference between pre-and post-test knowledge scores that indicates that BLS training improved the knowledge related to BLS. ($p< 0.001$) There was a statistically significant difference between pre-and post-test skills using DOPS ($p<0.001$). There was no significant difference in the score when DOPS was conducted at 1 month, but a significant decrease in their mean scores was seen at 6 months and 1 year when compared with Post Skill Score. ($P<0.001$) This decay reflected the need to repeat the training at periodic intervals to reinform retention of skills acquired during BLS training.

**Conclusion:** The first-year medical students' knowledge and skills appeared to be enhanced by BLS training coupled with practical sessions.

**Keywords:** Basic life support, Directly Observed Procedural Skills, MBBS

# Epiglottic Cysts: An Uncommon Cause of Difficult Intubation and Management Alternatives

**Nischal Babu Neupane**

**Senior Consultant & Head of Department of Onco-Anesthesia Tata Medical Center, Kolkata 700160**

## Abstract

An epiglottic cyst is a rare and often unrecognized cause of adult airway obstruction. Mostly they are asymptomatic but their clinical manifestations may vary based on size and anatomical location. Both symptomatic and asymptomatic cysts cause difficulty in mask ventilation and endotracheal intubation. Symptomatic cyst with definitive diagnosis have enough time for planning and preparation but asymptomatic undiagnosed case is more dangerous resulting unanticipated difficult airway. Here we reported one diagnosed and other undiagnosed case of epiglottic cyst with difficult endotracheal intubation.

A case of 62-year-old male, presented with a foreign body sensation in throat and difficulty in swallowing without any other significant symptoms. All preoperative examinations and non-invasive airway assessments were normal. Nasopharyngolaryngoscopy showing pedunculated mobile, smooth cystic mass (3cm x 2.5 cm) on lingual surface of epiglottis protruding into laryngeal introitus. Removal of epiglotic cyst under general anesthesia was planned with arrangements made for emergency tracheostomy. Patient was preoxygenated by using high-flow nasal cannula. Despite attempts at awake fibro-optic intubation proving unsuccessful, a decision was made to proceed with tracheostomy.

Other case, 36-year-old female scheduled for laparoscopic cholecystectomy was incidentally found to have an epiglottic cyst (2cm × 2cm) during direct laryngoscopy. Preoperative non-invasive airway assessment were unremarkable. Intubation posed unexpected difficulty and was achieved using a bougie.

Epiglottic cysts are uncommon but can pose a considerable challenge during intubation, demanding precise airway management decisions by anesthesia providers. Collaboration among multiple disciplines and precise decision making is beneficial for ensuring effective airway management in such cases.

**Keywords:** Airway assesssment, Difficult airway, Endotracheal intubation, Epiglottic cyst

# Thoracic Segmental Spinal Anesthesia for Laparoscopic Cholecystectomy

Bajracharya N R[1], Joshi P, Neupane[1] B, Shrestha R[1], K C M[2], Bhatta P[2], Parajuli B D[1]

[1] Department of Anaesthesiology, Maharajgunj Medical Campus, Tribhuvan University Teaching, Hospital, Institute of Medicine, Kathmandu, Nepal

[2] Department of General Surgery, Maharajgunj, Medical Campus, Tribhuvan University Teaching Hospital, Institute of Medicine, Kathmandu, Nepal

## Abstract

Laparoscopic cholecystectomy, a commonly performed surgical procedure, is typically conducted under general anesthesia. However, in cases where general anesthesia poses risks, particularly in patients with comorbidities like Chronic Obstructive Pulmonary Disease (COPD), alternative approaches are sought. Thoracic segmental spinal anesthesia has emerged as a potential alternative to traditional methods like lumbar spinal anesthesia with thoracic epidural. In this case report, we present the successful management of laparoscopic cholecystectomy in a 74-year-old female with COPD using thoracic segmental spinal anesthesia. Pre-operative assessment, including COPD status and medication history was conducted, and spinal anesthesia was administered at the T8-T9 level. The patient achieved adequate sensory and motor blocks, and oxygen supplementation was provided throughout the surgery. Monitoring of vital signs ensured patient safety. Discussion encompasses the safety and efficacy of thoracic segmental spinal anesthesia compared to general anesthesia or lumbar spinal anesthesia, citing relevant studies. Concerns regarding respiratory muscle paralysis, pneumoperitoneal pressure control, and patient satisfaction are addressed.

# Symptomatic Cholelithiasis with Temporary Pacemaker Insertion for Sick Sinus Syndrome prior to OT.

Pankaj Dhungana

PGYII, TUTH, Maharajgunj

**Abstract**

**Clinical Case:** A 69years female presented with complains of right upper quadrant pain for 2 months and on further evaluation was found to have symptomatic cholelithiasis. Before induction of anesthesia the patient developed sinus bradycardia without any symptoms and was resistant to atropine 0.6mg. The surgery was postponed for further cardiac evaluation. Later she was diagnosed to have sick sinus syndrome so temporary pacemaker insertion was done prior to surgery. The surgery was planned under GAETT. The procedure was uneventful. Laparoscopic surgery causes significant hemodynamic changes after gas insufflation and patient positioning. Hemodynamic instability may also be caused by anesthetic drugs. So patient with Sick Sinusmay not be able to compensate for those changes during surgery.

# Hypercoagulability in End-Stage Liver Disease, What we Need to Know as Anesthesiologist?

Pankaj Joshi

**Abstract**

End-stage liver disease (ESLD) has been recognized as a prototype of coagulopathy, with patients considered to be at heightened risk of bleeding. Though these patients are thought to be auto-anticoagulated and have a lower risk of thrombotic events, actually it is not so. Rather some subsets of people with ESLD like autoimmune hepatitis, non-alcoholic steatohepatitis, hepatocellular carcinoma, etc. have an increased risk of portal vein thrombosis, deep vein thrombosis, pulmonary embolism, or hepatic artery thrombosis. Although the etiology of hypercoagulability in ESLD is complex, endothelial dysfunction is believed to play a pivotal role in all patients.

Drugs like low molecular weight heparin, unfractionated heparin, aspirin, Vit K antagonist, and direct oral anticoagulants have been used in prophylaxis and treatment of clotting in ESLD, but there is a lack of clear guidelines. As anesthesiologists, we need to identify such patients who are at increased risk of developing thrombosis as acute perioperative clotting in ESLD patients can be associated with graft failure and high mortality. Routine use of transesophageal echocardiography can aid in early recognition and treatment of intraoperative thrombosis. Heparin is recommended for cases of intracardiac thrombus or pulmonary embolism without hemodynamic instability, while low doses of recombinant tissue plasminogen activator can be considered in unstable patients

**Keywords:** End-stage liver disease, Hypercoagulability, Thrombosis

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# Anesthesia and Neurodevelopment in the Pediatric Population

**Parbesh Kumar Gyawali**

**Anesthesiologist, Chitwan Medical College, Bharatpur -10**

## Abstract

The impact of anesthesia on neurodevelopment in pediatric patients has been a topic of considerable research and debate in recent years. Understanding the potential effects of anesthesia on the developing brain is crucial for anesthesiologists and pediatric healthcare providers. In this presentation, we talk in depth into the intricate relationship between anesthesia and neurodevelopment in pediatric patients. Beginning with an overview of the significance of understanding this connection, we navigate through the evidence and debates surrounding anesthesia-induced neurotoxicity, drawing from both animal models and clinical studies. We explore the various factors influencing neurodevelopmental outcomes, including age, duration, and type of anesthesia, as well as patient-specific considerations such as pre-existing medical conditions. Through a balanced discussion, we address the challenge of balancing the necessity of surgical interventions with potential neurodevelopmental risks, offering insights for clinicians to optimize practice. Finally, we identify research gaps and future directions, advocating for continued collaboration and exploration in this critical area of pediatric anesthesia.

**Keywords:** Cognitive Outcomes, Neurodevelopment, Neurotoxicity, Pediatric Anesthesia

# Surgical Abortion

**Peter Mancini**
**Yale University, New Haven, Connecticut, USA**

## Abstract

In 2019, nearly 630,000 abortions were reported in the United States. 79.3% of these abortions were performed before 9 weeks gestation, and most were medical abortions. Surgical abortion is generally necessary beyond 9 weeks. In the United States, the vast majority are of these cases are performed before 13 weeks (92.7%). Abortions beyond 13 weeks are less common, and those performed beyond 20 weeks are unusual (1.1%). However, given the frequency of abortion care, this small percentage of cases in the second trimester represents many patients. Abortion is a safe procedure, but serious complications occur, and safe anesthesia care is vital to avoiding preventable morbidity and mortality.

In 2018, the Society of Family Planning (United States) did a comprehensive review of a large body of excellent evidence and published clinical guidelines for surgical abortion performed under local anesthesia and minimal sedation. That evidence will be reviewed in this talk.

A small fraction of surgical abortions is performed later in the second trimester. These cases often involve complicated maternal or fetal co-morbidities. In 2021 the Society for Family Planning provided additional guidance for these more challenging cases that typically require general anesthesia. However, the evidence that does exist is not as widely understood. The evidence will be reviewed in this talk, along with a discussion of the speaker's experience providing anesthesia for complex surgical abortion at Yale-New Haven Hospital.

**Keywords:** Abortion, Anesthesia, Deep sedation, Pregnancy

# Assessment of the Change in Right Internal Jugular Vein Diameter and Cross-Sectional Area with Right Upper Limb Tourniquet Application

Poojan Kaphle[1], Subhash P. Acharya[2], Ninadini Shrestha[1], Ritesh Lamsal[1]

[1] Department of Anaesthesiology, Maharajgunj Medical Campus, IOM, TU
[2] Department of Critical Care Medicine, Maharajgunj Medical Campus, IOM, TU

## Abstract

**Introduction:** The catheterization of the internal jugular vein is facilitated by increasing the diameter and the cross-sectional area of the vein. One of the suggested methods to increase the cross-sectional area of the internal jugular vein is by tourniquet application.

**Methods:** In this prospective, observational study 52 adult patients undergoing elective surgeries requiring central venous cannulation insertion were included. The right arm was kept in abducted position; tourniquet was applied and inflated to 50 mmHg above the systolic pressure as described by Karaaslan 1. The right internal jugular vein diameter and cross-sectional area were measured thrice at the triangle formed by the clavicle and the two ends of the sternocleidomastoid muscle at the level of the cricoid cartilage during the patient's expiration and recorded. The mean of the three observations were used for analysis.

**Results:** The mean ± standard deviation diameters of the internal jugular vein with and without tourniquet application were 0.98 ± 0.36 cm and 0.84 ± 0.27 cm, respectively. The difference was statistically significant ($p < 0.05$). The mean ± standard deviation cross-sectional area of the internal jugular vein without tourniquet application was 0.94 ± 0.49 cm2 and it increased to 1.21 ± 0.68 cm2 with tourniquet application and was statistically significant ($p < 0.05$).

**Conclusion:** Application of right upper limb tourniquet helps in increasing right internal jugular vein diameter and cross-sectional area.

**Keywords:** Internal jugular vein cross-sectional area

# Accuracy of Ratio of Height to Thyromental Distance in Predicting Difficult Visualization of Larynx: A Prospective Observational Study

Pragya Shrestha,[1] Binita Acharya,[1] Priska Bastola,[2] Arjun Gurung[2]

[1] Department of Anaesthesiology, Tribhuvan University Teaching Hospital (TUTH)
[2] Department of Cardiothoracic and Vascular Anaesthesiology, Manmohan Cardiothoracic Vascular and Transplant Center (MCVTC).

## Abstract

**Introduction:** Unexpected difficult laryngoscopy or difficult intubation is a significant contributing cause in anaesthesia-related morbidity and mortality. Several anthropometric measurements have been proposed to identify potentially difficult airways for reducing the risk related to difficult airway. We aimed to evaluate the accuracy of Ratio of Height to Thyromental distance to predict difficulty in the visualization of the larynx in patients undergoing elective surgery under general anaesthesia.

**Methods:** A double-blinded, prospective, observational study was performed on ninety-four, American Society of Anaesthesiologists Physical Status I and II patients scheduled for elective surgery requiring general anaesthesia. Preoperative assessments of Ratio of Height to Thyromental distance and other airway assessments were performed which were correlated with Cormack-Lehane laryngoscopic grading. The sample size calculation was done in R programming language with the 'pROC' package. The sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of Ratio of Height to Thyromental distance were then estimated.

**Results:** The incidence of difficult laryngoscopy, defined by Cormack-Lehane grade 3 and 4 was 5.3% and sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of Ratio of Height to Thyromental distance were 40%, 98%, 50%, 97% & 94% respectively.

**Conclusion:** Ratio of Height to Thyromental distance can be used as a bedside preoperative test for predicting difficult laryngoscopy with higher specificity, negative predictive value, and accuracy.

**Keywords:** Airway management, Cormack-Lehane grade, Endotracheal intubation, Ratio of height to thyromental distance.

# Evolving Trends in Regional Anesthesia: Advancements in Techniques, Safety Measures and pain services.

**Prajjwal Raj Bhattarai**

**Principle Consultant, Nepal Mediciti Hospital, Nakhkhu Ukalo Road, Nakhkhu Patan, 44600**

## Abstract

Evolving Trends in Regional Anesthesia: Advancements in Techniques, Safety Measures and pain services. Abstract: Anesthesiologists are exploring recent advancements in regional anesthesia, focusing on ultrasound-guided procedures for central neuraxial block, intracluster and intertruncal injections, fascial plane block technique, diaphragm-sparing blocks, and segmental spinal anesthesia. These techniques offer precise localization and enhanced safety, improving patient outcomes. Novel approaches for prolonging regional analgesia duration are in discussion, offering potential benefits for postoperative pain management. Integration of acute and chronic pain management services into regional anesthesia practices is emphasized, highlighting comprehensive pain care throughout the perioperative period. Advancements in promoting the safety of regional anesthesia, including advanced monitoring techniques and protocols mitigate risks. We should identify areas for further research and development, emphasizing the need for continued innovation and exploration of new techniques and technologies. The insights into the evolving landscape of regional anesthesia practice provide showcasing recent developments, safety measures, and avenues for future research, with the goal of enhancing patient outcomes and advancing pain management services.

**Keywords:** Regional anesthesia, Pain management services, Safety procedures.

# Challenges in Paediatric Ophthalmic Anaesthesia: Overview from Tilganga Eye Hospital

**Prakriti Pokhrel**

**Consultant Anesthesiologist, Tilganga Institute of Ophthalmology, Gaushala, Kathmandu, Nepal**

## Abstract

Tilganga Institute of Ophthalmology serves as a tertiary eye hospital, extending vital services to underprivileged populations in Nepal and Southeast Asia. Particularly, it attends to children and infants in need of ophthalmic surgery from birth onwards. Administering general anesthesia to pediatric patients undergoing eye procedures presents unique challenges, necessitating tailored approaches to anesthesia. Factors such as intraocular pressure management, oculo-cardiac reflex, ocular trauma, postoperative nausea and vomiting, malignant hyperpyrexia, syndromes, and analgesia demand careful consideration. While many pediatric ophthalmology cases involve otherwise healthy children eligible for day surgery, some children may exhibit eye pathology as part of congenital disorders. Thus, perioperative plans must be meticulously devised, aligning with the specific surgical requirements of each procedure. Given the prevalence of ophthalmic conditions requiring surgery among children in our region, our focus extends beyond intraoperative care to include comprehensive neonatal support for the growing numbers of premature and ex-premature infants undergoing eye surgeries.

**Keywords:** Eye Surgery, Pediatric Anesthesia

# Hyperthermic Intraperitoneal Chemotherapy (HIPEC) - Anaesthetic Challenges

**Prashant Sirohiya**

**Assistant Professor, Onco-Anaesthesia and Palliative Medicine National Cancer Institute, AIIMS New Delhi**

## Abstrac

This presentation aims to delve into the intricate anaesthetic challenges associated with Hyperthermic Intraperitoneal Chemotherapy (HIPEC), a groundbreaking treatment modality for peritoneal carcinomatosis. As the field of oncology continues to advance, HIPEC has emerged as a promising therapeutic option, but its administration requires a nuanced understanding of the associated anaesthetic complexities.

I plan to address key issues such as patient selection, preoperative assessment, perioperative management, and postoperative care. By exploring these challenges, my presentation aims to provide valuable insights to fellow practitioners, fostering a comprehensive understanding of HIPEC from an anaesthetic perspective.

Given the relevance and significance of this topic in the current medical landscape, I believe that it aligns well with the themes of the SANCON conference. Sharing experiences, insights, and best practices in this domain can contribute to the collective knowledge of the medical community, ultimately enhancing patient care.

I am confident that my presentation will be a valuable addition to the conference program, offering attendees a unique opportunity to gain insights into the anaesthetic considerations associated with HIPEC. I am excited about the prospect of contributing to SANCON and am committed to delivering a presentation that engages and informs the audience.

Thank you for considering my submission. I look forward to the opportunity to share my knowledge and experiences with the esteemed participants at SANCON.

**Keywords:** Chemotherapy, HIPEC, Hyperthermic Intraperitoneal Chemotherapy, Peritoneal Carcinomatosis, Sugarbaker

# Thoracic Continuous Spinal Anaesthesia for Major Abdominal Surgery

**Praveen Talawar**

**Additional Professor, Department of Anaesthesiology AIIMS, Rishikesh**

## Abstrac

Major abdominal surgeries are routinely performed under general anaesthesia (GA), which is associated with many complications like; polypharmacy, increased recovery time, confusion, increased hospital stay, decreased mobility after surgery leading to deep vein thrombosis, atelectasis, post-operative respiratory complications, nausea and vomiting. These complications further increase with increasing co-morbidities.

Enhanced recovery after surgery (ERAS) or 'fast-track' surgery pathways have been developed to address these issues and to accelerate recovery. The ERAS protocols are an evidence-based multimodal perioperative protocol focused on stress reduction and the promotion of a return to function, proven to decrease the recovery time and postoperative complications.

Regional anaesthesia (RA) in the form of thoracic epidural anaesthesia (TEA) to decrease pain is one of the major components of ERAS protocols in patients undergoing major abdominal surgery. The advantages of RA can include; prevention of airway manipulation, an awake and spontaneously breathing patient intraoperatively, minimal nausea and vomiting, effective post-operative analgesia, and early ambulation and recovery. Regional anaesthesia (RA) as a sole anaesthetic along with GA for major abdominal surgeries carries many beneficial effects in terms of morbidity.

The thoracic continuous spinal anaesthesia (TCSA) using catheters in subarachnoid space provides better control of the block height, along with hemodynamic and respiratory stability with a minimal dose of local anaesthetic drugs, which has many advantages over GA, epidural and combined spinal epidural anaesthesia. The TCSA has recently gained renewed interest, especially in elderly patients with comorbidities.

**Keywords:** Continuous Spinal Anaesthesia, Major abdominal surgery, Regional anaesthesia, Spinal Anaesthesia, Thoracic Spinal Anaesthesia

# Anaesthetic Management of a Case of Dilated Cardiomyopathy with Low Ejection Fraction with HTN, T2DM and COPD for Laparoscopic Nephroureterectomy.

**Priyanka Dahal**

**PGY II Resident, Department of Anaesthesiology, MMC, TUTH**

## Abstrac

Dilated Cardiomyopathy is a disease of myocardium characterised by impaired systolic function and dilatation of the left and right ventricles. Patients with DCM undergoing a non-cardiac surgery present a huge challenge for anaesthesiologists. These patients are at a risk of developing congestive heart failure, arrhythmias and embolic events. Other comorbidities further add up to the risks of post operative morbidity and mortality.

**Clinical case:** A 68 years old female with known case of HTN, T2DM, COPD and DCM with NYHA III and METS <4 was diagnosed with left renal pelvis mass. ECG showed LBBB, echocardiography findings were noted as global left ventricular dyskinesia with LVEF 20-25%. The case was planned for laparoscopic left nephroureterectomy under general anaesthesia. Intraoperative real time echocardiography pre and post induction of general anaesthesia was done to assess post induction changes in systolic function. The case was monitored with standard ASA monitoring and maintained under balanced anaesthesia along with dobutamine and noradrenaline support. Extubation was done smoothly and the patient was shifted to ICU for hemodynamic monitoring.

**Conclusion:** Anaesthetising patients with DCM is challenging. The main goal must be focused on assessing the patient's pathophysiology, clinical status, perioperative strict cardiovascular monitoring, selecting an appropriate method of anaesthesia based on the degree of cardiac function and maintaining stable hemodynamic status.

**Keywords:** Chemotherapy, HIPEC, Hyperthermic Intraperitoneal Chemotherapy, Peritoneal Carcinomatosis, Sugarbaker

# Anaesthetic Management and Challenges for Carotid Body Tumour Excision: A Rare Case

**Priska Bastola, Shiva Paudyal, Pushkar Bishwokarma**

**Department of Anaesthesiology, TUTH, Institute of Medicine**

## Abstrac

Carotid body tumor (CBT) is a rare tumor that arises from chemoreceptor cells at thebifurcation of the carotid artery. The carotid body is an important chemoreceptor andplays a crucial role in the control of ventilation during hypoxia, hypercapnia, andacidosis. The tumor arising from these cells is benign but has the potential to become malignant. Excision of CBT poses several anesthetic challenges and may be complicatedby

marked intraoperative hemodynamic instability, leading to perioperative morbidityandmortality. We present a successful anesthetic management of CBT excision of right

carotid body tumor of approximately 7X5 cm Shamblin -III with neuromonitoringina17- year-old male at Manamohan Cardiothoracic Centre.

# A Case on Extra Cardiac Fontan Completion in a Patient with S/P BDCPS and MPA Banding for DORV: Management Challenges and Complications

Rabi Paudel

## Abstrac

This case study presents the management of a patient with a history of surgical palliation for double outlet right ventricle (DORV) with confluent ventricular septal defect (VSD) and malposition of great vessels, who later underwent extra cardiac Fontan completion. The patient, at age of 5 months, initially presented with recurrent chest infections after which the diagonosis was done .Surgical intervention in 2065 BS included bidirectional cavopulmonary shunt (BDCPS) and main pulmonary artery (MPA) banding. Subsequently, in 2080 BS, the patient underwent Fontan completion due to persistent hypoxemia despite prior interventions. Preoperative evaluation revealed a baseline oxygen saturation of 72% on room air, necessitating careful intraoperative and postoperative management.

During the Fontan completion procedure, general anesthesia with endotracheal intubation and invasive monitoring was employed. The total cardiopulmonary bypass time was 1 hour 45 minutes, with titrated infusions of noradrenaline, adrenaline, and milrinone to maintain hemodynamic stability. Postoperatively, the patient was extubated on the following day but required non-invasive ventilation alternative with a 60% Venturi mask due to persistent hypoxemia. While adrenaline infusion was ceased, noradrenaline and milrinone infusions were continued.

Despite initial extubation, the patient developed worsening hypoxemia prompting further investigations, including chest X-ray, echocardiography, abdominal ultrasound, and pleural drainage. Significant pleural effusion was identified, with bilateral drain collections averaging 500 ml per day, necessitating conservative management. Given the recognized association of pleural effusion with post-Fontan completion complications and its impact on morbidity and mortality, the patient was managed in the intensive care unit (ICU). After a prolonged hospital stay, the patient was eventually discharged on the 58th day post-procedure.

This case underscores the complexities involved in the management of patients undergoing Fontan completion, particularly in the context of pre-existing cardiac anomalies and the potential development of postoperative complications such as pleural effusion. Effective perioperative planning, vigilant intraoperative monitoring, and prompt recognition of complications are crucial for optimizing outcomes in such patients.

# Sepsis Bundle Approach- Better Outcomes

**Raghav Gupta**

**Assistant Professor, Department of Onco-anaesthesia and Palliative Medicine National Cancer Institute Jhajjar AIIMS, New Delhi**

## Abstrac

**Introduction:**

- Sepsis and septic shock are major cause of morbidity & mortality.
- This is despite better understanding of pathophysiology, advancement in haemodynamic monitoring tools & resuscitative measures.
- Impacting millions of people around the world each year and killing between one in three and one in six of those it affects

**Bundles:**

- Bundles are a group of "therapies" built around the best evidence-based guidelines, which, when implemented together, produce greater benefit in terms of outcome than the individual therapeutic interventions
- The "sepsis bundle" has been central to the implementation of the Surviving Sepsis Campaign (SSC) from the first publication of its evidence-based guidelines in 2004 through subsequent editions

**Unanswered questions**

- Whether improved patient outcomes are caused by the items in the care bundles

OR

- By increased awareness irrespective of bundle adherence

OR

- Whether they are just artifacts of confounding by indication
- Take home Messages
- Bundles are intended as a tool to facilitate early diagnosis and treatment of the sepsis patient.
- The risk of death maybe higher in the beginning of the sepsis process rather than later, therefore, quicker onset of resuscitation and management may be warranted.
- Trust and behaviour change are essential aspects of implementing sepsis care bundles.

**BUT we have to remember**

- The 1-hour bundle timeframe may place undue burdens on clinical interventions and may not be feasible or beneficial all the time.

**Keywords:** Bundle Approach, Evidence Based Recommendations, Sepsis, Septic Shock

# Sonographic Assessment of Suprahyoid Airway Parameters in Adult Patients Planned for Proseal Placement; A Pilot Observational Study

Rahul Chaurasia

## Abstrac

**Introduction:** The Proseal LMA, a second generation SAD designed to enhance airway seal and accommodate gastric tubes, is widely used. Traditional airway assessment methods often miss crucial anatomical factors contributing to difficulty. Ultrasonography (USG) emerges as a promising tool for comprehensive airway assessment, offering rapid insights into suprahyoid structures crucial for successful SAD placement. The aim of study was to assess the diagnostic accuracy of suprahyoid sonographic parameters for difficult proseal LMA insertion.

**Methods:** This pilot observational study took place at AIIMS, New Delhi, involving adult patients scheduled for general anaesthesia with Proseal LMA in operation theaters. A sample size of 120 was chosen. Patients were not randomized or blinded to airway assessment findings. Exclusion criteria included consent refusal and specific medical conditions. Preoperative ultrasound scanning assessed suprahyoid structures using a curvilinear transducer probe, focusing on tongue volume, HMDR, volume of floor muscles and DLA. The study aiims to evaluate failure or success of insertion, no of attempts, time of insertion, ease of insertion , any trauma and easy or difficult placement.

**Results:** Among 120 insertions, the first-attempt failure rate was 10%, with oropharyngeal trauma observed in 13.3% of cases. Association of suprahyoid parameters for difficult SAD insertion found tongue volume (p= 0.0001), hyomental distance extension (p=0.0128) and hyomental distance ratio (p=0.0114) has a significant association. ROC curve showed tongue volume (AUC 0.944; p=0.0001) was significant with acceptable value for hyomental distance extension (AUC 0.724; p=0.0128) and hyomental distance ratio (AUC 0.675; p=0.0114). Characteristics test in predicting first attempt failure of proseal LMA showed tongue volume has sensitivity, specificity, PPV, NPV and diagnostic accuracy of 100%, 86.11%, 44.4%, 100% and 87.50% respectively.

**Conclusion:** Tongue volume emerged as a significant predictor, demonstrating high sensitivity and specificity in identifying difficult insertion, need for maneuvers, and traumatic outcomes.

**Keywords:** Difficult LMA placement, First attempt failure, Supraglottic airway device, Ultrasonography

# Comparison Between Hyperbaric Bupivacaine With and Without Fentanyl in Reducing Visceral Pain During Cesarean Delivery Under Spinal Anaesthesia in Tribhuvan University Teaching Hospital

Rashmi Thapa

**Department of Anaesthesiology, Maharajgunj Medical Campus**

## Abstrac

**Introduction:** Visceral pain that occurred during cesarean delivery during spinal anaesthesia can be decreased with a higher dose of bupivacaine. However, larger doses of bupivacaine increase the risk of high sensory block. We hypothesized that the addition of fentanyl to bupivacaine intrathecally could intensify the sensory block and improve the quality of intraoperative analgesia. This study aims to compare the incidence of visceral pain between hyperbaric bupivacaine with or without fentanyl during cesarean delivery under spinal anaesthesia.

**Methods:** In this randomized, double-blind study, 72 term parturients with ASA PS II undergoing cesarean delivery under spinal anaesthesia were randomly distributed into two groups. Group B received 2.2ml (11mg) of 0.5% hyperbaric bupivacaine while Group BF received 2 ml (10mg) of 0.5% hyperbaric bupivacaine and 0.2ml (10$\mu$g) of fentanyl intrathecally. Incidence of intraoperative visceral pain, maternal hemodynamics, side effects, and APGAR score were compared.

**Result:** During exteriorization of the uterus, 11% of parturients in Group BF and 44% of parturients in Group B complained of intraoperative visceral pain with significant difference between two groups (p=0.002). The intraoperative rescue analgesia was given to 22 % of parturients in Group BF and 33% of parturients in Group B (p= 0.29). Maternal vital parameters like blood pressure, heart rate, oxygen saturation, and respiratory rate were comparable between the two groups. APGAR score was similar in both groups.

**Conclusion:** Addition of intrathecal fentanyl to hyperbaric bupivacaine was effective in reducing intraoperative visceral pain during cesarean delivery with stable maternal hemodynamics and without neonatal side effects.

**Keywords:** Bupivacaine, Cesarean delivery, fentanyl, Spinal anaesthesia, Visceral pain

# Enhanced recovery after surgery (ERAS) in pediatrics

Sadichhya Shah Malla

**Assistant professor, Department of Anesthesiology and critical care, Kanti Children's Hospital, Maharajgunj, Kathmandu**

## Abstrac

**Introduction:** Enhanced recovery after surgery (ERAS) is a global surgical quality improvement program implemented in various surgical disciplines to optimize patients' health and improve the clinical outcome of the patient, increase their satisfaction and save the cost for the health care system. It is a set of evidence based multidisciplinary protocols to improve the perioperative experience for patients. It has been successfully embraced by many adult surgical subspecialties but pediatric surgery as a discipline had been really slow to adopt it. But a new era began with the formation of the Pediatric ERAS Society on November 30th, 2018 with the aim to revolutionize pediatric surgical care and lay the strategic foundations to guide the development of pediatric ERAS. Important ERAS principles for pediatrics included preoperative education, reduced preoperative fasting, minimally invasive surgical technique, multimodal opioid sparing analgesia including regional anesthesia, minimizing the use of surgical drains and early postoperative feeding and mobilization. Implementation of ERAS has lead to a halt in the rising rate of hospital costs, decrease in length of stay, an improved physical functioning and no significant differences in readmission rates. Therefore, with ERAS requiring education and engagement from numerous multidisciplinary teams, paediatric ERAS protocols will continue to develop in numerous surgical areas of relevance to children with, anaesthesiologists playing an essential role in the creation and dissemination of paediatric ERAS.

**Keywords:** Enhanced recovery after surgery (ERAS), pediatrics, protocols.

# Palatoplasty in Fraser's Syndrome: An Anesthetic Dilemma with Subglottic Stenosis

Sainath Veeranki[1], Rupavath Ramkumar[2], Shailendra Kumar[3]

[1] Senior Resident, All India Institute of Medical Science New Delhi, Sri Aurobindo Marg, Ansari Nagar, Ansari Nagar East, New Delhi, Delhi 110029

[2] Assistant Professor, All India Institute Of Medical Science New Delhi, Ansari Nagar East

[3] Additional Professor, All India Institute Of Medical Science New Delhi, Ansari Nagar East

## Abstract

Fraser syndrome is a rare disorder with an autosomal recessive mode of inheritance that affects development and increases the risk of intrauterine death. Less severely affected people can live into childhood or adulthood, but their quality of life is poor and they must undergo numerous corrective surgeries throughout childhood. A 2-year-old, 8kg male with Fraser's syndrome, diagnosed with a myriad of physical anomalies, including dysmorphic facies, cryptophthalmos, cleft palate, syndactyly, ambiguous genitalia, and more, presented for palatoplasty. Diagnostic imaging revealed abnormalities in the head and face, with genetic testing confirming FRAS1 and EXON66 gene mutations. Notably, a past failed intubation at another hospital prompted the referral. Despite normal cardiac and blood parameters, the comprehensive clinical picture underscores the complexities associated with Fraser's syndrome, necessitating specialized care at the Burns and Plastics Surgery Department at AIIMS New Delhi. This case emphasizes the need to anticipate and prepare for difficult tracheal intubation in Fraser's syndrome patients. Our primary concern was the anticipated difficulty in bag and mask ventilation due to factors like dysmorphic facies, depressed nasal bridge, cleft palate, mid-facial hypoplasia, and inappropriate face mask fit. Difficulty in intubation was also expected, given conditions like cleft palate, along with the history of airway surgery (cleft palate repair) and recurrent upper respiratory infections. Despite meticulous precautions, challenging tracheal intubation was encountered, with the inability to secure an appropriately sized endotracheal tube due to the presence of grade 1 stenosis.

**Keywords**: Difficult airway, Fraser's syndrome, Paediatric anaesthesia

# Comparison of Hemodynamic Fluctuations to Insertion Of I-Gel vs Endotracheal Tube in Laparoscopic Surgery

**Samata Dhungana[1], Gajal Lakhe[2]**

**[1] Department of Anesthesia, 2nd year resident, Manipal College of Medical Sciences, Fulbari, Pokhara, Kaski**
**[2] Associate Professor**

## Abstract

**Introduction:** Laryngoscopy and intubation is associated with changes in hemodynamics. It is suggested that hemodynamic response is less with insertion of I-gel as compared to intubation. Hence, we aimed to compare hemodynamic response to insertion of I-gel vs endotracheal tube in patients undergoing laparoscopic surgery under general anesthesia.

**Methods:** This cross sectional analytical study was conducted in 70 patients aged 18 to 60 years with American Society of Anesthesiologists-physical status I and II in Department of Anesthesiology, Manipal College of Medical Sciences from 1st June 2023 to 30th August 2024. Patients were assigned to one of two groups, Group E (Endotracheal tube) and Group I (I-gel) with 35 participants in each group. In Group E airway was secured with appropriate sized endotracheal tube and with appropriate sized I-gel in Group I. Baseline heart rate, systolic, diastolic and mean arterial pressure were recorded. Hemodynamic variables at 1, 3 and 5 minute either after intubation or insertion of I-gel were recorded. Data was analyzed using Statistical package for social sciences version 26. P-value <0.05 was considered statistically significant.

**Results:** Demographic variables and baseline hemodynamic parameters were comparable between groups. There was significant rise in heart rate(p=0.05), systolic blood pressure (p=0.00) diastolic blood pressure (p=0.00) and mean arterial pressure (p=0.00) after 1 minute in Group E. There was significant rise in heart rate at 3 minute (p=0.04) in Group E. There was no difference in other hemodynamic parameters at 3 and 5 minute. Time required to insert I-gel was less(p=0.00). Number of attempts required for insertion of endotracheal tube and I-gel was comparable.

**Conclusion**: Hemodynamic response to insertion of I-gel was less as compared to endotracheal intubation in patients undergoing general anesthesia for laparoscopic surgeries.

**Key-words:** Endotracheal, Hemodynamic response, I-gelKeywords: Difficult airway, Fraser's syndrome, Paediatric anaesthesia

# A Case of Imperforate Anus with Tetralogy of falot with pulmonary atresia with Patent Ductus Arteriosus Underwent Anoplasty under Caudal Anesthesia.

**Sandeep Khatri**

**Resident, TUTH, kathmandu**

## Abstract

A 4th DOL male child with a diagnosis of Imperforate Anus with Ambiguous Genitalia with TOF with Patent PDA was planned for Anoplasty. He had a history of not passing stool since birth. On examination, GC was Fair, Pulse:130bpm, BP: 72/40mmg, and Spo2 of 88% in RA with cyanosis on fingers of all four limbs. CVS examination showed S1S2M+ with ejection systolic murmur in the precordial region. The abdomen was distended with an umbilical catheter in situ. On local examination, no anal opening with undifferentiated genitalia. No gross facial deformity with the NG tube in situ was seen. USG abdomen showed Low anal atresia. The echocardiography done showed Pulmonary atresia with VSD, and PFO with right to left shunt. Nonrestrictive PDA with normal Biventricular function. To maintain patency of PDA, prostaglandin infusion was ongoing.

The case was planned under caudal anesthesia with sedation. Caudal anesthesia was given a 26G cannula with 2 ml of 0.25% Bupivacaine. Ketamine 1 mg was given. O2 insufflation was done with a facemask. The case was started and lasted for 25 minutes. During the later stage of OT, the Spo2 of the patient started decreasing and went from 88 to 42%, HR dropped from 160 to 88bpm and BP decreased from 80/40 to 50/25. Inj Adrenaline 1mcg once and Inj phenylephrine 2.5 mcg was given twice. Bag and mask ventilation was done. The patient's vitals improved, and the case was shifted to NICU on O2 supplementation with nasal cannula.

# Biomarker in Sepsis

**Sandeep kumar**

**Assistant professor, Aiims Bhopal, Saket Nagar Bhopla(Mp)-India**

## Abstract

Sepsis is defined as an overwhelming and potentially life-threatening inflammatory response of the body to infection resulting in organ dysfunction and death causing significant morbidity and mortality. Sepsis is one of the most common causes of ICU hospitalization imposing major health care burden. Patients at risk of sepsis should be identified prior to the onset of organ dysfunction and they require rapid diagnosis and onset of treatment. Unfortunately, there is no gold standard for the diagnosis of sepsis, and the sequential organ failure assessment (SOFA) score , recommended for assessing organ dysfunction in sepsis criteria-3 , runs the risk of premature recognition of the signs of a potentially fatal infection . In addition, because traditional standard culture methods are time-consuming, accurate microbial diagnosis can be delayed. The development of sepsis biomarkers that can help in predicting the diagnosis and prognosis of sepsis and monitoring treatment responses is an ongoing process . Biomarkers offer utility for diagnosis, prognosis, early disease recognition, risk stratification, appropriate treatment , and trial enrichment for patients with sepsis or suspected sepsis. For sepsis, a range of biomarkers is identified, including fluid phase pattern recognition molecules (PRMs), complement system, cytokines, chemokines, damage-associated molecular patterns (DAMPs), non-coding RNAs, miRNAs, cell membrane receptors, cell proteins, metabolites, and soluble receptors.

**Diagnostic Biomarkers**

1) Presepsin.

2) Pentraxin- 3

3) Calprotectin

4) Intestinal Microbiota

**Diagnostic Biomarkers**

1) Adrenomedullin and Third Regional Fragment of Pro-Adrenomedullin

2) Non Coding RNAs

3) Angiopoietin

# Perioperative fluid management in preeclampsia

Sangeeta Shrestha

**Scientific Chairperson**

## Abstract

Preeclampsia is a multisystem disorder that accounts for 3–14% of pregnancies. It is the second leading cause of direct maternal death worldwide. In Nepal, 12% of maternal deaths are due to hypertensive disorders.

Fluid management in severe preeclampsia is controversial, especially during a cesarean section. In severe preeclampsia, increased pulmonary capillary permeability and left ventricular end-diastolic pressure can lead to acute pulmonary edema even after intravenous volume replacement. Therefore, fluid restriction might prevent pulmonary edema, but on the other hand, hypovolemia associated with fluid restriction can induce renal hypoperfusion and exacerbate acute kidney injury.

Patients with severe preeclampsia should have strict fluid intake and output monitoring assessments. Total fluid intake should be limited.

**Keywords:** Anesthesia, Cancer recurrence, Inhalation agents, Oncological outcomes, Propofol

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# Perioperative Anesthetic Techniques and Oncological Outcomes, a Review

Sanjaya Paudel

**Consultant Anesthesiologist, BP Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal**

## Abstract

Cancer recurrence following surgery of a curative intent is an unfortunate event. Despite being the most important therapy for solid tumors, Surgery promotes angiogenesis, shedding of tumor cells and suppression of anti-tumor immune response, which leads to increased risk of micro-mets and cancer recurrence. There is an increasing awareness that different anesthetic techniques may impact post-surgical oncological outcomes. Anesthetic activities influence the cancer micro-environment and immune system that could affect physio-pathological state and the cancer outcome. Available evidence suggests that inhalation agents and opioid based anesthetic techniques have deleterious effects on oncological outcomes. Propofol based total intravenous anesthetic techniques along with loco-regional anesthetic techniques have been suggested as protective. More recent clinical evidences however have demonstrated the minimal influence of anesthetic techniques in the outcome of cancer patients undergoing curative cancer surgery. Various Randomized controlled trials are undergoing for the clinical evidence of anesthetic techniques on the immune system and tumor micro-environment

**Keywords:** Anesthesia, Cancer recurrence, Inhalation agents, Oncological outcomes, Propofol

# A Prospective Comparative Study of Video Laryngoscope and Direct Laryngoscope in Terms of Duration of Tracheal Intubation and Glottis Visualization

**Sanjeeb Dhungana**

**Scientific Chairperson**

## Abstract

**Introduction:** Direct Laryngoscopy remains a gold standard despite technological advancements, demanding intricate skills and adverse effects like hemodynamic disturbance and tissue injury. In contrast, video laryngoscopy, employing indirect visualization, offers an alternative with reduced force application and improved glottis visualization.

**Methods:** A hospital based prospective comparative study carried out by randomly assigning 80 patients (ASA I & II) aged 18-65 years undergoing elective surgery into two groups: Direct laryngoscope (DL) and Video laryngoscope (VL). After induction, anesthesiology trainee intubated the patients with allotted laryngoscope and comparison was drawn in terms of tracheal intubation sequence duration, glottis visualization using Cormack-Lehane grading, ease of intubation in regard to external maneuvers, and hemodynamic parameters (HR,SBP,DBP,MAP), which was recorded at various intervals: baseline, immediately after intubation, first and fifth minutes after intubation.

**Results:** Both groups exhibited similar demographic characteristics, age, gender and BMI. The distribution of ASA grades was also found to be similar across both groups. The mean time required for tracheal intubation sequence was shorter in Video Laryngoscope group (30.23±7.631 seconds) than in the Direct Laryngoscope group (32.07±7.440 seconds) but was not statistically significant (P value 0.548). In Direct Laryngoscope group, 27.5% of participants had CL grade 1, while 72.5% had CL grade 2. Conversely, in the Video Laryngoscope group, 90.0% had CL grade 1, while only 10.0% had CL grade 2 with the p-value of <0.05 indicating significantly better glottis visualization in group VL compared to DL. Notably, the DL group exhibited a statistically significant higher DBP at the 1st min after intubation, but this difference did not persist at later time points

**Conclusion**: Video laryngoscope provided a better glottis visualization and ease of intubation than the Direct laryngoscope.

**Keywords:** CL grading, Direct laryngoscope, Video laryngoscope

# Anaesthetic Management for Exploratory Laparotomy in Glucose 6 Phosphate Dehydrogenase Deficiency

Sanjiv Chaudhary

**Resident, Maharajgunj Medical Campus, Maharajgunj, Kathmandu, Nepal**

## Abstract

A Glucose-6-phosphate dehydrogenase (G-6-P D) deficiency is a hereditary condition resulting from a structural defect in G-6-P D enzyme that is particularly important for the survival of red blood cells and their ability to respond to oxidative stress. G-6-P D deficiency affects about 400 million people worldwide. It is inherited as an X-linked recessive disorder mostly often affects males. Hemolysis is the result of the inability of a G-6-P D-deficient RBC to protect itself from oxidative damage. Propofol, fentanyl, and ketamine are safe, but it might be wise to avoid isoflurane, sevoflurane which depress G6PD activity in vitro. Drugs that can induce methemoglobinemia (e.g., lidocaine) should be avoided. Hypothermia, acidosis, hyperglycemia, and infection can precipitate hemolysis in the G6PD-deficient patient, and these conditions need to be aggressively treated in the perioperative period. There are several anesthetic modifications and challenges in performing general anaesthesia in G-6-PD deficient patient.We present a successful anesthetic management of exploratory laparotomy and reduction of ileo-ileal intussusception with resection of Meckel's diverticulum with end-to-end anastomosis a 19-year-old male at Tribhuvan University Teaching Hospital, Maharajgunj.

# Landmark Versus Ultrasonography Assisted lumbar Puncture for Spinal Anesthesia in Cesarean Section

Sichu Singh Maharjan

**MD Resident 2nd Year, NAMS, BIr Hospital**

## Abstract

**Introduction:** Spinal anesthesia is the preferred choice of anesthetic technique for cesarean section. However, due to changes that occur during pregnancy spinal anesthesia can be difficult in obstetric patients. The conventional landmark approach for spinal anesthesia being a blind procedure can result in multiple needle insertions, complications, and patient dissatisfaction. Preprocedural ultrasound can be used for more accurate identification of the subarachnoid space. This study compares the conventional landmark versus ultrasonography assisted approach for successful lumbar puncture for spinal anesthesia for cesarean section.

**Methods:** This was a comparative observational study including 86 patients scheduled for cesarean section. They were divided into 2 groups, Group L (landmark approach) and Group U (ultrasound assisted approach). Parameters such as number of attempts for needle insertion, number of passes in the same space, time taken for identification of space and time taken for lumbar puncture were recorded in both groups.

**Results:** The demographic profiles of the both groups were comparable. The number of attempts for needle insertion was 1.26±0.62 and 1.05 ± 0.21 in Group L and Group U respectively and the difference was significant (p=0.04). The time taken for identification of space was significantly longer in Group U compared to Group L (139.65 ± 59.56s vs 21.00± 18.311s, $p < 0.001$)) There was no significant difference found in the number of passes and the time taken for lumbar puncture in both the groups.

**Conclusion:** Although a preprocedural ultrasound assisted approach doesn't change the success rate of lumbar puncture for spinal anesthesia compared to the conventional landmark approach ,it is an effective method to reduce the number of skin puncture attempts.

**Keywords**: cesarean section, spinal anesthesia, ultrasonography

# Perioperative Management of Laparoscopic Cholecystectomy in a Patient with Severe Factor X Deficiency

**Simrika Tamrakar[1], Luna Sharma Khanal[2]**

[1] MD 2nd year resident, Department of Anesthesiology and Intensive Care, NAMS, Bir Hospital, Kathmandu, Nepal
[2] Assistant Prof., Department of Anesthesiology and Intensive Care, NAMS, Bir Hospital, Kathmandu, Nepal

## Abstract

Factor X deficiency is one of the rarest coagulopathies with an incidence of 1:1000000 cases. It is characterized by increased bleeding tendency, prolonged prothrombin time (PT) and partial thromboplastin time (PTT). The ideal management is to administer Factor X concentrate to raise preoperative levels to an acceptable range. A 38-year female was planned for laparoscopic cholecystectomy. On pre anesthetic checkup, patient had a history of gum bleeding and menorrhagia. Factor X deficiency was diagnosed 10 years back following postpartum hemorrhage during cesarean section and re-exploration for anterior abdomen wall hematoma after surgery for which multiple blood transfusion was required leading to further evaluation & diagnosis. Patient had her factors analysis done in India which showed factor X level of <1%, a severe deficiency. Her blood tests showed prolonged PT of 74.6 seconds(s), PTT of 45.6 seconds and INR of 5.34 for which hematology consultation was done. As factor X is not available in our setup, fresh frozen plasma (FFP) was an alternative. The patient was started on Vitamin K injections and transfused 4 units of FFP after which her PT and INR were 32.9s and 2.48. On the day of the surgery, 4 units of FFP was transfused to the patient, 3 hours prior to surgery. The case was conducted under general anesthesia with induction using propofol with multimodal analgesia and muscle relaxation. American society of anesthesiology (ASA) standard I and II monitoring were done. Tranexamic acid was given intraoperatively. Surgical procedure time was 1 hour with approximate blood loss of 100 mL. Postoperatively 2 units of FFP was transfused on the same day and on 1st & 2nd post operative day. In conclusion, the perioperative transfusion with FFP can be considered in case of unavailability of factor X to minimize the bleeding risk in a patient with coagulopathy.

**Keywords:** Coagulopathy, Factor X deficiency, Laparoscopic cholecystectomy

# Effectiveness of Magnesium Sulphate in Smoothness of Extubation in Patients Undergoing Laparoscopic Cholecystectomy

Santosh Sharma Parajuli[1], Pradip Koirala[2], Sujan KC[2]*

[1] Department of Anesthesia and Intensive Care, SGNHC
[2] Department of Anesthesia and Intensive Care, BIR Hospital

## Abstract

**Introduction:** Extubation is the critical step in anesthetic management of patients undergoing general anesthesia. It is usually associated with events like coughing, bucking, laryngospasm, tachycardia and hypertension. Every possible step has to be taken to make extubation smooth and attenuate aforementioned airway and hemodynamic responses during extubation. There are various pharmacological methods in practice to attenuate these responses. Magnesium sulphate is also popular for this purpose due to its sedative, analgesic and anti-hypertensive property. Our aim was to study the effect of magnesium sulphate in facilitation of smooth extubation.

**Method:** Total 60 patients, [age 18-65], [ASA I and II] undergoing laparoscopic cholecystectomy were selected. All patients underwent surgery under general anesthesia with standardized anesthetic technique. They were randomly assigned to MgSO4 [Group M, 30 patients] or Normal Saline [Group N, 30 patients]. We recorded, analyzed and compared intraoperative hemodynamics, time of extubation, smoothness of extubation score and amount of fentanyl consumption between the groups.

**Results:** There were no significant difference between the groups based on age, sex, weight, ASA physical status, baseline heart rate, blood pressure, extubation time and intraoperative fentanyl consumption. Similarly, intraoperative hemodynamic were also comparable between the groups. However, MgSO4 group had significantly lower Heart rate and Blood pressure 10 minute and 15 minute after extubation. M group also had lower smoothness of extubation score (median=1, interquartile range=1, 2) compared to N group (median 2, interquartile range2, 3), p value <0.001).

**Conclusion:** Magnesium sulphate is effective in attenuation of airway responses like coughing, bucking, during extubation of patients undergoing surgery under general anesthesia.

**Keywords:** Endotracheal intubation, General anesthesia, Magnesium sulphate, Smoothness of extubation

# P value is hyped!!

Surendra Bhusal

## Abstract

P value is routinely used in analytical research to test for the statistical significance of the findings obtained from the research. But there are many caveats to using the p-value which are almost always ignored. P value is the probability of finding the obtained result and result more extreme given that the null hypothesis is true. But P value shouldn't be the main determinant of testing the significance of the finding. Sometimes, the clinically significant results are not statistically significant and vice versa. P value is also sample size dependent with p-value being significant with a larger sample size. It is better to calculate the confidence interval and effect size and test the clinical significance of the observed effect. Clinically significant effects should be defined before conducting a study. When multiple comparisons are done on the same variables, there is a likelihood that a statistically significant p-value will be observed by chance (increased type I error). So, P value is non-reliable on such situations. And lastly, P value < 0.05 is arbitrary. If two similar studies which have good control of confounder and bias and compare the same variables report consistent p-value which is just above 0.05, then the result is statistically significant. Conclusion: Overemphasizing p-value while putting less importance on clinically significant or insignificant effect size and confidence interval should be discouraged. P value should be taken only as an additional measure to decide the significance of the findings.

**Keywords:** Effect size, p-value

# Unlocking precision: Revolutionizing Ultrasound Guided Regional Anesthesia using Artificial Intelligence

**Sushmita Bairagi**

**Assistant Professor, Department of Anesthesiology, Pain Medicine and Critical Care, All India Institute of Medical Sciences(AIIMS), New Delhi, India,(110029)**

## Abstract

**Introduction:** Artificial intelligence (AI) is reshaping the landscape of regional anesthesia, particularly in ultrasound-guided procedures. One notable advancement is the ScanNav Anatomy Peripheral Nerve Block (PNB) system, which utilizes deep learning to overlay real-time ultrasound images with colour highlights, aiding in anatomical identification. Similar AI systems, such as Nerveblox (SmartAlpha Teknologi San. Ve. Tic. AS., Ankara, Turkey), which applies a colour overlay to real-time ultrasound and NerveTrack± (Samsung Medison, Seoul, South Korea) that applies a bounding box around the median and ulnar nerves in the forearm, are emerging, although their performance and utility are still being evaluated.

**Potential Applications:** AI aids in accurately detecting anatomical features on ultrasound scans, improving image interpretation particularly for non-experts, also thereby decreasing vascular and nerve bundle injury. AI models help in enhancing needle visibility during procedures thus facilitating precise nerve blocks that reduces pain and increases patient satisfaction to blocks.AI technology could supplement traditional education methods by providing additional resources for practice and feedbacks. It potentially reduces dependence on expert supervision and helps in facilitating independent learning.

**Challenges and Limitations:** Challenges include the time-consuming process of training AI models effecting the initial learning curve, potential human errors in data acquisition, and difficulty in identifying aberrant anatomy. AI models can be highly expensive that adds significant expense to already stretched departmental budgets.

Conclusion: Despite challenges, by enhancing learning and clinical skills, AI has the potential to revolutionize various medical fields, including ultrasound-guided procedures like regional anesthesia.

**Keywords:** Artificial intelligence, Medical education, Pain management, Regional anesthesia, Ultrasound

# Perfusion Index as A Predictor of Hypotension Following Spinal Anesthesia in Elective Lower Segment Caesarean Section in A Tertiary Hospital in Kaski, Nepal

**Sushmita Gurung**

**Department of Anesthesiology in Pokhara Academy of Health Sciences, Pokhara, Kaski, Nepal**

## Abstract

**Introduction:** Spinal Anaesthesia is one of the preferred methods widely used during lower section caesarean section. Despite its simplicity, success and popularity; it has its own complications and limitations. The use of spinal anaesthesia can lead to hypotension and parturients undergoing lower section caesarean section are more prone to hypotension due to the physiological changes during pregnancy that can have adverse effects to both the mother and the new born. Perfusion index is a simple noninvasive approach obtained from pulse oximeter that can predict hypotension during intraoperative period.

**Research Objectives:** To determine whether Perfusion Index (PI) can predict incidence of hypotension in patients undergoing elective Lower Segment Caesarean Section following spinal anesthesia.

**Research Design and Methodology:** Parturients undergoing elective lower section caesarean section were divided into two groups based on baseline perfusion index with a cut off of 3.5. The systolic, diastolic and mean blood pressure and heart rate were monitored preoperatively and every 3 mins for the next 30 mins after subarachnoid block and Apgar score was monitored at 1 and 5 mins post-delivery.

**Results:** The incidence of hypotension was statistically significant (p=0.001) in the group with PI more than 3.5 and the requirement of mephentermine was also significant in the same group. The ROC curve for perfusion index with cut off 3.5 has yielded area under the curve value 73.7% with p value less than 0.0001. However there was no difference in APGAR scores in between the two groups.

**Conclusion:** Parturients with higher perfusion index may be at more risk of developing hypotension during lower segment caesarean section and require higher dosage of vasopressors.

**Keywords:** Mephentermine, Caesarean section, Perfusion index, Spinal anesthesia

# The Implementation of a Written Information Leaflet to Supplement the Consent Process for Awake Tracheal Intubation

Tom Murphy

## Abstract

Awake tracheal intubation (ATI) is the gold standard for airway management in patients with predicted difficult airways. The procedure involves various technical, ergonomic and communication challenges. The Royal College of Anaesthetists recommends that information about anaesthesia and its associated risks should be provided to patients as early as possible, and ideally should involve written or online resources. At Aintree Hospital we perform around 150 awake tracheal intubations each year, and many of these performed on patients for emergency surgery, usually dental abscesses. We looked at current practice and piloted a written information leaflet, with the intention to improve the consent process and the overall patient experience.

**Method:** We contacted all patients who underwent an emergency ATI between January and March 2023 and asked them about their experience. We then designed an information leaflet which we gave to all patients undergoing ATI between January and March 2024 and repeated the process. We also asked the trainees in our department if they felt such a leaflet would help them with their pre-operative consultations. Subsequent patients reported that they found that the leaflet helpful and that it improved the consent process. Trainees found that it complemented their pre-operative assessment.

**Discussion:** Written resources help to explain to patients what is an understandably uncomfortable and stressful experience.

Further resources could be considered, including a video simulation of ATI which could be linked to the leaflet via a QR code. There is also the possibility of translating the leaflet into other languages.

**Keywords:** Airway, Awake, Consent, Fibreoptic, Intubation

# Reviewing the landscape: Ultrasound-Guided Stellate Ganglion Block in Current Practice

**Ujma Shrestha**

**Kathmandu Medical College Teaching Hospital, Kathmandu, Nepal**

## Abstract

Stellate ganglion block (SGB) has emerged as a valuable technique in the management of various conditions, including pain syndromes like CRPS, vascular insufficiency, and sympathetic-mediated disorders. The utilization of ultrasound guidance in performing SGB has revolutionized the procedure by enhancing accuracy, safety, and efficacy while reducing complications.

We aim to provide a comprehensive discussion of the anatomical considerations, patient selection criteria, procedural techniques, and outcomes associated with US-SGB. Moreover, emerging advancements and novel adjuncts to US-SGB, pharmacologic adjuncts, are explored to provide insights into evolving clinical practices.

This abstract synthesizes the existing evidence regarding the efficacy and safety profile of US-SGB across different clinical indications, including chronic pain syndromes, complex regional pain syndrome, postherpetic neuralgia, and psychiatric disorders. Clinical outcomes, including pain relief, functional improvement, and adverse events, are critically evaluated to inform evidence-based decision-making in clinical practice.

In conclusion, the presentation offers contemporary perspective on the role of ultrasound-guided stellate ganglion block, highlighting its evolving landscape, procedural nuances, and clinical outcomes. Further research endeavors are warranted to delineate optimal techniques, refine patient selection criteria, and elucidate the long-term efficacy and safety profile of US-SGB in diverse patient populations.

**Keywords:** Stellate ganglion block, Ultrasound

# Pediatric procedural sedation – All is easy until it is not!

Utsav Acharya

**Department of Anaesthesiology, Maharajgunj Medical Campus, Institute of Medicine, Tribhuvan University Teaching Hospital, Kathmandu, Nepal**

## Abstract

Pediatric procedural sedation is a critical aspect of medical care, facilitating the completion of distressing procedures while ensuring patient comfort and safety. It involves administering sedative medications to children to achieve a state of calmness during invasive procedures or those requiring immobility.

Procedural sedation is almost always provided in a setting remote from the operating room. Children requiring procedural sedation usually have comorbid conditions and may not be adequately optimized. The setup may be unfamiliar for anesthesiologists and any help, if required, may not be immediately available. Children with difficult airway add further challenge to procedural sedation. Sedation in a nonhospital environment have been associated with an increased incidence of "failure to rescue", because these settings may lack immediately available backup.

The technique and choice of agent depends on factors such as – patient profile, type of procedure, duration, location and importantly, the expertise of anesthesiologist. Careful titration and monitoring of sedation depth and vital signs are paramount to ensuring safety of the sedated child. Post sedation recovery is an equally important aspect of pediatric procedural sedation.

Appropriate training in airway management, age and size-appropriate equipment for airway management and venous access, enough trained staff, appropriate monitoring during and after procedure, well equipped and staffed recovery area are minimum requirements for safe pediatric procedural sedation. By adhering to evidence-based protocols and maintaining vigilant monitoring practices, the safety and efficacy of pediatric procedural sedation can be optimized, thereby improving the overall experience for both patients and caregivers.

**Keywords:** Anesthesia, Pediatric, Safety, Sedation

# Comparison of Safety and Efficacy of Shoulder Block with Interscalene Block for Shoulder Surgeries: A Systematic review and Meta-analysis

**Anju Gupta, Nishkarsh Gupta, Amit K. Malviya, Vinay Kumar***

**All India Institute of Medical Sciences, New Delhi, India**

## Abstract

**Introduction:** Adequate perioperative analgesia improves outcomes and enables early rehabilitation in shoulder surgeries. Shoulder block (SB; combined suprascapular nerve block and axillary nerve block) and interscalene block (ISB) have been assessed in studies for shoulder surgeries. This review aimed to compare the safety and efficacy of ultrasound-guided shoulder SB with ISB for patients undergoing shoulder surgeries. Methods: A literature search was performed using a comprehensive search strategy on electronic databases up to 31 October 2022 in PubMed, Embase, Web of Science, and Cochrane Central Register of Controlled Trials. All randomized control trials in the English language that compared ultrasound-guided SB and ISB for shoulder surgery were included.

**Results:** Eight studies with 519 patients (SB=257, ISB=262) were included. There was no significant difference in 24-hour morphine consumption SMD -0.1.0; 95% confidence interval (-0.35 to 0.14), I2 =0%, p=-0.492). Compared with SB, ISB resulted in a lower visual analogue scale in the post-anaesthesia care unit (P=0.00) and at 4hours (P=0.00). However, SB had lower pain scores at 24 hours. (P= 0.00) The incidence of dyspnoea [group (RR 0.19; 95% CI 0.07 to 0.54; I2 = 0%; p=0.08)] and Horner's syndrome (RR 0.07; 95% CI 0.01 to 0.51; I2 =0%; p=0.78), was more with ISB but it did not show statistical significance.

**Conclusions:** Ultrasound-guided ISB and SB provide adequate and safe postoperative analgesia after shoulder surgery. Considering a higher incidence of dyspnoea and hoarseness of voice with ISB, SB should be preferred for patients with compromised respiratory function.

**Keywords:** Shoulder block; Suprascapular nerve block;Postoperative analgesia, Shoulder surgery; Interscalene block

# Airway Management By Emergency Physicians- "Sailing Against The Tide"

**Vishal Vaibhaw**

**Designation: Assistant Professor, Department of Emergency Medicine, AIIMS, Patna.**

## Abstract

Emergency airway management is a conglomerate of complex skills learned through practice & need to be maintained with regular training. Airway management is an indispensable skill which every resident of the emergency department (ED)is supposed to master. Managing the airway in an emergency is different from that in a controlled environment like an operating room (OR).

Although around 0.5–1% of ED visitors require intubation due to conditions like cardiac arrest, respiratory failure and altered level of consciousness, airway management is critical in emergency medicine, since the primary survey of any patient reporting to ED starts with securing the airway as the top priority for these critically unstable patients. ED intubation presents unique challenges like inadequately trained residents, improperly assessed airways, full stomach with a high risk of aspiration, facial/neck injuries, cervical spine immobilization, and chest compressions. These factors can jeopardise intubation success, stressing the need for emergency physicians to understand current evidence.

The evidence-based guidelines draw attention to achieving first-pass intubation success while discouraging multiple attempts which in itself can lead to reduced chances of return of spontaneous circulation and prolonged resuscitation times. The recommendations by the Society of Critical Care Medicine include proper training, use of checklists, adequate preparation, team composition and planning for failure as crucial for successful intubation. Emergency airway management courses consisting of theoretical, practical & mental-cognitive content are the demand of time. Preventing desaturation and hypotension while keeping a high first-pass success rate of intubation is the key to sailing against the tide.

**Keywords:** Airway management, Emergency physicians, Intubation.

# Advances in Paediatric Airway Management

**Bikash Ranjan Ray**

**Additional Professor, Anaesthesiology, Pain Medicine & Critical Care, AIIMS, New Delhi.**

## Abstract

Recent advances in paediatric airway management focus on improving outcomes, reducing complications, and enhancing patient safety. Some of the recent trends and advancements in this field.

**Video laryngoscopy:** Video laryngoscopy has gained popularity in paediatric airway management, especially in difficult paediatric airways (better visualization, easier intubation and reduces the risk of airway trauma)

**Supraglottic airway devices (SGAs):** SGAs have become increasingly utilized in paediatric patients. They are less invasive and can be inserted more quickly.

**High-flow nasal cannula (HFNC):** HFNC therapy has emerged as an effective means of providing respiratory support in paediatric patients. It delivers heated and humidified oxygen at high flow rates, improving oxygenation and reducing the work of breathing.

**Enhanced simulation training:** Simulation-based training programs have become integral in paediatric airway management education. They allow healthcare providers to practice various scenarios in a controlled environment, improving their skills and confidence.

**Ultrasound-guided airway management:** Ultrasound has been increasingly utilized to aid in paediatric airway management, particularly in identifying anatomical structures and assessing the feasibility of different airway interventions. It can help guide procedures such as tracheal intubation and needle cricothyrotomy, especially in challenging cases.

**Paediatric airway guidelines and algorithms:** Various professional organizations have developed updated guidelines and algorithms for paediatric airway management to standardize practices and improve patient safety.

**Telemedicine in paediatric airway management:** Telemedicine has been explored as a means of providing remote consultation and guidance in paediatric airway management, particularly in resource-limited settings or during emergencies where access to specialist expertise may be limited.

These advancements collectively contribute to improved outcomes, reduced complications, and enhanced safety in paediatric airway management. However, it's essential for healthcare providers to stay updated on the latest developments and continue ongoing education and training to effectively manage paediatric airway emergencies.

# The strategies and Challenges in Anesthesia management for uncooperative children.

Parbesh Kumar Gyawali

**Fellowship in Pediatric Anesthesia, Department of Anesthesiology and Intensive care, Chitwan Medical College, Baratpur, Nepal.**

## Abstract

Anesthesia management in pediatric patients presents a unique set of challenges, particularly when faced with uncooperative behavior. The successful administration of anesthesia requires not only clinical expertise but also effective strategies to mitigate the anxiety and resistance commonly encountered in this patient population. This presentation aims to explore the various strategies employed in the anesthesia management of uncooperative children, along with the associated challenges.

**Key topics to be discussed include:**

1. Behavioral Assessment: An overview of the different behavioral assessment tools utilized to evaluate the level of cooperation and anxiety in pediatric patients preoperatively.
2. Pharmacological Interventions: Discussion on the selection and administration of sedatives, anxiolytics, and other pharmacological agents to facilitate cooperation and minimize distress during induction.
3. Psychological Preparation: Strategies for psychological preparation, including preoperative education, play therapy, and distraction techniques, to alleviate fear and enhance cooperation.
4. Communication Techniques: Effective communication strategies for building rapport with pediatric patients and their caregivers, thereby promoting trust and reducing anxiety.
5. Individualized Approach: The importance of tailoring anesthesia management plans to suit the unique needs and preferences of each child, considering factors such as age, developmental stage, and previous medical experiences.
6. Multidisciplinary Collaboration: The significance of collaboration between anesthesia providers, pediatricians, child psychologists, and other healthcare professionals in optimizing the management of uncooperative children.

Throughout the presentation, case studies and practical examples will be utilized to illustrate the implementation of these strategies in real-world clinical scenarios. Additionally, the inherent challenges and limitations associated with managing uncooperative children in the perioperative setting will be addressed, along with potential strategies for overcoming these obstacles. This presentation aims to equip healthcare professionals with the knowledge and tools necessary to provide safe, effective, and patient-centered care in pediatric anesthesia practice.

**Conflict of Interest:**

I have no conflict of interest to declare.

# Enhancing patient outcomes through "Patient Blood Management": a comprehensive overview

**Apurb Sharma**

**Head, Department of Anesthesia and Pain Management, Nepal Mediciti, Sainbu, Lalitpur, Nepal.**

## Abstract

Patient Blood Management (PBM) represents a paradigm shift in perioperative care. It emphasizes a proactive approach to optimizing patient outcomes while minimizing unnecessary blood transfusions. This presentation aims to create awareness among anesthesia professionals about the fundamental principles of PBM, its benefits, and practical strategies for implementation. In this interactive session we will define the PBM approach to managing anemia, blood loss, and hemostasis to improve patient outcomes. PBM advocates for a holistic approach to patient care that extends beyond the operating room. We will discuss how implementation of PBM offers benefits like reduced exposure to blood transfusions and associated risks, improved clinical outcomes, shortened hospital stays, significant cost savings and aligns with the principles of patient safety and quality improvement. We will also delve into how PBM goes beyond the conventional restrictive transfusion strategy in the perioperative setting. The presentation will also touch on the Three Pillars of PBM namely: optimizing erythropoiesis, minimizing blood loss, and harnessing and optimizing physiological reserve. Understanding these pillars equips anesthesiologists with the framework necessary to develop tailored strategies for individual patients, thereby enhancing clinical outcomes and resource utilization.

**Keywords:** Anemia, Anesthesia, Blood transfusion, Coagulopathy, Hemorrhage

# History and Development of Anaesthesia services in Nepal

**Bisharad M. Shrestha[1], Narendra B. Rana[2]**

[1] FRCAT
[2] FFARCS

## Abstract

"The man who does not heed the past is doomed to repeat it."

In history of Anesthesia relief from surgical pain was the prime aim. The turning point in this battle was in 16th October 1846 when William Thomas Green Morton successfully demonstrated Ether Anesthesia to relief surgical pain,

In Nepal the first Hospital to be established in 1888 = 89 was Bir Hospital. Till 1933 very little is known about who used to give anesthesia. In 1833 Dr, B B Singh joined Bir Hospital and involved in giving anesthesia. In 1955 he went for Anesthesia training at Bombay, India for a year and obtains Diploma in Anesthesia.

He used to anesthetize with open drop technique or his own draw over technique. He even started intubation anesthesia. In 1966 Sir Robert Macintosh visited Nepal. He anesthetized two cases with a calibrated draw over ether vaporizer EMO (Epstein Macintosh Oxford)

In 1966 Dr. NB Rana with his fellowship in anesthesia joined Bir Hospital and started balance anesthesia. After him few more qualified anesthetist joined Government services.

In compare with the need more man power was needed. Those who were sent abroad for training very few returned back. With help of British Council Medical officer were trained at Bir Hospital by British Anesthetist from 1982 to 1984. But only one of the trainees continued in Anesthesia.

1978 Bachelor Course in Medicine and in 1980 Teaching Hospital under

Tribhuvan University was established. Thus instead of sending doctors abroad for anesthesia training in Country training for Diploma of Anesthesia was conceived. An agreement was reached with Calgary University, Canada, Ministry of Health and Tribhuvan University in 1985. Training lasted till 1994. This helped to provide Anesthetist out side the valey as well,

A higher training with MD Anesthesia was also under consideration since 1992 as other faculties has already started MS program. In anesthesia it took shape in 1996. Teacher and examiner support was provided by CAS IEF.

During earlier period situation even in other hospitals in valley and outside the valley was very pitiable. Anesthetist has to develop or modified his anesthesia technique for providing safe anesthesia procedure.

## Referrence

CAN J ANESTH 2006 / 53: 4 / pp 339–343 -Special Article - Training and development of anesthesia in Nepal – 1985 to 2005 *[Formation et perfectionnement en anesthésie au Népal – 1985 à 2005]*

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