NAS 2025
Kota Kinabalu, Sabah

Neuroanaesthesia Symposium 2025

16-18 May (Friday-Sunday)
Sabah International Convention Centre, Kota Kinabalu, Sabah, Malaysia
(Sipadan 1 & 2 Halls, Level 4)

Excellence Through Synergy

ABSTRACT & PROGRAMME BOOK

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CONTENTS

Welcome message from Organising Chairpersons

Dear our beloved friends and colleagues,

Kopivosian ('hello' in local Kadazan language)!

On behalf of the organizing committees, it is of our great pleasure to welcome all of you to the Land Below the Wind, Sabah. We are extremely excited to invite all of you to attend the Neuroanaesthesia Symposium (NAS) 2025 with open arms. For your information, this is the first time the wonderful state of Sabah, Malaysia is chosen to organize this great event, to join all anaesthetic neurons together to develop greater minds, ideas and collaborations!

NAS 2025 is jointly organised by the Malaysian Society of Neuroanaesthesiology and Neurocritical Care (MSNACC), Sabah Academic Society of Anesthesiology (PERAKAS) and Universiti Malaysia Sabah (UMS). We hope that NAS 2025 will be able to fulfil your neuroanaesthetic needs with wonderful talks from eminent speakers from MSNACC, Asian Society for Neuroanesthesiology & Critical Care, Neuroanaesthesia and Critical Care Society (UK) and Society of Neuroscience in Anesthesiology and Critical Care (USA).

The 2.5-day event will encompass various important yet pertinent talks by our distinguished guests from various neuroanaesthetic societies. We will cover various topics which suit all participants – be them be consultants, specialists, anaesthetic trainees, assistant medical officers or nurses.

We hereby assure that apart from the fulfilling your knowledge, you will be getting the chances to explore the natural beauty of Sabah.

Thank you. *Terima Kasih. Kotuluadan!*

Organising Chairpersons

Dr Yeap Boon Tat
Senior Lecturer and
Neuroanaesthesiologist
Faculty of Medicine and Health Sciences,
Universiti Malaysia Sabah

Dr Cheah Siew Lean
Consultant Anaesthesiologist
Jesselton Medical Centre,
Kota Kinabalu, Sabah

Welcome message from Society for Neuroscience in Anesthesiology and Critical Care (SNACC)

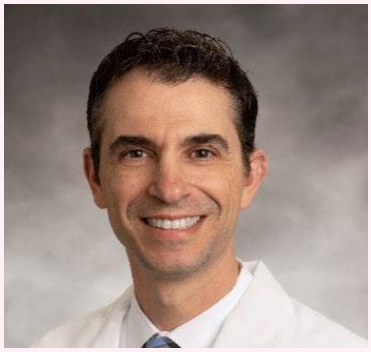
On behalf of the Society for Neuroscience in Anesthesiology and Critical Care (SNACC), an affiliated organization of the Malaysian Society of Neuroanesthesiology and Neurocritical Care (MSNACC), we welcome you to the 7th Neuroanaesthesia Symposium (NAS) 2025! SNACC is delighted to be a partner and co-organizer for this wonderful event, which will feature the latest trends, technologies, and treatments in the realm of Neuroanaesthesia and Neurocritical Care!

Collaboration is a key element to improving the care of patients with complex neurologic illnesses or who are undergoing neurosurgical procedures, and the importance of a diverse and global collaboration cannot be emphasized enough. It is by this sort of cooperation that we learn from each other, pool our shared intellectual resources, observe and incorporate new ideas and techniques, all with the common worldwide aim of delivering a higher quality and more comprehensive care for some of the most vulnerable patients.

By working together, let us seek to rise above the many challenges that face the modern neuroanaesthetist and neurointensivist, learning from our global colleagues in an educational and collegial atmosphere which is sure to inspire all of us to provide the best care that we can in our field. Welcome to NAS 2025!

Ines Koerner, MD
SNACC President

John Bebawy, MD
SNACC Immediate Past President



Alex Papangelou, MD
SNACC Board of Directors, International Liaison

Welcome message from NACCS, UK

NACCS has long nurtured links with fellow Neuroanaesthesia and critical care societies, and a joint “world congress” meeting is the natural progression of collaborations and communications. Our UK society has welcomed international speakers over recent years and benefitted from the international perspective that they provide. In addition we have been thrilled to welcome overseas delegates and really grateful to receive abstract submissions resulting in oral and poster presentations.

The international perspective allows comparison, raises awareness and challenges delegates to learn new ideas, consider new skills and strike to attain success achieved in very different clinical and organisational settings.

This meeting promises to be a melting pot for ideas and will surely generate new friendships and alliances, promoting excellence in our field.

Dr Craig Carroll MB ChB FRCA
President, NACCS UK
Consultant Anaesthetist
Salford Royal Hospital, Manchester, England

Welcome message from PERAKAS

Dear esteemed colleagues and guests,

Welcome to Kota Kinabalu, Sabah!

As the President of PERAKAS, it is my distinct pleasure to extend a heartfelt welcome to all participants, speakers, and attendees of the Neuro Anaesthesia Symposium 2025. It is an honor to convene this gathering of brilliant minds and dedicated professionals in the field of neuroanaesthesia.

The symposium promises to be an enriching experience, offering a platform for the exchange of knowledge, insights, and best practices in neuroanaesthesia. Together, we have the opportunity to delve into the latest advancements, discuss challenging cases, and explore innovative approaches that will shape the future of neurosurgical anaesthesia.

I extend my sincere appreciation to our distinguished speakers, whose expertise and insights will undoubtedly inspire and inform us throughout the symposium. Your contributions are invaluable in fostering learning and collaboration within our community.

I also wish to express my gratitude to the organizing committee, sponsors, and partners for their tireless efforts in planning and executing this event. Your dedication and commitment have been instrumental in ensuring the success of the Neuro Anaesthesia Symposium 2025.

As we embark on this journey of discovery and exploration, let us seize the opportunity to learn from each other, forge new connections, and advance our collective understanding of neuroanaesthesia. Together, we can make a meaningful difference in the lives of our patients and further elevate the standards of care in our field.

I wish you all a stimulating and rewarding symposium experience. May our time together be marked by fruitful discussions, new insights, and lasting connections.

Thank you for your participation and support.

Dr Mohd Faizal bin Mohd Hisham
President
Sabah Academic Society of Anesthesiology
(PERAKAS)

Organising Committee

Organising Chairpersons

Dr Yeap Boon Tat
Senior Lecturer and Neuroanaesthesiologist
Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah, Malaysia

Dr Cheah Siew Lean
Consultant Anaesthesiologist
Jesselton Medical Centre, Kota Kinabalu, Sabah, Malaysia

Honorary Treasurer

Dr Jeyaganesh Veerakumaran
Senior Lecturer & Consultant Neuroanaesthesiologist
Universiti Malaya, Kuala Lumpur

Secretariat

Neudimenxion

Scientific Chairperson

Dr Peter Tan
President, MSNACC
Consultant Neuroanaesthesiologist, Miri Hospital, Sarawak, Malaysia

Scientific Committee

Associate Professor Dr Alexander Papangelou
SNACC Board of Directors, International Liaison
Director of Neuroanesthesiology, Emory University Hospital, Atlanta, USA

Dr Arfah Hanim Mohamad
Neuroanaesthesiologist, Kuala Lumpur Hospital

Dr Beatrice Lim
Senior Consultant Neuroanaesthesiologist, Tan Tock Seng Hospital, Singapore

Dr Craig Carroll
President, NACCS UK
Consultant Anaesthetist, Salford Royal Hospital, Manchester, England

Associate Professor Dr Samuel Tsan
Senior Lecturer and Consultant Neuroanaesthesiologist and Neurointensivist
Faculty of Medicine and Health Sciences, University of Malaysia Sarawak, Malaysia

Local Organising Committee (Hospital Queen Elizabeth, Sabah, Malaysia)

Dr Mohd Faizal Bin Mohd Hisham
Anaesthesiologist

Dr Lydia @ Lily Chua
Anaesthesiologist

Mr Samsualang Bacho
Assistant Medical Officer

Madam Nooradizah Roslan
Nursing Sister

Dr Nur Shazatul Rahimah Binti Rosli
Medical Officer

Dr Inma Ruziana Noor Binti Md Yusslin
Medical Officer

Opening Ceremony of NAS 2025

16 May, Friday (Sipadan 2 Hall, Level 4)

0850-0855	Doa Recital by Dr Mohd Faizal bin Mohd Hisham *(President of PERAKAS)*
0855-0900	Welcome Address by Dr Yeap Boon Tat *(Organising Chairperson of NAS 2025)*
0900-0905	Welcome Address by Professor Dr Ines Koerner *(President of Society for Neuroscience in Anesthesiology & Critical Care)*
0905-0910	Welcome Address by Dr Gemma Nickols *(Honorary Secretary, The Neuro Anaesthesia & Critical Care Society, UK)*
0910-0915	Opening Speech & Officiation of NAS 2025 by Associate Professor Dr Geraldine Jose *(President of Asian Society for Neuroanesthesia & Critical Care)*
0915-0920	Presentation of Tokens of Appreciation MSNACC/ NAS Video Presentation
0920-0930	Cultural Performance
0930-1000	Coffee Break

Closing Ceremony of NAS 2025

18 May, Sunday (Sipadan 2 Hall, Level 4)

1235-1250	Presentation of Best Oral and Poster Presentation Awards Lucky Draws*
1250-1255	Closing Address by Dr Cheah Siew Lean *(Organising Co-Chairperson of NAS 2025)*
1255-1300	The 9th Congress of ASNACC 2027 Video Presentation
1300-1400	Lunch
1400	Adjourn & See You Again in Kuching for ASNACC 2027!

Stay tuned to win attractive prizes!

Complimentary Main Conference Registrations of

- The 9th Congress of Asian Society for Neuroanesthesia & Critical Care 2027, Kuching: 10 tickets **https://asnacc2027.org/**
- Asia-Pacific Neurocritical Care Conference 2026, Penang: 5 tickets **https://neuro-criticalcare.org/**
- Regional Airway Meeting 2026, Kota Kinabalu: 5 tickets **https://regionalairwaymeeting.com/**

Accommodation and meal vouchers sponsored by

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- Mercure Kota Kinabalu City Centre

Scientific Programme

16 May, Friday (Sipadan II)

Time	Agenda
0715-0815	*Registration*
0815-0850	**Plenary 1: Intraoperative EEG: The Basics, the Problems, the Future** Speaker: Paul García *(USA)* Moderator: Zarina Abu Kasim *(Malaysia)*
0850-0930	*Opening ceremony*
0930-1000	*Coffee break*
1000-1035	**Plenary 2: NAP 7 - Perioperative Cardiac Arrest and Implications for Neuroscience** Speaker: Gemma Nickols *(UK)* Moderator: Yeap Boon Tat *(Malaysia)*
1035-1145	**Symposium 1** Moderator: Arfah Hanim Mohamad *(Malaysia)*
1035-1055	**Acute Neuro Care: The Algorithm-based Approach in Acute Neurological Emergencies** Speaker: Keshav Goyal *(India)*
1055-1115	**Anticoagulants and Neurosurgical Emergencies** Speaker: Cheah Saw Kian *(Malaysia)*
1115-1120	Q&A
1120-1205	**Lunch symposium 1** *(Medtronic)* **Role of BIS in Neurosurgery** Speaker: Samuel Tsan *(Malaysia)* Moderator: Nahemah Hasanaly *(Malaysia)*
1205-1400	*Lunch & Friday prayer*
1400-1515	**Symposium 2** *(Concurrent Oral Presentations at Kadamaian Room, Level 5)* Moderator: Jeyaganesh Veerakumaran *(Malaysia)*
1400-1420	**Age-related Changes in Intraoperative Frontal EEG Monitoring** Speaker: Paul García *(USA)*
1420-1440	**ERAS in Neurosurgery** Speaker: Maizatulhikma Md Miskan *(Malaysia)*
1440-1500	**Anaesthesia for Extracranial-intracranial Bypass** Speaker: Yeap Boon Tat *(Malaysia)*
1500-1515	Q&A
1515-1545	*Coffee break*
1545-1700	**Symposium 3** *(Concurrent Poster Presentations at Sipadan Hall 1, Level 4)* Moderator: Maizatulhikma Md Miskan *(Malaysia)*
1545-1605	**Cardiac Dysfunction in Acute Brain Injury: Effects of Neurologic Injury on Cardiovascular Function** Speaker: Chidananda Swamy *(Brunei)*
1605-1625	**Regional Anaesthesia in Spine Surgery: Need or Luxury?** Speaker: Samuel Tsan *(Malaysia)*
1625-1645	**Cranioplasty- It's More Than Just a Cosmetic Repair** Speaker: See Chang Seng *(Malaysia)*
1645-1700	Q&A
1700	*End of Day 1*

* Disclaimer: The Organising Committee may, in its discretion, amend any part of the programme without prior notice.

Scientific Programme

17 May, Saturday (Sipadan II)

Time	Agenda
0800-0835	**Plenary 3: Functional Neurosurgery and Its Impacts on Anaesthesia Delivery** Speaker: Geraldine Jose *(Philippines)* Moderator: Wan Mohd Nazaruddin Wan Hassan *(Malaysia)*
0835-0910	**Plenary 4: Bacteria and the Brain: How the Microbiome Affects Perioperative Brain Health** Speaker: Ines Koerner *(USA)* Moderator: Phuping Akavipat *(Thailand)*
0910-0945	*Coffee break*
0945-1115	**Symposium 4: SNACC- NACCS Panel (Neuromonitoring)** Moderator: Laila Ab Mukmin *(Malaysia)*, Samuel Tsan *(Malaysia)*
0945-1005	**Is Anaesthetic Depth a Useful Concept in Paediatrics?** Speaker: Audrey Tan *(UK)*
1005-1025	**Pupillometry in Intracranial Hypertension and Brain Herniation** Speaker: Alexander Papangelou *(USA)*
1025-1045	**Awake Craniotomy and Brain Mapping** Speaker: Joseph Sebastian *(UK)*
1045-1105	**Illuminating the Possibilities- Advancements and Challenges of Clinical Translation in Near-Infrared Spectroscopy** Speaker: Jason Chui *(Canada)*
1105-1115	Q&A
1115-1200	**Lunch symposium 2** *(Medical Protection Society)* **'When the Scalpel Meets the Gavel'- Can Conscientious Clinical Medicine Survive the Trend of Defensive Medicine?** Speaker: Dharmendra Ganesan *(Malaysia)* Moderator: Nazhan Afeef Bin Mohd Ariff @ Ghazali *(Malaysia)*
1200-1330	*Lunch*
1330-1440	**Symposium 5** Moderator: Cheah Saw Kian *(Malaysia)*
1330-1350	**Looking Beyond Age: Understanding Cognitive Frailty** Speaker: Alexander Papangelou *(USA)*
1350-1410	**Postoperative Delirium: Mitigation of Risks** Speaker: Phuping Akavipat *(Thailand)*
1410-1430	**Neuromonitoring in the ICU: Finding the Sweet Spot** Speaker: Ines Koerner *(USA)*
1430-1440	Q&A
1440-1515	**Sponsored Session** *(Nihon Kohden)* **Advanced EEG Monitoring Setup in ICU**
1515-1545	*Coffee break*
1545-1700	**Symposium 6** Moderator: See Chang Seng *(Malaysia)*
1545-1605	**Updates from Neuroanaesthesia Literature: Best Papers from the Past Year** Speaker: Audrey Tan *(UK)*
1605-1625	**Anaesthesia for Epilepsy Surgery in Children** Speaker: Girija Prasad Rath *(India)*
1625-1645	**Pituitary Surgery - Developing an Enhanced Recovery Programme** Speaker: Gemma Nickols *(UK)*
1645-1700	Q&A
1700	*End of Day 2*
1930-2130	Faculty dinner *(by invitation)*

Scientific Programme

18 May, Sunday (Sipadan II)

Time	Agenda
0830-0905	**Plenary 5: Artificial Intelligence in Research and Publishing** Speaker: Matthew Wiles *(UK)* Moderator: Geraldine Jose *(Philippines)*
0905-0940	**Plenary 6: Value-Based Care in Neuroanaesthesia Practice: The Time Has Come** Speaker: Alana Flexman *(Canada)* Moderator: Peter Tan *(Malaysia)*
0940-1015	*Coffee break*
1015-1125	**Symposium 7** Moderator: Beatric Lim *(Singapore)*
1015-1035	**Anesthetic Management of Giant and Posterior Circulation Cerebral Aneurysms: Lessons from a Rare but High-Stakes Surgical Frontier** Speaker: Jason Chui *(Canada)*
1035-1055	**Frailty and the Neurosurgical Patient: Where Do We Go from Here?** Speaker: Alana Flexman *(Canada)*
1055-1115	**Tracheal Intubation in Patients with Traumatic Spinal Cord Injury** Speaker: Matthew Wiles *(UK)*
1115-1125	Q&A
1125-1245	**Symposium 8** Moderator: Cheah Siew Lean *(Malaysia)*
1125-1145	**Anaesthesia for Vestibular Schwannomma Surgery** Speaker: Joseph Sebastian *(UK)*
1145-1205	**Anaesthesia for endovascular thrombectomy: Is there a superior technique?** Speaker: Beatrice Lim *(Singapore)*
1205-1225	**Unseen but Not Unavoidable: Understanding and Monitoring Perioperative Peripheral Nerve Injury** Speaker: Jason Chui *(Canada)*
1225-1235	Q&A
1235-1300	*Closing ceremony & award presentations*
1300-1400	*Lunch*
1400	*Adjourn*

Programme in numbers

6 Plenaries

8 Symposia (a total of 24 lectures)

2 Sponsored lunch symposia

1 Sponsored tea symposia

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Faculty

Chidananda Swamy M N
Consultant & Head Neurocritical Care
Brunei Neuroscience, Stroke &
Rehabilitation Centre,
Brunei Darussalam

Alana Flexman
Anesthesiologist, St. Paul's Hospital, Vancouver, Canada
Associate Professor, UBC Department of Anesthesiology, Pharmacology & Therapeutics
Affiliated Scientist, Centre for Advancing Health Outcomes, St. Paul's Hospital
Immediate Past President, Society for Neuroscience in Anesthesiology & Critical Care

Jason Chui
Associate Professor,
Department of Anesthesia &
Perioperative Medicine,
University of Western Ontario, Canada

Girija Prasad Rath
Professor of Neuroanaesthesiology and Critical Care
Neurosciences Centre of All India Institute of Medical Sciences,
New Delhi, India

Keshav Goyal
Professor of Critical Care
Department of Neuroanaesthesiology & Critical Care
All India Institute of Medical Sciences,
New Delhi

Arfah Hanim Mohamad
Neuroanaesthesiologist,
Hospital Kuala Lumpur
Neuroanaesthesia and Trauma
Fellow, Monash Medical Centre,
Melbourne

Cheah Saw Kian
Senior Lecturer, Consultant
Anaesthesiologist & Intensivist
Hospital Canselor Tuanku Muhriz,
UKM

Cheah Siew Lean
Consultant Anaesthesiologist
Jesselton Medical Centre,
Kota Kinabalu, Sabah

Jeyaganesh Veerakumaran
Senior Lecturer & Consultant
Neuroanaesthesiologist
Universiti Malaya, Kuala Lumpur

Laila Ab Mukmin
Senior Lecturer
Consultant Neuroanaesthesiologist and Neurointensivist
School of Medical Sciences,
Universiti Sains Malaysia

Maizatulhikma Md Miskan
Neuroanaesthesiologist
Hospital Sultanah Aminah,
Johor Bahru

Dr Yeap Boon Tat
Senior Lecturer and
Neuroanaesthesiologist
Faculty of Medicine and Health Sciences,
Universiti Malaysia Sabah

Faculty

Samuel Tsan
Senior Lecturer
Consultant Neuroanaesthesiologist and Neurointensivist
Universiti Malaysia Sarawak

See Chang Seng
Anaesthesiologist, Hospital Tuanku Jaafar, Seremban
Neuroanaesthesia Fellow, MOH

Beatrice Lim
Senior Consultant
Department of Anaesthesiology, Intensive Care and Pain Medicine
Tan Tock Seng Hospital, Singapore

Geraldine Jose
Program Director Neuroanesthesia Program
University of the Philippines - Philippines General Hospital
President, Society for Neuroanesthesia of the Philippines

Phuping Akavipat
Anesthesiologist, Neurological Institute of Thailand, Bangkok
President, Thai Society for Neuro-anesthesia

Joseph Sebastian
Consultant Neuroanaesthetist, Manchester Centre for Clinical Neurosciences
Honorary Treasurer, The Neuro Anaesthesia & Critical Care Society, UK

Audrey Tan
Consultant Anaesthetist
Director, Neuroanaesthesia Fellowship
St. George's University Hospitals NHS Foundation Trust, London

Matthew Wiles
Consultant Anaesthetist, Sheffield Teaching Hospitals NHS Foundation Trust
Honorary Senior Clinical Lecturer, University of Sheffield
Editor-in-Chief, *Anaesthesia*

Gemma Nickols
Consultant in Anaesthesia, North Bristol NHS Trust
Honorary Secretary, The Neuro Anaesthesia & Critical Care Society, UK
NAP 7 Perioperative Cardiac Arrest Steering Panel

Ines Koerner
Professor of Anesthesiology & Perioperative Medicine and Neurological Surgery
Oregon Health and Science University, Portland, Oregon
President, Society for Neuroscience in Anesthesiology & Critical Care

Paul S. García
Associate Professor and Chief of Neuroanesthesia
Columbia University Irving Medical Center, New York

Alexander Papangelou
Associate Professor of Anesthesiology,
Emory University Hospital, USA

ABSTRACTS

Plenary 1
Intraoperative EEG: The Basics, the Problems, the Future

Paul García *(USA)*

Dr. García will discuss the critical role of quantitative EEG (qEEG) in refining anesthetic management. The brain is the end-target organ of anesthesia. Dr. García advocates for direct neurophysiologic monitoring through frontal EEG, especially in vulnerable populations where traditional pharmacologic heuristics fall short. He underscores that artifact-free raw EEG waveforms—interpreted in both time and frequency domains—offer clinicians more actionable data than commercially processed EEG indices, which often lack accuracy in elderly patients.

A significant focus is placed on alpha oscillations as biomarkers of thalamocortical integrity. Robust frontal alpha activity during anesthetic maintenance and emergence is associated with reduced postoperative pain and lower risk of delirium. In contrast, attenuated alpha power—particularly in older patients or while administering unnecessarily high hypnotic doses—correlates with increased cognitive risk. Dr. García categorizes emergence into distinct EEG trajectories, showing that those mimicking natural sleep (e.g., delta → spindle → non-slow-wave → wakefulness) are protective, whereas abrupt transitions to wakefulness without alpha rebound are linked to adverse outcomes.

The presentation critiques overreliance on abstract indices like the BIS and instead promotes waveform literacy and individualized EEG titration strategies. Future directions include the development of predictive models incorporating age-related EEG decline, as well as integrating alpha-band metrics into clinical decision support systems. Ultimately, Dr. García calls for a paradigm shift toward EEG-guided precision anesthesia to optimize safety, efficacy, and neurocognitive outcomes.

Symposium 1
Acute Neuro Care- The Algorithm-based Approach in Acute Neurological Emergencies

Keshav Goyal *(India)*

Acute Neuro Care (ANC) is a structured approach to managing neurological emergencies like stroke, traumatic brain injury (TBI), seizures, and status epilepticus. It prioritizes life-threatening conditions first, ensuring timely intervention and standardized, evidence-based care. A uniform algorithm- based protocol helps all caregivers, regardless of specialty, to act efficiently in critical moments.

Magnitude of the Problem

Neurological emergencies account for 10-15% of all medical emergencies. The Global Burden of Disease (GBD) 2019 reports a doubling of non-communicable neurological disorders (DALYs 4% to 8.2%), while communicable neurological disorders remain significant. Seizures (52%), stroke (25%), and coma/TBI (20%) are the major contributors, underscoring the need for structured interventions.

The Need for a Standardized Approach

Since "time is brain," the first few hours are crucial in determining outcomes. Effective ANC management requires:

- Trained personnel
- Proper equipment
- Structured communication and documentation
- Standard Operating Procedures (SOPs)
- Faster referrals and transfer times
- Tele-neurology and community awareness

Methodology and Focus

ANC follows a systematic approach:

- What to do – 16 evidence-based medicine lectures
- How to do it – 12 hands-on skill stations
- Core principles – Prioritize life threats, avoid harm, assess rapidly, and provide structured care
- Key focus – Standardized algorithms, checklists, and structured communication

The ANC protocols, endorsed by the Neurocritical Care Society of India (NCSI) and Indian society of Neuroanaesthesiology and Critical Care (ISNACC), provide structured algorithms for multiple neuro-emergencies, aiding clinicians in decision-making. By implementing algorithm-based approaches, acute neuro care is standardized, ensuring that critical interventions are performed efficiently, reducing morbidity and mortality in neurological emergencies.

Symposium 1
Anticoagulants and Neurosurgical Emergencies

Cheah Saw Kian *(Malaysia)*

Anticoagulants are widely used for the prevention and treatment of thromboembolic disorders but pose significant challenges in neurosurgical emergencies due to the increased risk of intracranial hemorrhage. This presentation explores the impact of anticoagulants on neurosurgical conditions such as traumatic brain injury (TBI), spontaneous intracranial hemorrhage (ICH), subdural hematoma (SDH), aneurysmal subarachnoid hemorrhage (aSAH), and ischemic stroke with large vessel occlusion (LVO). It provides an in-depth review of anticoagulant reversal strategies, including the use of vitamin K, prothrombin complex concentrates (PCC), protamine sulfate, and specific reversal agents like idarucizumab and andexanet alfa. Key principles of anticoagulation management, surgical decision-making, and considerations for restarting anticoagulation post-hemorrhage are discussed. Advanced monitoring tools such as INR, anti-Xa levels, thromboelastography (TEG), and rotational thromboelastometry (ROTEM) are highlighted for optimizing patient management. Future directions focus on safer anticoagulants, AI-driven risk prediction models, and novel reversal agents. The goal of this presentation is to provide a comprehensive guide for clinicians managing anticoagulated patients in neurosurgical emergencies to improve outcomes and minimize complications.

Symposium 2
Age-related Changes in Intraoperative Frontal EEG Monitoring

Paul García *(USA)*

This presentation addresses how aging alters the interpretation and clinical relevance of frontal electroencephalography (EEG) during general anesthesia. Dr. García highlights that aging is associated with significant reductions in EEG amplitude and spectral power, especially in the alpha band. These changes impair the reliability of processed EEG indices and limit clinicians' ability to interpret brain states using standard monitors. As such, elderly patients face increased risks of excessive hypnotic dosing and burst suppression, both of which are linked to postoperative delirium and prolonged cognitive dysfunction.

The presentation emphasizes the importance of alpha oscillations, which reflect thalamocortical integrity and serve as a neurophysiologic marker of anesthetic depth. In younger patients, strong frontal alpha activity during emergence correlates with smoother recovery and less pain in the post-anesthesia care unit (PACU). However, aging blunts alpha oscillation peak power, making this protective pattern more difficult to observe. Consequently, older adults often follow emergence trajectories lacking clear alpha restoration, trajectories that have been associated with worse cognitive outcomes postoperatively.

Clinical vignettes illustrate the challenges of dosing anesthetics in aged patients, where EEG suppression may occur despite appropriate hemodynamic targets. Dr. García urges a shift from reliance on processed indices to direct waveform interpretation—particularly in vulnerable populations. The talk proposes age-informed EEG interpretation strategies, suggesting that anesthetic titration must account for individual neurophysiologic variability across the lifespan.

By integrating knowledge of age-related EEG changes with intraoperative decision-making, anesthesiologists may better avoid excessive sedation, reduce postoperative complications, and promote neurocognitive resilience in older surgical patients.

Symposium 2
ERAS in Neurosurgery

Maizatulhikma Md Miskan *(Malaysia)*

Enhanced Recovery After Surgery (ERAS) is a multidisciplinary, evidence-based approach designed to improve perioperative outcomes, reduce complications, and shorten hospital stays. While ERAS has been well-established in general surgical fields, its integration into neurosurgery—particularly for craniotomy and spine procedure are still evolving. Enhanced Recovery After Surgery (ERAS) protocols are gaining momentum in neurosurgical practice, offering structured, evidence-based strategies to improve perioperative outcomes

This session will explore the implementation of ERAS pathways in neurosurgical settings, with a focus on craniotomies for intracranial and neurovascular lesions, as well as elective and complex spine surgeries. Drawing from recent guidelines and clinically relevant studies, this talk aims to highlight the core components of ERAS: preoperative patient optimization, intraoperative anesthetic strategies, pain management, early mobilization, and postoperative recovery protocols.

Objectives:

- To understand the key principles of ERAS and their application in neurosurgical procedures.
- To review current evidence supporting ERAS especially in craniotomy and spine surgeries.
- To outline the role of anesthetists, neuroanesthetists, and perioperative teams in ERAS implementation.
- To identify practical strategies and institutional adaptations for successful integration.
- To enhance the benefits of ERAS implementation
- To discuss on limitation and challenges of adapting the ERAS based protocol.

Future Directions:

The session will conclude with a discussion on the future of ERAS in neurosurgery, including the need for standardized protocols, ongoing multicenter trials, and the development of neurosurgery-specific ERAS guidelines. Opportunities for education, data collection, and quality improvement initiatives will also be addressed.

Symposium 2
Anaesthesia for Extracranial-intracranial Bypass

Yeap Boon Tat *(Malaysia)*

Moyamoya disease (MMD) is a rare progressive cerebrovascular disease that often leads to ischemic or haemorrhagic stroke and seizures. It is commoner amongst East Asians with a prevalence rate of 3.9 – 10.5 cases per 100, 000 people. Revascularisation surgery is the most effective method to improve cerebral haemodynamics and prevent future stroke. There are three types of revascularization surgery – direct, indirect and a combination of both techniques – each having their strengths and weaknesses.

Anaesthesia for EC-IC bypass surgery in MMD patients requires meticulous consideration as they have a reduced cerebral oxygen reserve and an increased oxygen extraction ratio.

This lecture will encompass a brief pathophysiology of MMD, anaesthetic goals during EC-IC bypass surgery and outcomes.

Symposium 3

Cardiac Dysfunction in Acute Brain Injury: Effects of Neurologic Injury on Cardiovascular Function

Chidananda Swamy *(Brunei)*

Neurocardiology refers to the interplay between the nervous system and the cardiovascular system. Acute severe brain injury is associated as a cause for cardiac dysfunction, impaired hemodynamic function, and poor outcomes. The brain's influences on the heart can include elevated cardiac markers, arrhythmias, repolarization abnormalities on electrocardiogram, myocardial necrosis, autonomic dysfunction, unexpected cardiac arrest, acute myocardial infarction, uncontrolled atrial fibrillation, QT prolongation, Takotsubo cardiomyopathy and require careful attention.
Patients with acute brain injury experience a number of cardiovascular complications. This is because common risk factors exist between neurologic and cardiovascular diseases, and also the close interconnection between brain and heart, leading to an increased cardiovascular burden. Although the cardiovascular complications may or may not be clinically significant, the medical team should be aware of these conditions, since such cardiac complications often may result in fatal and irreversible outcomes.

Acute severe neurologic injuries such as aneurysmal subarachnoid haemorrhage (SAH), ischemic stroke (IS), intracerebral haemorrhage (ICH) are commonly associated with pathologic neuro-cardiac manifestations like subendocardial ischemia, repolarization abnormalities, arrhythmias, autonomic dysfunction, and sudden cardiac death (SCD). Stress-related cardiomyopathy exemplifies the brain–heart connection and occurs in several conditions with acute brain injury that share over sympathetic activation. Mechanistic links between the brain and the heart have been explored, and catecholamine excess, neuroendocrine dysfunction, and unchecked inflammation all likely contribute to the pathophysiologic process.

In this presentation we shall try to understand the clinical significance and management of such neuro-cardiac complications, examine the pathophysiology of cardiac dysfunction after neurologic injury, discuss the evidence surrounding cardiac dysfunction after different neurologic injuries, and gain knowledge to improve outcomes in this patient population.

Symposium 3

Regional Anaesthesia for Spine Surgery: Need or Luxury?

Samuel Tsan *(Malaysia)*

This talk explores the critical role of regional anaesthesia in managing post-operative pain in spine surgery, addressing the high incidence of pain and the limitations of opioids, which demand opioid-sparing, multimodal analgesic approaches. The benefits of regional analgesia, supported by evidence, include improved pain control and enhanced quality of life. Various nerve blocks are reviewed. Challenges of performing regional anaesthesia will also be discussed.

Symposium 3

Cranioplasty- It's More Than Just a Cosmetic Repair

See Chang Seng *(Malaysia)*

Cranioplasty, often regarded as a cosmetic procedure to restore cranial contour following skull defects, holds a much deeper therapeutic value in neurorehabilitation. This presentation discusses the broad-ranging benefits of cranioplasty beyond aesthetics, including its influence on neurological recovery, cerebral blood flow, cerebrospinal fluid dynamics, and mechanical brain protection. It further explores the psychological and social advantages, such as enhanced self-esteem and improved quality of life. Additionally, the presentation highlights potential early and late complications associated with the procedure. Drawing on clinical evidence and physiological insights, the discussion emphasizes the importance of timely cranioplasty as a crucial component of comprehensive recovery after cranial trauma or decompressive craniectomy.

Plenary 2

NAP 7 – Perioperative Cardiac Arrest and Implications for Neuroscience.

Gemma Nickols *(UK)*

The UK National Audit Projects (NAPs) are internationally recognised as reports with a significant impact on anaesthetic practice and patient outcome. They are intended to examine, report on and drive improvements in practice. The majority of NAPs have involved collaborations and partnerships. There have been seven projects to date, with an eighth in progress. The seventh project which ran data collection from June 2021 to June 2022 looked at peri-operative cardiac arrest from any cause. At the start of the project two baseline surveys were completed, an individual anaesthetist survey and a local co-ordinator institutional survey, there was an activity survey and finally the individual case registry. The activity survey was extrapolated to estimate 2.71 million cases involving an anaesthetist performed in one year. There were 881 cases of cardiac arrest fulfilling the eligibility criteria, 3% of these were in neuroscience patients. This gave an overall rate of cardiac arrest of 1 in 3000. Compared to previous NAPs the patient cohort is older, with increased rates of obesity and co-morbidity. The full report of NAP7 is available here **https://www.rcoa.ac.uk/research/research-projects/national-audit-projects-naps/nap7-report.**

Plenary 3
Functional Neurosurgery and Its Impacts on Anaesthesia Delivery

Geraldine Jose *(Philippines)*

Functional Neurosurgery encompass procedures which address the most complex debilitating neurological conditions (e.g. parkinson's disease, essential tremors, dystonia, epilepsy); psychiatric disease (e,g. treatment resistant depression); and chronic pain states (1). This specialized field include Deep Brain Stimulation (DBS), Stereotactic Surgery, Lesioning Procedures, Vagus Nerve Stimulation (VNS), Responsive Neurostimulation (RNS), Neuroaugmentation, and Functional Hemispherectomy. All of which are poised to targeting specific pathways and networks in the nervous system which responds with remarkable fluidity via neuroplasticity, functional network reorganization, modulation of the release and uptake of neurotransmitters, and long-term behavioral and cognitive adaptations. Processes which define the therapeutic effects of these techniques. The landscape of functional neurosurgery is continuously evolving, marked by innovations such as High-Intensity Focused Ultrasound (HIFU) technologies, particularly Magnetic Resonance-Guided Focused Ultrasound (MRgFUS). A groundbreaking non-invasive and precision driven advancement which relies on thermal ablation to target cerebral tissue, eliminating the need for incisions and implanted hardware while minimizing risks associated with traditional surgical methods, solidifying its reputation as a safe and effective tool for this subset of patients. The unique physiological and procedural needs associated with MRgFUS, such as real-time MR thermography and patient immobility during extended interventions, necessitate tailored neuroanesthetic strategies. The adaptive measures in anesthesia delivery that have emerged has evolved in tandem with the integration of MRgFUS into functional neurosurgery. A detailed analysis of pharmacological strategies, monitoring advancements, and procedural innovations in neuroanesthesia will be discussed providing insights into the interplay between the demands of the evolution of functional neurosurgical techniques and their implications for further research and clinical practice. By exploring these developments, we will gain insight into the cutting-edge practices that shape contemporary neurosurgical interventions underscoring the importance of tailored and adaptive anesthetic strategies in improving patient experiences, overall quality of life and outcomes.

Plenary 4

Bacteria and the Brain- How the Microbiome Affects Perioperative Brain Health

Ines Koerner *(USA)*

The central nervous system and the gastrointestinal tract communicate extensively, involving humoral messaging, neuronal signaling, and communication by immune cells. Much of the humoral messaging is facilitated by the trillions of microorganisms that colonize the human gastrointestinal tract and form the gut microbiome. These microbiota provide defense against infections and produce essential proteins and short-chain fatty acids that support the immune response. Gut microbiota impact many aspects of brain health, starting with brain development that requires a healthy microbiome for appropriate synaptic maturation. Gut microbiota may also be involved in the generation of brain vascular pathology frequently encountered by neuroanesthesiologists and neurointensivists, such as cerebral aneurysms and cavernous malformations. Conversely, injury to the brain such as stroke or traumatic brain injury, rapidly causes dysbiosis, a shift from the normal composition of gut microbiota with predominance of Firmicutes and Bacteroidetes towards pathogenic populations. Recently, exposure to anesthetics and other perioperative factors has been shown to similarly induce dysbiosis, which alters the immune response and increases mortality from endotoxemia. Dysbiosis can worsen injury after stroke and interfere with recovery while dysbiotic fecal transplants from patients with Alzheimer's disease can induce memory deficits in rodents. Similarly, fecal transplants from patients with major depressive disorder can worsen depressive-like behavior in animals. Therapeutic interventions aiming to correct dysbiosis hold promise for perioperative brain health. Probiotics, which are concentrates of presumed beneficial bacteria, are frequently used to restore the microbiome of patients receiving broad-spectrum antibiotics and have shown benefit in animal models of brain injury and in small human studies. Fecal transplants are clinically used to correct dysbiosis in Clostridium difficile infection, but have not been studied widely in patients with neurologic disorders. At the current time, the largest body of evidence supporting the relevance of the microbiome for neurologic disease and brain health comes from animal work. Large clinical trials are needed to further investigate the therapeutic potential of targeting the microbiome to support perioperative brain health.

Symposium 4: SNACC - NACCS Panel (Neuromonitoring)

Is Anaesthetic Depth a Useful Concept in Paediatrics?

Audrey Tan *(UK)*

The utility of anaesthetic depth monitoring in paediatrics remains less used despite its widespread adoption in adult practice. This presentation examines this concept through the lens of paediatric neuroanaesthesia.

The developing brain presents unique challenges for depth of anaesthesia assessment, with EEG patterns and pharmacologic responses evolving dramatically from neonatal to adolescent periods. Density Spectral Array patterns show age-dependent progression from delta-dominant patterns in neonates to more complex frequency distributions in older children, necessitating age-specific interpretation.

Recent evidence suggests that while absolute values of processed EEG indices may be less reliable in young children, relative changes and trends may provide valuable information when interpreted contextually. Key considerations include age-appropriate target ranges and monitoring limitations. Despite technological constraints, multimodal monitoring approaches that incorporate processed EEG with other parameters can be valuable to titrating anaesthesia and possibly to identifying changes in brain function especially with the increased use in total intravenous anaesthesia in paediatric neurosurgical cases.

Symposium 4: SNACC - NACCS Panel (Neuromonitoring)

Pupillometry in Intracranial Hypertension and Brain Herniation

Alexander Papangelou *(USA)*

Monitoring intracranial pressure (ICP) is one of the cornerstones of neurocritical care for patients with severe acute brain injury. Invasive techniques have been complemented with noninvasive options, including automated pupillometry which interrogates the pupillary light reflex (PLR). Historically, the PLR has been evaluated using a penlight, which introduces qualitative terminology and subjectivity to arguably the foundation of the coma neurologic exam. The numerous applications of automated pupillometry underscores the value of accurate quantitative measurements.

The PLR involves afferent (cranial nerve II) and efferent limbs (cranial nerve III, including an autonomic contribution on the outer part of the nerve). Whether by pressure-related effect on the autonomic system or torquing of fibers due to mass effect, the PLR may be sensitive to changes in ICP and mass effect, respectively. The PLR includes latency, maximum pupil size, constriction velocity, percent constriction, minimum pupil size, and dilation velocity, many of which have potential value in identifying changing intracranial dynamics. The Neurological Pupil Index (NPiTM, Neuroptics, Irvine, California) is a proprietary value measured by an automated pupillometer that compares a patient's PLR to normal historical observations. NPiTM has shown value in foreshadowing and detecting ICP elevations and impending crises. This session will review some of the most compelling data in support of automated pupillometry as a routine tool for the care of patients with acute intracranial pathology.

Symposium 4: SNACC - NACCS Panel (Neuromonitoring)

Awake Craniotomy and Brain Mapping

Joseph Sebastian *(UK)*

Awake craniotomy is an important technique for increased lesion resection whilst minimising damage to eloquent brain cortex, and resulting postoperative neurological dysfunction.

Key points which will be covered:

- Brief history of awake craniotomy
- Pre-operative selection & preparation by the multi-disciplinary team comprising the surgeon, anaesthetist and neuropsychologist.
- The two different anaesthetic approaches to awake craniotomy: awake versus asleep
- Scalp block
- Cortical mapping
- Potential intra-operative complications
- Overview of UK awake craniotomy practice

Symposium 4: SNACC - NACCS Panel (Neuromonitoring)

Illuminating the Possibilities- Advancements and Challenges of Clinical Translation in Near-Infrared Spectroscopy

Jason Chui *(Canada)*

The field of diffuse optics has evolved significantly since Jobsis first demonstrated the potential of near-infrared light for non-invasive monitoring of brain and heart oxygenation in the late 1970s. Initially confined to measuring regional cerebral blood oxygenation, advances in technology have expanded its applications to monitor brain metabolism, cerebral blood flow, and cerebral autoregulation, among others. Today, diffuse optical techniques have diversified: time-resolved spectroscopy has improved accuracy and depth penetration; diffuse correlation spectroscopy (DCS) enables non-invasive measurement of cerebral blood flow; broadband spectroscopy reliably measures changes in oxidized cytochrome c oxidase at the bedside, offering potential for monitoring cerebral metabolism; and high-density diffuse optical spectroscopy provides spatial sensitivity for assessing regional differences in brain oxygenation intraoperatively.

Near-Infrared Spectroscopy (NIRS), or cerebral oximetry, gained traction in perioperative and neurocritical care settings in the late 1990s, offering continuous, non-invasive bedside monitoring of regional brain saturation and serving as an index of global perfusion adequacy. Recent literature emphasizes the importance of individualized blood pressure management, or cerebral autoregulation therapy, in which NIRS has been used to derive a cerebral autoregulation index.

Despite these technological advances, many advanced NIRS modalities, such as time-resolved NIRS, remain confined to research settings due to slow clinical translation. Most commercial NIRS devices in clinical use are based on first-generation technology, offering only regional cerebral saturation in frontal regions and suffering from limitations such as extracranial contamination, inhomogeneous light scattering, and restricted spatial resolution. Consequently, the integration of more advanced NIRS technology into clinical practice remains limited. However, ongoing advancements in diffuse optics over the past decade are addressing these technical challenges, and it is anticipated that these emerging technologies will soon find their place in clinical practice.

Symposium 5
Looking Beyond Age- Understanding Cognitive Frailty

Alexander Papangelou *(USA)*

Preoperative risk factors for postoperative delirium include age over 65, preoperative cognitive impairment (dementia and mild cognitive impairment), poor functional status, sensory impairment and chronic illness. Based on a recent systematic review and meta-analysis in patients greater than 60 years of age, the pooled prevalence of unrecognized cognitive impairment is a staggering 37%, while diagnosed cognitive impairment prevalence is 18%. Although there is no current known treatment or optimization for cognitive impairment, preoperative identification holds much value. Five best practice guidelines from different societies have uniformly recommended cognitive screening of some type (i.e. MMSE, MOCA, mini-Cog) in patients over 65 years of age. The risk of perioperative neurocognitive disorders is much higher than the conditions we routinely consent for and not interrogating the organ that we are directly impacting with our anesthetics is illogical. Providing an understanding of the potential postoperative course allows for proper planning for both patients and families. With this knowledge, patients are given the opportunity to make cognitively difficult decisions before surgery, or in some circumstances, they may choose to delay or cancel surgery. It is noteworthy that some patients outside of the 65 y.o. cutoff have cognitive impairment, making an argument to expand screening beyond age. Although cognitive impairment increases with age, we must realize that the risk lies with cognitive frailty, which should be the target of our preoperative screening efforts.

Symposium 5
Postoperative Delirium: Mitigation of Risks

Phuping Akavipat *(Thailand)*

Over the past five decades, it has been consistently observed that elderly patients undergoing surgery often experience a significant decline in cognitive function. To better describe this phenomenon, the International Code of Nomenclature recommends the term Perioperative Neurocognitive Disorders (P-NCD). One of the key conditions under this classification is Postoperative Delirium (POD), which is typically diagnosed within the first few days following surgery—usually within one week or until hospital discharge. POD is characterized by acute impairments in attention, awareness, and cognition that cannot be explained by a pre-existing neurocognitive disorder. It is particularly prevalent among older surgical patients, with reported incidence rates ranging from 10% to 50%, depending on the type and urgency of the surgical procedure, and an average occurrence of approximately 12%.

Identifying the factors associated with the development of delirium is essential for both early recognition and effective prevention in the perioperative setting. Recognizing predisposing factors enables clinicians to identify high-risk patients early, while understanding precipitating risk factors facilitates the development of targeted strategies to minimize the likelihood of delirium.

Several studies have investigated multicomponent interventions aimed at reducing the incidence of POD. These include multidisciplinary prehabilitation, intraoperative strategies such as specific anesthetic techniques and monitoring (e.g., processed electroencephalography and cerebral oximetry), and the use of particular medications such as corticosteroids, dexmedetomidine, cholinergic agonists, melatonin, antipsychotics, and remimazolam. Enhanced Recovery After Surgery (ERAS) protocols and non-pharmacological, multimodal interventions by interdisciplinary teams have also shown promise. Ultimately, there is a growing awareness that the immediate outcomes of anesthesia are only part of the overall picture. Long-term effects on patients' health and well-being are of equal importance. Postoperative delirium represents a significant concern in this context and warrants continued attention and reassessment in clinical practice.

Symposium 5
Neuromonitoring in the ICU: Finding the Sweet Spot

Ines Koerner *(USA)*

ICU patients at highest risk for secondary brain injury are often the most severely injured who have a limited clinical exam to follow. Objective monitoring of cerebral physiology and function is critical to detect deterioration and allow therapeutic intervention. Ideal monitors allow the anticipation and early detection of deterioration, guide goal-directed intervention and confirm effectiveness of treatment, improve survival and neurologic function and support prognostication. Currently available monitors fulfill some, but not all of these criteria. Monitoring and management of optimal cerebral perfusion pressure, pressure reactivity index, and brain tissue oxygenation hold promise in the treatment of patients with traumatic brain injury. On the other hand, low-barrier techniques such as ultrasound to assess optical nerve sheath diameter or transcranial Doppler are supported by a growing body of evidence. Importantly, while early studies are encouraging, there is not yet good evidence that treatment based on multimodal neuromonitoring indeed improves outcome. Moreover, many invasive monitors are resource-intensive and not readily available in resource limited environments. Comprehensive care that incorporates the clinical exam and multiple data points may still be best. More pragmatic trials are required to establish the real-life relevance of different neuromonitoring strategies and associated patient management in the ICU.

Symposium 6

Updates from Neuroanaesthesia Literature: Best Papers from the Past Year

Audrey Tan *(UK)*

This presentation provides an overview of the most impactful neuroanaesthesia and neurocritical care research published during the past year in 2024. The selected papers represent diverse methodological approaches addressing key clinical challenges in our specialty. The presentation will critically evaluate methodological strengths and limitations of these studies, discuss their practical implications for daily clinical care, and identify possible promising areas for future investigation. By synthesizing this recent evidence, we aim to provide pragmatic guidance for improving patient outcomes across various neurosurgical contexts.

Symposium 6
Anaesthesia for Epilepsy Surgery in Children

Girija Prasad Rath *(India)*

Epilepsy surgery is a definitive treatment for patients with drug-refractory seizures (DRE). This surgery offers children a critical opportunity to reduce seizure burden and support neurodevelopmental progress. However, these procedures present distinct challenges to the anesthesiologist, especially when intraoperative electrocorticography (ECoG) and functional brain mapping are planned. The anesthetic plan must be carefully balanced to maintain stable hemodynamics, ensure adequate sedation and analgesia, and preserve cortical excitability for accurate electrophysiological monitoring. Total intravenous anesthesia (TIVA) using propofol and short-acting opioids remains the preferred technique, as it offers minimal interference with ECoG signals compared to volatile agents. Although sometimes used in younger children for induction, volatile anesthetics are generally minimized due to their suppressive effects on cortical activity. Dexmedetomidine offers advantages in older children or selected cases requiring sedation with preserved respiratory function. Pediatric awake craniotomy may be considered in highly selected and motivated older children for procedures near the eloquent cortex. The psychological and ethical considerations are more complex in these children than in adults. Although technically and psychologically demanding, awake craniotomy is indispensable for resections near the eloquent cortex and demands precise coordination between the anesthesia, neurosurgical, and neurophysiology teams. Preoperative preparation is critical and often includes thorough multidisciplinary planning with neurology, neurosurgery, and child psychologists. Continuation of antiepileptic drugs (AEDs), seizure provocation strategies, and airway management tailored to age and surgical positioning are vital. Intraoperative seizures, though rare, must be anticipated and managed. Effective communication with both the child and their caregivers is a cornerstone of pediatric anesthesia practice. The neuroanesthesiologist's role extends from optimizing the anesthetic technique to ensuring a calm, child-friendly perioperative environment.

Symposium 6

Pituitary Surgery – Developing an Enhanced Recovery Programme

Gemma Nickols *(UK)*

There are significant complications related to pituitary surgery and these can be modified by the surgical and anaesthetic techniques utilised. It is important to have an understanding of the endocrine imbalances that can occur, to mitigate them. In our institution we audited our own practice and outcomes and used this information, along with very limited amount of literature available to design our own standardised protocol for the management of patients having standard endoscopic pituitary surgery.

Plenary 5
Artificial Intelligence in Research and Publishing

Matthew Wiles *(UK)*

Over the past decade, there has been an exponential increase in the use of artificial intelligence (AI) applications. This lecture will explore the implications of this technology in the field of academic research and scientific publication.

There will be a brief discussion of the history and development of AI models. The lecture will focus on the potential benefits of AI for authors, editors and publishers (e.g. more effective literature screening and data extraction through enhanced database searches; generation of concise data summaries; production of code for data analysis; language and formatting editing; reviewing including peer review). These benefits will be contextualised with the ability of generative artificial intelligence to produce high-quality fraudulent research papers (e.g. unacknowledged generated text, data or, in extreme cases, entire research manuscripts).

There will also be detailed examples of how AI can generate fake research and a discussion of the methods being used by journals to detect AI-generated content.

Plenary 6

Value-Based Care in Neuroanaesthesia Practice - The Time Has Come

Alana Flexman *(Canada)*

This presentation will provide an overview and definition of the concept of value-based health care, which will encompass the definition of “value” from a patient-centered perspective and distinction from and integration with quality improvement. Using examples from neuroanesthesia and neurocritical care, we will cover opportunities and challenges for anesthesiologists in implementing value-based care in a specialty practice. Finally, remaining gaps in the literature will be explored and areas for future research identified.

Symposium 7

Anesthetic Management of Giant and Posterior Circulation Cerebral Aneurysms: Lessons from a Rare but High-Stakes Surgical Frontier

Jason Chui *(Canada)*

Giant and complex cerebral aneurysms, particularly those involving the posterior circulation, represent a rare yet formidable neurosurgical challenge with high morbidity and mortality. Over the decades, their management has evolved in tandem with pivotal advances in neurosurgery and neuroanesthesia—from early surgical clipping and brain relaxation techniques to mitigate exposure related injury, to hypothermic and pharmacologic neuroprotection aimed at reducing ischemic insults. More sophisticated strategies, including selective brain cooling and controlled flow arrest, have further refined the anesthetic approach to these high-risk procedures. While endovascular innovations such as flow diversion and stent-assisted coiling have revolutionized aneurysm treatment and diminished the frequency of open surgical cases, a select group of aneurysms—particularly large, deep-seated lesions with complex neurovascular anatomy—remain amenable only to open intervention. As such, cases become increasingly rare, structured anesthetic guidance is lacking, with knowledge often shared informally. This presentation highlights our institutional experience in the perioperative management of giant and posterior circulation aneurysm surgeries, emphasizing practical strategies, intraoperative decision-making, and neuroprotective techniques tailored to these uniquely challenging cases. A general overview of subarachnoid hemorrhage or aneurysmal disease is outside the scope of this discussion.

By the end of this presentation, you will be able to:
1. Describe the characteristics and current treatment strategies for complex cerebral aneurysms.
2. Discuss key anesthetic considerations, including:
- Aneurysm sac relaxation techniques (e.g., Dallas procedure)
- Neuroprotection and neuromonitoring strategies (e.g., selective brain cooling)
- Brain relaxation methods (e.g., lumbar drain)

Symposium 7

Frailty and the Neurosurgical Patient- Where Do We Go from Here?

Alana Flexman *(Canada)*

This presentation will examine the definition and concept of frailty in surgical patients, and provide the advantages and disadvantages of various measurement tools used to quantify frailty. We will review the evidence supporting a relationship between frailty and postoperative outcomes in the neurosurgical population, including the potential role of surgery to improve frailty in select populations. Finally, we will examine the literature supporting potential interventions to improve frailty and outcomes, and future research priorities.

Symposium 7
Tracheal Intubation in Patients with Traumatic Spinal Cord Injury

Matthew Wiles *(UK)*

There are concerns that airway management in patients with suspected or confirmed cervical spine injury may exacerbate an existing neurological deficit, cause a new spinal cord injury or be hazardous due to precautions to avoid neurological injury. However, there are no evidence-based guidelines for practicing clinicians to support safe and effective airway management in this setting.

This lecture will review the epidemiology of traumatic spinal cord injury and then review the evidence relating to airway interventions and the risk of secondary spinal cord injury, highlighting key principles and techniques for pre-oxygenation and facemask ventilation; supraglottic airway device use; tracheal intubation; adjuncts during tracheal intubation; cricoid force and external laryngeal manipulation; emergency front-of-neck airway access; awake tracheal intubation; and cervical spine immobilisation including manual in-line stabilisation. The UK multi-society guidelines on this topic will also be presented.

It is hoped that this will provide a pragmatic approach to airway management and improve the safety and efficacy of airway management in adult patients with suspected or confirmed cervical spine injury

Symposium 8
Anaesthesia for Vestibular Schwannomma Surgery

Joseph Sebastian *(UK)*

Vestibular schwannommas (VS) historically referred to as acoustic neuromas are benign neoplasms arising from Schwann cells that make up the sheath of the vestibular nerves. The tumour most commonly originates from the superior vestibular nerve, as the nerve passes through the internal auditory meatus into the cerebellopontine angle towards the brain stem.

This lecture aims to cover the key anaesthetic considerations when managing patients undergoing microsurgical resection of these tumours.

Key points which will be covered:

- Clinical presentation of the patient with vestibular VS and indications for surgery
- Overview of anatomy of the cerebellopontine angle
- Conduct of anaesthesia including choice of anaesthetic agents, use of facial nerve monitoring and patient positioning.
- Strategies to reduce problematic nausea and dizziness after surgery.
- Potential intraoperative and postoperative complications that may occur when resecting a VS

Symposium 8

Anaesthesia for endovascular thrombectomy for acute ischemic stroke: Is there a superior technique?

Beatrice Lim *(Singapore)*

Endovascular thrombectomy (EVT) has become a key treatment option for eligible patients with acute ischemic stroke, especially those with large vessel occlusion in the anterior circulation. The choice of anaesthesia during EVT can play an important role in optimizing procedural outcomes and ensuring patient safety. This presentation explores the two primary anaesthesia techniques used in EVT: general anaesthesia (GA) and conscious sedation (CS), evaluating their advantages, challenges, and the current evidence regarding their effectiveness.

General anaesthesia (GA) provides complete airway control, which is crucial for patients with impaired neurological function who are at risk of airway compromise. Additionally, GA ensures patient immobility, which may play a key role in achieving successful revascularization. However, the need for intubation and preparation can cause delays in initiating the procedure. GA is also associated with a higher risk of hemodynamic instability and complications related to intubation. In contrast, conscious sedation (CS) typically allows for a faster start to the procedure, facilitating earlier revascularization. It also enables real-time neurological assessment since the patient remains awake and responsive throughout. However, CS requires careful monitoring to ensure proper airway management and appropriate sedation depth to ensure patient safety.

The evidence comparing GA and CS for EVT has yielded mixed results. Earlier observational studies have suggested that conscious sedation may be associated with shorter procedure times and better functional outcomes. However, these studies are prone to selection bias, as patients who are more stable are likely to receive conscious sedation. In contrast, randomized controlled trials (RCTs) have not demonstrated a clear superiority of conscious sedation over general anaesthesia. In fact, recent meta-analyses of these RCTs have shown that GA is associated with improved recanalization rates, although functional outcomes remain similar between the two techniques.

In conclusion, both anaesthesia techniques are viable options for EVT, and the decision should be tailored to the patient's clinical condition, procedure complexity and available resources. Regardless of the anaesthesia technique used, it is essential to adhere to the concept of "time is brain", prioritizing swift intervention and ensuring adequate cerebral perfusion to minimize ischemic injury.

Symposium 8

Unseen but Not Unavoidable: Understanding and Monitoring Perioperative Peripheral Nerve Injury

Jason Chui *(Canada)*

Perioperative peripheral nerve injury (PNI) remains a clinically significant yet underappreciated complication of general anesthesia, associated with long-term patient disability and a notable share of anesthesia-related malpractice claims. While PNI is frequently attributed to improper patient positioning, emerging evidence underscores a multifactorial pathogenesis that involves a complex interplay of mechanical stressors—such as compression, stretch, and ischemia—with patient-specific vulnerabilities and intraoperative events. This presentation will outline the clinical burden of PNI across various surgical populations, highlighting data from the Anesthesia Closed Claims Project and recent literature demonstrating both the incidence and patterns of nerve injury. We will delve into the pathophysiological mechanisms underlying PNI, emphasizing why many injuries remain unpredictable and unpreventable despite adherence to standard positioning guidelines. Building on this, we will examine advances in intraoperative neurophysiological monitoring, particularly the application of automated somatosensory evoked potential (SSEP) detection technologies. Results from a recent prospective, randomized controlled trial of automated SSEP monitoring during shoulder arthroplasty will be discussed. Although the study did not find a significant reduction in intraoperative nerve injury burden or functional outcomes between groups, the consistent trend toward improved neurological recovery and quality of life over time in both arms highlights the potential value of real-time neural feedback in guiding clinical decisions. The findings collectively advocate for a paradigm shift toward dynamic and individualized monitoring strategies, reinforcing the shared responsibility of anesthesiologists and surgeons in preventing PNI and optimizing perioperative neural integrity.

At the end of this presentation, you will able to:

1. Outline the significance of Perioperative Peripheral Nerve Injury (PNI)
2. Describe the current understanding of the pathophysiology
3. Describe the recent development of automated neurophysiological monitor

ORAL AND POSTER PRESENTATIONS

Shortlisted Oral Presentations

OP01
Effect of Norepinephrine and Phenylephrine on Tissue Oxygenation During Superficial Temporal Artery-Middle Cerebral Artery Bypass: A Randomized Controlled Trial

Jie Cheng *(China)*

OP02
Automated Pupillometry for Assessing Emergence from General Anaesthesia in Supratentorial Craniotomy Patients: A Prospective Observational Study

Revikrishnan Sreekumar *(India)*

OP03
Application of Precision Medicine in Pediatric Anesthesia: Integration of Genomics and Metabolomics

Wei Wang *(China)*

OP04
Efficacy Of Oral Melatonin Premedication in Reducing Preoperative Anxiety in Patients Undergoing Supratentorial Craniotomy

Chandini Kukanti *(India)*

OP06
Clinical Relevance of Transorbital Ultrasonographic Measurement of Optic Nerve Sheath Diameter (ONSD) for Estimation of Intracranial Pressure Following Cerebrospinal Fluid Diversion Surgery

Shilpi Misra *(India)*

OP07
Comparison of Opioid Free Anaesthesia Versus Ultra-short Acting Opioid Anaesthesia for Elective Supratentorial Craniotomy

Muaz Adam Mohd Nabil *(Malaysia)*

List of Poster Presentations

PP01
Anesthetic Management for Neurosurgical Laser Interstitial Thermal Therapy (LITT) Ablations
Christiano Dos Santos E Santos *(USA)*

PP02
Effect of Pneumoperitoneum During Laparoscopic Surgery on Cerebral Blood Flow Velocity and Intracranial Pressure Using Transcranial Color Coded Duplex Sonography- A Prospective, Observational Study
Kunal Kumar *(India)*

PP08
Etiology of Polyuria in Patients Undergoing Clipping of Aneurysm for Subarachnoid Hemorrhage
Mahnaz Showkat Shah *(India)*

PP09
Successful Awake Craniotomy in A Young Lady with a Huge Lung Tumour - A Case Report
Lan Soo Ni *(Malaysia)*

PP10
A Rare Case of Cerebellar Arteriovenous Malformation in Pregnancy
Ikhwan Nasir Bin Idris *(Malaysia)*

PP12
A Comparison of the Emergence Times between Dexmedetomidine and Ketamine as an Adjuvant to Propofol TIVA in Spinal Surgeries - A Prospective Randomized Double Blind Study
Sharath Krishnaswami *(India)*

PP13
Anesthesia Management in Pregnant Patient with Posterior Fossa Tumor Undergoing Intraoperative Neuromonitoring Assisted Craniotomy Tumor Removal in Prone Position - A Case Report
Adriana Jardine *(Indonesia)*

List of Poster Presentations

PP14

Reducing Total Intravenous Fluids Using Plethysmographic Variability Index (PVI) Guided Intraoperative Fluid Therapy During Elective Neurosurgeries

Yeap Boon Tat *(Malaysia)*

PP15

Perianaesthetic Management on a Child with Lennox Gastaut Syndrome for Vagus Nerve Stimulation (VNS) Placement

Yeap Boon Tat *(Malaysia)*

PP16

Cranial Nerve Palsy After Endoscopic Transsphenoidal Pituitary Surgery

Kwong Heng Sheng *(Malaysia)*

PP17

Perioperative Concerns in a Patient with Malignant Middle Cerebral Artery Infarction Post Percutaneous Coronary Intervention

Muhammad Yassin Bin Ikbaal *(Malaysia)*

PP18

The Neuroprotection Role of Intranasal Insulin- A Systematic Review and Meta-analysis of Randomized Controlled Trial

Ng Ka Ting *(Malaysia)*

PP19

The History of Awake Craniotomy in Sabah and Our Secrets of Success

Yeap Boon Tat *(Malaysia)*

PP20

A Successful Story of Setting Up the First 2nd Tier Stroke Treatment and Neurovascular Centre in Pahang: A Neuroanaesthestist Story

Nazhan Afeef Bin Mohd Ariff @ Ghazali *(Malaysia)*

List of Poster Presentations

PP21

Assessment of a Less Invasive Approach to Procedural and Anaesthesia Techniques in Patients for Elective Endovascular Cerebral Aneurysm Treatments

Jackson Moody *(Australia)*

PP22

Efficacy of $MgSO_4$ as an Adjuvant to Ropivacaine in Scalp Block for Craniotomy- A Randomized Controlled Trial

Lee Chee Yuan, Alwyn *(Malaysia)*

PP23

Intraoperative Propofol-Infusion Syndrome Following Target-Controlled Infusion Propofol Anaesthesia for Posterior Fossa Decompressive Surgery for Chiari Malformation Type 1 in Paediatrics Patient

Cheng Pei Hwa *(Malaysia)*

PP24

Airway Management in a Patient with Klippel-Feil Syndrome with Prior Occipitocervical Fusion

Dave Guiller Torio *(Philippines)*

CERTIFICATE OF ATTENDANCE & CPD POINTS

Certificate of attendance will be sent through e-mail within six weeks after the conference for participants to claim CPD 20 points on platforms like myCPD, NSR etc.

Doctors who are claiming MMA CPD points please ensure your QR Code on MMA App is to be scanned during the coffee breaks and lunch on 17-18 May 2025 (Saturday and Sunday) at the registration counter as the approved points will expire on 19 May 2025. You will need to scan your QR Code only once on either day to claim the full 20 points.

CONFERENCE VENUE

Sabah International Convention Centre (SICC)

The Sabah International Convention Centre (SICC) is situated in the heart of Kota Kinabalu city, it is a six-hectare multi-function complex, the largest waterfront purpose-built conference, exhibition and entertainment facility in Borneo.

Spread over five levels, the well-designed floor plan at SICC features an expansive column-free convention hall with a retractable partition system divisible into three sections. Each multipurpose hall can cater for up to 1,500 delegates, offering a combined floor space of 6,800 square metres, including an extensive pre-function area.

On a separate level, are three contiguous exhibition halls encompassing a 5,200 square metres flexible event space plus six meeting rooms and private VVIP lounge. The top floor is dedicated to 13 individual private meeting rooms, while situated on level three are VIP rooms and VVIP lounges leading to the grand foyer of Sabah's first world-class performing arts hall. The two-tier amphitheatre has a seating capacity of 1,250.

Connecting to the main lobby, an outdoor plaza of 7,000 square metres, set against a sunset backdrop of islands and the South China Sea, is well suited for open-air events.

https://siccsabah.com

SHUTTLE BUS SERVICE, TRANSPORTATION & ACCOMMODATION

Schedule of Shuttle Bus Service

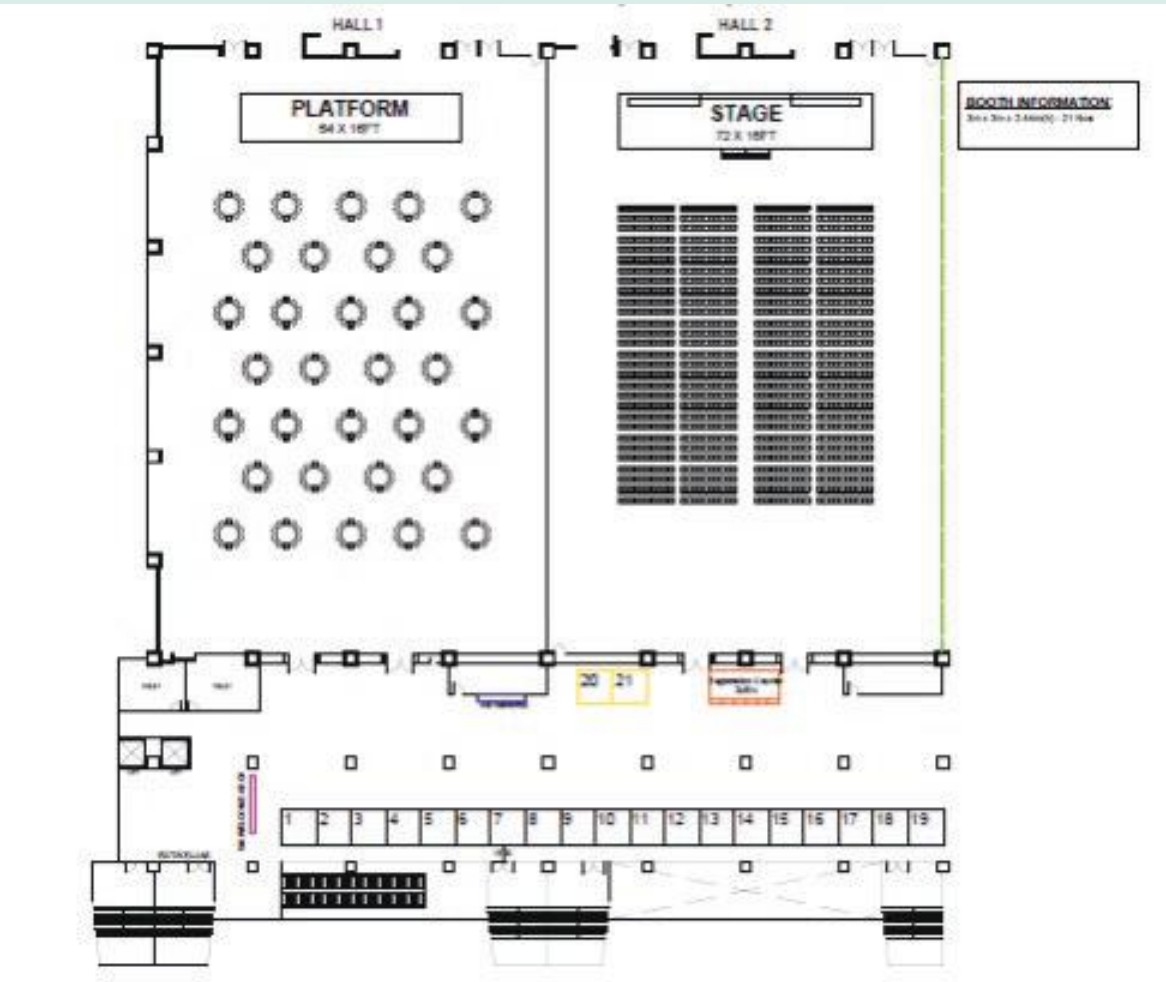
Date	*Pick-up Time*	*Pick-up Point(s)*	*Drop-off Point(s)*
16 & 17 May 2025 *(Friday & Saturday)*	0715H	Hilton Kota Kinabalu & Mercure Kota Kinabalu City Centre	Sabah International Convention Centre (SICC)
	0730H	Hilton & Mercure	SICC
	1715H	SICC	Hilton & Mercure
	1730H	SICC	Hilton & Mercure
18 May 2025 *(Sunday)*	0730H	Hilton & Mercure	SICC
	0745H	Hilton & Mercure	SICC
	1415H	SICC	Hilton & Mercure
	1430H	SICC	Hilton & Mercure

Transportation
Alternatively, you can use ride-hailing platforms like Grab or Maxim for moving around the city. You need to download these applications before booking your ride.

Accommodation
You may book your accommodation at the NAS 2025's partner hotels which offer special rates for the attendees of this meeting
https://www.nas2025.com/accommodation.php

EXHIBITION FLOOR PLAN

Sabah International Convention Centre
Foyer of Sipadan 1 & 2 Halls (Level 4)



Booth no.	Company
1	First Pharmaceutical
2	AIN MEDICARE SDN BHD
3	DKSH
4	SCHMIDT BIOMEDTECH
5	Jesselton Medical Centre
6	Intega Sdn Bhd
7	Pharm-D
8	RHB Bank Bhd
9	Nihon Kohden
10	Micrel Medical

Booth no.	Company
11	Intersurgical Sdn Bhd
12	AMD Solutions Sdn Bhd
13	UMMI Surgical Sdn Bhd
14	DRAEGER MALAYSIA SDN BHD
15	Fresenius Kabi
16	Tawau Specialist Medical Centre
17	Pall-Thai Medical Sdn Bhd
18	SAPPHIRE
19	Medik-Link (Sabah) Sdn Bhd
20	Medtronic
21	Medical Protection Society (MPS)

ACKNOWLEDGEMENTS

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LIABILITY & PERSONAL INSURANCE

The Conference Secretariat and Organiser cannot accept liability for personal accidents or loss of/ damage to private property of participants, either during or indirectly arising from the Conference.

We recommend that all participants take out personal travel and health insurance for the trip.

Contact us: **kknas2025@gmail.com**

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