



Neuroanaesthesia Symposium 2023

combined with

Anaesthesiology Updates 2023

7-9 July 2023
Friday-Sunday

Borneo Convention
Centre, Kuching

're-Connect, Learn and Share'

Programme e-Book

www.nas-au2023.com
E: nas.au2023@gmail.com

Jointly organised by:



In collaboration with:



Supported by:

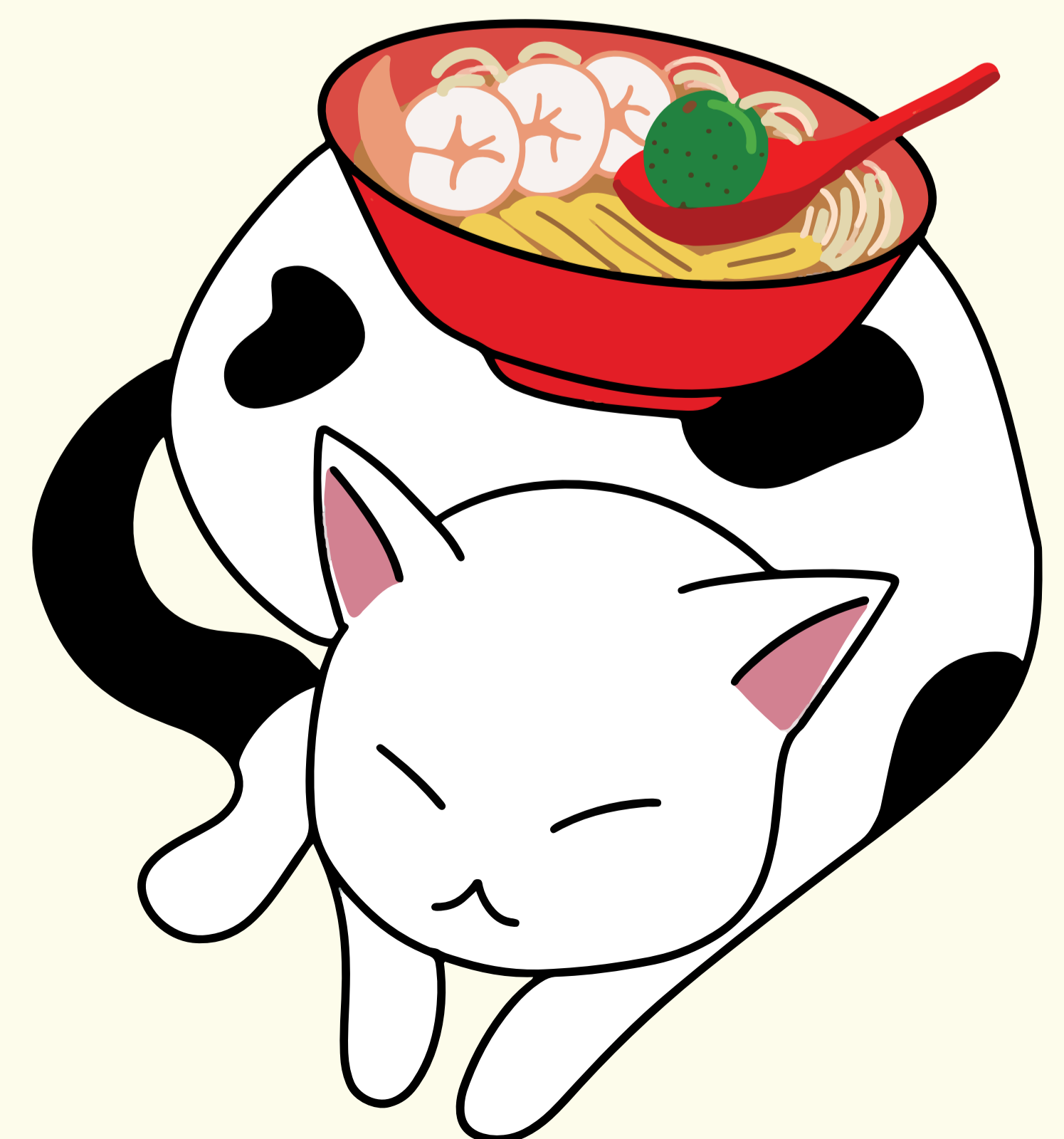


Managed by:



CONTENTS

Advertisement	01 - 04
Welcome Message	05
The Organising Committee	06
Pre-Conference Workshops (Day 1 Programme)	07 - 08
Main Conference (Day 2 Programme)	09 - 10
Main Conference (Day 3 Programme)	11 - 12
Abstracts	13 - 36
Lead Sponsors	37 -39
Trade & Workshop Sponsors	40
Trade Sponsors	41
Registration Fees Sponsors	42
Exhibition Floor Plan	43 - 44
Adopted Charity	45 - 46
Conference Venue	47
Official Conference Hotel	48
Contact Us	49
Save The Date!	50



New guideline

on the Peri-operative management of neuromuscular blockade (NMB)

The **European Society of Anaesthesiology and Intensive Care (ESAIC)** published their 1st guideline on the perioperative management of neuromuscular blockade, on November 16th 2022.¹

Recent data indicated a high incidence of inappropriate management of neuromuscular block (NMB), with a high rate of residual paralysis and relaxant-associated postoperative complications. Therefore, the ESAIC presented an evidence-based set of practice guidelines for the perioperative management of NMB.¹

To facilitate its implementation in current clinical practice, the guidance focuses on **3 clinically relevant core issues¹**:

- 01 significance of neuromuscular blocking agents for tracheal intubation.
- 02 contribution of neuromuscular blocking agents to improve surgical conditions.
- 03 significance of neuromuscular monitoring (NMM) and pharmacological reversal to reduce residual paralysis and postoperative pulmonary complications (POPCs).

Guidelines Conclusion

- There is documented evidence that residual paralysis and relaxation-associated pulmonary complications are less common after sugammadex-based pharmacological reversal than after neostigmine.¹
- Reliable quantitative neuromuscular monitoring is the principal prerequisite of any appropriate strategy for peri-operative neuromuscular management, whether that is spontaneous recovery, sugammadex-based recovery or neostigmine-based recovery.¹

Selected Safety Information for BRIDION® (Sugammadex, Sodium)

INDICATIONS Reversal of neuromuscular blockade induced by rocuronium or vecuronium. For the pediatric population, sugammadex is only recommended for routine reversal of rocuronium induced blockade in children and adolescents. **DOSAGE AND METHOD OF USE** Sugammadex should only be administered by, or under the supervision of, an anesthetist. Sugammadex should be administered intravenously as a single bolus injection. The bolus injection should be given rapidly, within 10 seconds, into an existing intravenous line. The recommended dose of sugammadex depends on the level of neuromuscular blockade to be reversed. **Adults** Routine reversal: A dose of 4 mg/kg sugammadex is recommended if recovery has reached at least 1-2 post-tetanic counts (PTC) following rocuronium or vecuronium induced blockade. Median time to recovery of T₁/T₄ ratio to 0.9 is around 3 minutes. A dose of 2 mg/kg sugammadex is recommended, if spontaneous recovery has occurred up to at least the reappearance of T₁ following rocuronium or vecuronium induced blockade. Median time to recovery of the T₁/T₄ ratio to 0.9 is around 2 minutes. **Immediate reversal of rocuronium-induced blockade** A dose of 16 mg/kg sugammadex is recommended. **De-administration of sugammadex** A repeat dose of 4 mg/kg sugammadex is recommended. **Renal impairment** For mild and moderate renal impairment (creatinine clearance ≥ 30 and < 30 ml/min), the dose recommendations are the same as for adults without renal impairment. For patients with severe renal impairment (including patients requiring dialysis (CrCl < 30 ml/min)), the use of sugammadex is not recommended. **Elderly patients** Same dose recommendation as for adults should be followed. **Obese patients** In obese patients, including morbidly obese patients, the dose of sugammadex should be based on actual body weight. The same dose recommendations as for adults should be followed. **Hepatic impairment** For mild to moderate hepatic impairment, no dose adjustments are required. **Pediatric populations (Children and adolescents)** Bridion 100 mg/ml may be diluted to 10 mg/ml to increase the accuracy of dosing in the pediatric population. **Routine reversal** A dose of 2 mg/kg is recommended for reversal of rocuronium induced blockade at reappearance of T₁ in children and adolescents (2-17 years). **Immediate reversal** Immediate reversal in children and adolescents has not been investigated. **CONTRAINDICATIONS** Hypersensitivity to the active substance or to any of the excipients. **WARNINGS AND PRECAUTIONS** Should neuromuscular blockade recur following extubation, adequate ventilation should be provided. Bleeding risk has not been studied systematically at higher doses than sugammadex 4 mg/kg, thus, coagulation parameters should be carefully monitored in patients with known coagulopathies and those using anticoagulants who receive a dose of 16 mg/kg sugammadex. The use of lower than recommended doses may lead to an increased risk of recurrence of neuromuscular blockade after initial reversal and is not recommended. When rocuronium 1.2 mg/kg is administered within 30 minutes after reversal with sugammadex, the onset of neuromuscular blockade may be delayed up to approximately 4 minutes and the duration of neuromuscular blockade may be shortened up to approximately 15 minutes. Recommended waiting time in patients with mild or moderate renal impairment for re-use of 0.6 mg/kg rocuronium or 0.1 mg/kg vecuronium after routine reversal with sugammadex should be 24 hours. A nonsteroidal neuromuscular blocking agent should be used for patients requiring neuromuscular blockade prior to passing the recommended waiting time. Sugammadex is not recommended for use in patients with severe renal impairment, including those requiring dialysis. Due to the administration of sugammadex, certain medicinal products could become less effective due to a lowering of the free plasma concentrations. Due to the administration of certain medicinal products after sugammadex, theoretically rocuronium or vecuronium could be displaced from sugammadex. Patients should be closely monitored for hemodynamic changes during and after reversal of neuromuscular blockade. Patients with severe hepatic impairment should be treated with great caution. Sugammadex should not be used to reverse block induced by nonsteroidal neuromuscular blocking agents and steroidal neuromuscular blocking agents other than rocuronium or vecuronium. Clinicians should be prepared for the possibility of drug hypersensitivity reactions (including anaphylactic reactions) and take the necessary precautions. If more than 2.4 ml solution needs to be administered, this should be taken into consideration by patients on a controlled sodium diet. **PREGNANCY AND LACTATION** Pregnancy: Caution should be exercised when administering sugammadex to pregnant women. Lactation: Caution should be exercised when administering sugammadex to a breast-feeding woman. **ADVERSE EVENTS** In the subset of Pooled Placebo-controlled trials where subjects received anesthesia and/or neuromuscular blocking agents, the following adverse events occurred in $\geq 2\%$ of subjects treated with sugammadex and at least twice as often compared to placebo including airway complication of anesthesia, anesthetic complication, procedural hypotension, procedural complication and cough. In post-marketing, isolated cases of marked bradycardia and bradycardia with cardiac arrest have been observed within minutes after administration of sugammadex. A linked database suggests that the safety profile of sugammadex (up to 4 mg/kg) in pediatric patients was similar to that in adults.

Reference: 1. Fuchs-Buder T, Romero CS, Lewald H, et al. Perioperative management of neuromuscular blockade: A guideline from the European Society of Anaesthesiology and Intensive Care. *Eur J Anaesthesiol*. 2022 Nov 16. doi: 10.1097/EJA.0000000000001769. Epub ahead of print.

Before administering Bridion®, please read the full prescribing information

SCAN TO DOWNLOAD THE FULL PRESCRIBING INFORMATION at <https://quest3plus.bpfl.gov.my/pmo2/index.php>



Merck Sharp & Dohme (Malaysia) Sdn. Bhd.
B-22-1 & B-22-2, The Accent Paradigm, No. 1, Jalan SS 7/26A, Kelana Jaya,
47301, Petaling Jaya, Selangor Darul Ehsan.
Tel: +603 7499 1800 Fax: +603 7499 1700 www.msd-malaysia.com
Copyright © 2023 Merck & Co., Inc., Rahway, NJ, USA and its affiliates.
All rights reserved. MY-XBR-00442 Feb/2023



SCAN to VIEW the
ESAIC 2022
Guidelines Paper



Images are for illustrative purposes only.

8 recommendations from ESAIC¹:

R1	Recommends using a muscle relaxant to facilitate tracheal intubation (1A).
R2	Recommends the use of muscle relaxants to reduce pharyngeal and/or laryngeal injury following endotracheal intubation (1C).
R3	Recommends the use of a fast-acting muscle relaxant for rapid sequence induction intubation (RSII) such as succinylcholine 1mg kg ⁻¹ or rocuronium 0.9 to 1.2mg kg ⁻¹ (1B).
R4	Recommends deepening neuromuscular blockade if surgical conditions need to be improved (1B).
R5	There is insufficient evidence to recommend deep neuromuscular blockade in general to reduce postoperative pain or decrease the incidence of peri-operative complications (2C).
R6	Recommends the use of ulnar nerve stimulation and quantitative neuromuscular monitoring at the adductor pollicis muscle to exclude residual paralysis (1B).
R7	Recommends using sugammadex to antagonise deep and moderate neuromuscular blockade induced by aminosteroidal agents (rocuronium, vecuronium) (1A).*
R8	Recommends advanced spontaneous recovery (i.e. TOF ratio > 0.2) before starting neostigmine-based reversal and to continue quantitative monitoring of neuromuscular blockade until a TOF ratio of more than 0.9 has been attained (1C).

*Non-steroidal muscle relaxants are preferred to reverse the 0.2 TOF content.

GRADE definitions

1A: Strong recommendation, high quality evidence; 1B: Strong recommendation, moderate quality evidence; 1C: Weak recommendation, low quality evidence; 2C: Weak recommendation, low quality evidence; TOF: Train of Four



○ **Patient State Index, PSi**, a processed EEG parameter related to the effect of anaesthetic agents

○ **Density Spectral Array (DSA)** display contains left and right spectrograms representing the power of the EEG on both sides of the brain

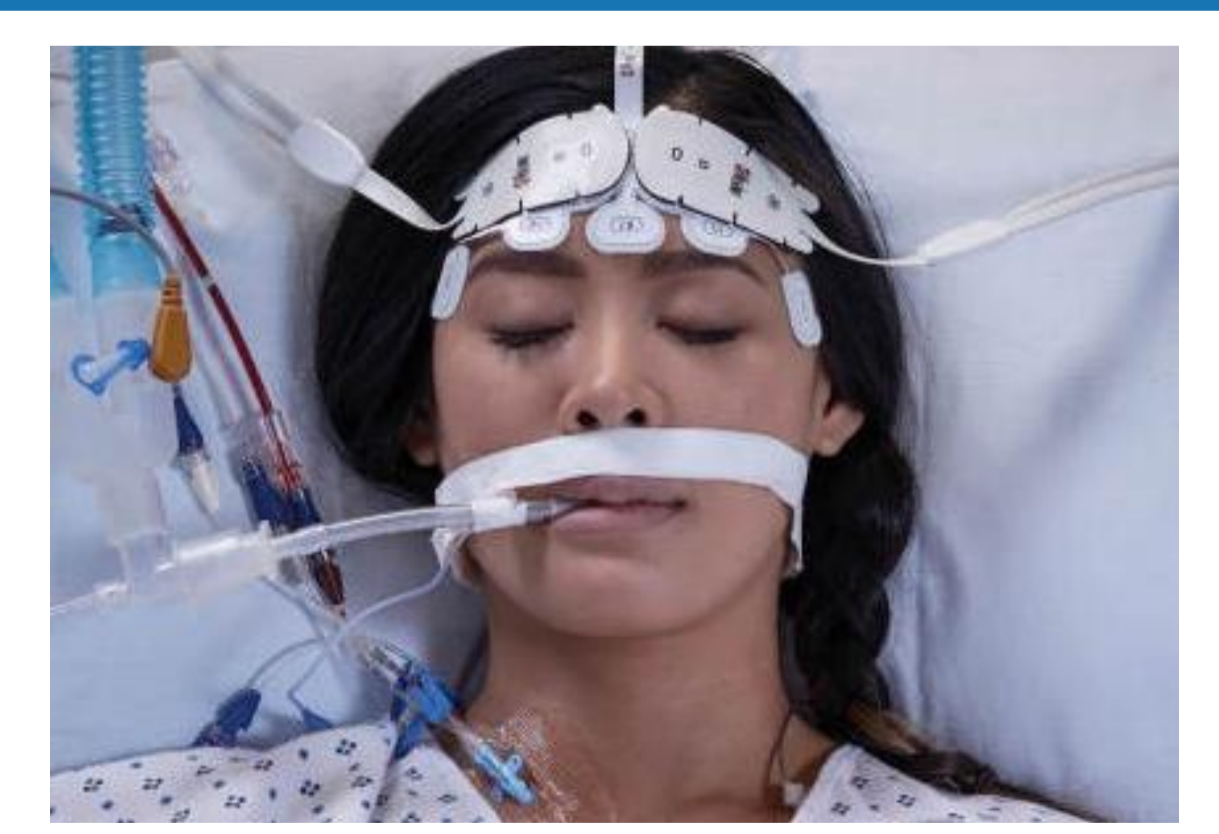
○ **rSO₂** provides tissue oxygen saturation

A MORE COMPLETE BRAIN MONITORING SOLUTION

Root with Next Generation SedLine brain function monitoring helps clinicians monitor the state of the brain under anaesthesia with bilateral data acquisition and processing of four leads of electroencephalogram (EEG) signals, enabling continuous assessment of both sides of the brain.

Root with O3 regional oximetry uses near-infrared spectroscopy (NIRS) and reflectance pulse oximetry to enable monitoring of tissue oxygen saturation (rSO₂) in the brain, helping clinicians monitor cerebral oxygenation in situations in which pulse oximetry alone may not be fully indicative of the oxygen in the brain.

When used together on Root, SedLine and O3 provide a more complete picture of the brain on an instantly interpretable, integrated display



Strategic Partnership Collaboration



Scan QR Code to learn more
Phone : +603 5122 5933
Email : sales@hospimatrix.com.my

DoctorShield is the world's first complete online professional medical indemnity insurance platform. Doctors can get liability insurance policies purchased and administered instantly with DoctorShield.

Get comprehensive medical indemnity insurance with customizable options and features like

- ✓ Loss Mitigation
- ✓ Unlimited RunOff
- ✓ Choose Your Own Lawyer
- ✓ Free Sole Proprietor Clinic
- ✓ Clinic Indemnity
- ✓ Unlimited Retroactive Date

How it Works

- 1 Visit us at www.thedoctorshield.com
- 2 Key in your classification & choose your own coverage based on your needs
- 3 Your policy will be sent to your email within minutes after purchasing your DoctorShield



Protection With a Difference

Underwritten by **CHUBB**

www.thedoctorshield.com

+60 125360700

PROMO CODE

MSNACC23



Hemochron®
SIGNATURE ELITE

HEMOSTASIS

from **Central Laboratory** to **POCT**



ROTEM®
sigma



"Best Partner
in SEA 2022"
-Werfen

Proudly presenting our Hemostasis product lines: The ACL Top Family 50 series, designed for mid- to high-volume clinical laboratories, offers the most advanced automation and quality management. For decentralized testing needs, we provide a comprehensive suite of point-of-care devices, featuring ROTEM, VerifyNow and Hemochron. These portable instruments offer rapid results, empowering healthcare professionals to make timely decisions.

werfen

ADVANCED
INSTRUMENTS

BECKMAN
COULTER

BECKMAN
COULTER
Life Sciences



Peter Tan

Organising chairperson

Consultant
neuroanaesthesiologist,
Sarawak General Hospital

President, MSNACC

Warmest welcome to the Neuroanaesthesia Symposium (NAS) combined with Anaesthesiology Updates (AU) 2023, July 7-9 which is jointly organised by Persatuan Kakitangan Anestesiologi Hospital Umum Sarawak (PEKA-HUS) and Malaysian Society of Neuroanaesthesiology and Neurocritical Care (MSNACC). The Organising Committee is truly honoured to collaborate with the Division of Neuroanesthesiology and Perioperative Neurosciences, University of Washington (UW), Seattle, USA in this conference which will promise an even greater stage for academic discussion and networking.

The NAS 2023 is currently at its 6th edition will continue to provide an excellent platform in advancing continuous medical education (CME) related to perioperative neurosciences in Malaysia and probably in this region. I am also pleased to share with you that MSNACC is now affiliated with the Society of Neuroscience in Anesthesiology and Critical Care (SNACC). For the very first time, NAS 2023 will feature a Panel Session with prominent speakers from the SNACC. The SNACC Panel Session is highly anticipated for its interesting and up-to-date scientific contents.

The AU webinar series was launched by PEKA-HUS in collaboration with the UW in 2021 following the need for more local online CME during the COVID-19 pandemic. It continues in 2022 and 2023 focussing on recent updates in various anaesthetic subspecialties and featuring speakers from the UW. The combined in-person AU 2023 will focus on resuscitation and trauma anaesthesia (including neurotrauma) on Day One of main meeting and geriatric anaesthesia (including perioperative brain health) on Day Two. These two subspecialties are relevant to NAS which is dedicated to deliver the latest progress in neuroanaesthesiology and neurocritical care to its audience

Thank you very much again for supporting the CME activities of PEKA-HUS and MSNACC these years. I wish you an enjoyable and fruitful meeting. Don't forget to explore the sights, sounds and tastes of Kuching too, as Kuching has so much to offer to its guests.



Organising chairperson

Peter Tan

Secretariat

**Elisha Culas a/p Donald Culas
Abigail Dayang Ridu**

Treasurer

Tang Phoebe

Onsite registration

**Julie Weizana Jeli
Hondo anak Banyan**

Trade and exhibition

**Lucas Law
Yusopian bin Yusop**

Pre-conference workshops

**Ng Tze Ling
Lucas Law
Yusopian bin Yusop
Hayatul Akma binti Bolhan
Wong Chung Kai
Muhammad Aizat bin Che Azemi**

Logistics

Valentine Lim Kim Yong



7 July 2023, Friday, Day 1

	Hall 1	Hall 2	Sarawak General Hospital
Time	Agenda	Agenda	Agenda
0730-0800	Registration	Registration	Registration
0800-1200	Workshop 1 Applied neuromonitoring	Workshop 2 Geriatric anaesthesia	Workshop 3 Simulation in neuroanaesthetic crises
1200-1400	Friday prayer & lunch break	Friday prayer & lunch break	Friday prayer & lunch break
1400-1730	Workshop 4 Point of care ultrasound in trauma and resuscitation	Workshop 5 Advanced airway management	Workshop 3 (Continued) Simulation in neuroanaesthetic crises
1730	Adjourn		

Workshop 1:**Applied neuromonitoring**

(MMA CPD 4 Points)

7 July 2023 (Friday), 0800-1200H

Borneo Convention Centre, Kuching

Facilitators:Deepak Sharma, Girija Prasad Rath
Tan Wah Tze, Tan Wei Keang**Workshop 2:****Preoperative assessment and optimisation of geriatric patients**

(MMA CPD 4 Points)

7 July 2023 (Friday), 0800-1200H

Borneo Convention Centre, Kuching

Facilitators:

Tanuja Shah, Tiong Ing Khieng

Time	Agenda
0730-0800	Registration
0800-0830	Transcranial doppler ultrasonography
0830-0900	Cerebral oximetry
0900-0930	Clinical EEG monitoring in anaesthesia
0930-1000	Coffee
1000-1200	Rotating among 3 skill stations (35 min each)
1200	Adjourn

Supported by:**Medtronic**

Time	Agenda
0730-0800	Registration
0800-0845	Case discussion 1
0845-0930	Lecture 1: Preoperative vulnerability assessment of geriatric patients
0930-1000	Coffee
1000-1045	Case discussion 2
1045-1130	Lecture 2: My patient has memory problems and/or high delirium risk: what should I do now?
1130-1200	Sponsored lecture (by Baxter) Perioperative nutrition in elderly surgical patients (Hashimah Abdul Rahman, Consultant Upper Gastrointestinal Surgeon, Sarawak General Hospital)
1200	Adjourn

Supported by:**Baxter**

**Workshop 3:****Simulation in Neuroanaesthetic Crises***(MMA CPD 8 Points)*

7 July 2023 (Friday), 0800-1600H

Main Operating Theatre, Sarawak General Hospital

Facilitators:Rafidah Atan, Mohd Fitry Zainal Abidin,
Wan Aizat Wan Zakaria

Time	Agenda
0730-0755	Registration
0755-0800	Welcome address
0800-0930	Crisis management principles
0930-1000	Coffee break
1000-1015	Ice Breaking
1015-1115	Station 1 and debriefing
1115-1130	Break and Lag Time
1130-1230	Station 2 and debriefing
1230-1400	Friday prayer & lunch break
1400-1500	Station 3 and debriefing
1500-1600	Group reflection on crisis management skills
1600	Closing and adjourn

Supported by:**Workshop 4:****Point of care ultrasound in trauma and resuscitation***(MMA CPD 4 Points)*

7 July 2023 (Friday), 1400-1730H

Borneo Convention Centre, Kuching

Facilitators:Ahmad Afifi Mohd Arshad, Lee Jun Kwong,
Madeleine Kho Huei Tze

Time	Agenda
1345-1400	Registration
1400-1430	Basic airway and lung scans
1430-1500	Basic cardiac scan
1500-1530	Extended Focused Assessment with Sonography in Trauma
1530-1600	Coffee
1600-1730	Rotating among 3 skill stations (30 min each)
1730	Adjourn

Supported by:**Workshop 5:****Advanced airway management***(MMA CPD 4 Points)*

7 July 2023 (Friday), 1400-1730H

Borneo Convention Centre, Kuching

Facilitators:Benn Lancman, Mohd Fahmi Lukman,
Tan Wei Keang**Supported by:**

Time	Agenda
1345-1400	Registration
1400-1430	Difficult airway algorithm- what's new?
1430-1500	Awake intubation- tips and tricks
1500-1530	Sponsored lecture (by Umami Surgical) Combination techniques in airway management (Paulo San Pedro, Karl Storz Endoscopy Asia Marketing Pte Ltd)
1530-1600	Coffee
1600-1730	Rotating among 4 skill stations - Station 1: Fiberoptic assisted intubation - Station 2: Video laryngoscopy - Station 3: Front of neck access - Station 4: Airway ultrasonography/ supraglottic airway devices
1730	Adjourn



8 July 2023, Saturday, Day 2

		NAS	AU: Trauma anaesthesia	
Time	Agenda	Speaker	Agenda	Speaker
0730-0815	Registration		Registration	
0815-0900	Plenary 1: Neuroanaesthesia (Moderator: Laila Ab Mukmin) Enhancing excellence: A futuristic look at quality improvement in neuroanaesthesia			Deepak Sharma
0900-0945	Plenary 2: Trauma anaesthesia (Moderator: Ng Tze Ling) Challenges and controversies in trauma anaesthesia and resuscitation			John Moloney
0945-1000	Opening ceremony Doa recital Welcome addresses			Yusopian Yusop Teo Shu Ching Deepak Sharma
1000-1030	Coffee break & exhibition viewing		Coffee break & exhibition viewing	
	Symposium 1: Neuroanaesthesia	Moderator: Ray Joshua Ryan	Symposium 2: Trauma anaesthesia	Moderator: Lucas Law
1030-1055	Lecture 1.1: Acute brain injury and multi-organ cross talks	Imaan Abdul Rahim	Lecture 2.1: New concepts in damage control resuscitation	Benn Lancman
1055-1120	Lecture 1.2: Dialysis for the injured brain patient	Clare Tan	Lecture 2.2: Traumatic crush syndrome	Cheah Siew Lean
1120-1145	Lecture 1.3: Perioperative seizures in neurosurgical patients	Deepak Sharma	Lecture 2.3: Management of refractory haemorrhagic shock and coagulopathy in trauma	John Moloney
1145-1200	Q&A		Q&A	
1200-1245	Lunch Symposium 1 by MSD (Moderator: Ray Joshua Ryan) Major updates in Neuromuscular Blockage Guidelines- ESAIC Guidelines 2022 and ASA Guidelines 2023	Teo Shu Ching	Lunch Symposium 2 by Straits Scientific (Moderator: Zarina Abu Kasim) Bleeding patient in operation theatre: role of viscoelastic point of care test	Mohd Fitry Zainal Abidin
1245-1400	Lunch & exhibition viewing			



8 July 2023, Saturday, Day 2

		NAS		AU: Trauma anaesthesia	
Time	Agenda	Speaker	Agenda	Speaker	
	Symposium 3: Neuroanaesthesia	Moderator: Jeyaganesh Veerakumaran	Symposium 4: Trauma anaesthesia	Moderator: Hayatul Akma Bolhan	
1400-1425	Lecture 3.1: Frailty in neurosurgical patients	Audrey Tan	Lecture 4.1: Thoracic trauma	Mohd Fitry Zainal Abidin	
1425-1450	Lecture 3.2: Neuroanaesthesia for pregnant patient	Jeffrey Pasternak	Lecture 4.2: Management of traumatised airway	Mohd Fahmi Lukman	
1450-1515	Lecture 3.3: Anaesthesia for craniofacial surgery	Nahemah Hasanally	Lecture 4.3: Mass casualty and the role of anaesthesiologist	Mohamad Hasyizan Hassan	
1515-1530	Q&A		Q&A		
1530-1600	Coffee break & exhibition viewing				
	Symposium 5: Neuroanaesthesia	Moderator: Imaan Abdul Rahim	Symposium 6: Neurotrauma	Moderator: Cheah Siew Lean	
1600-1625	Lecture 5.1: Management of complications during awake craniotomy	Masahiko Kawaguchi	Lecture 6.1: Polytrauma in traumatic brain injury	Kwek Tong Kiat	
1625-1650	Lecture 5.2: Rupture of cerebral aneurysm in operating room	John Bebawy	Lecture 6.2: Concussion and anaesthesia	Jeffrey Pasternak	
1650-1700	Q&A		Q&A		
1700	End of Day 1				
1930-2130	Faculty dinner and official launching of the Malaysian Society of Neuroanaesthesiology and Neurocritical Care (by invitation only)				



9 July 2023, Sunday, Day 3

		NAS	AU: Geriatric anaesthesia	
Time	Agenda	Speaker	Agenda	Speaker
0830-0915	Plenary 3: Geriatric anaesthesia (Moderator: Hari Har Dash) Preparing for the greying tsunami: perioperative brain health in 2020s			Tanuja Shah
0915-1000	Plenary 4: Neuroanaesthesia (Moderator: Teo Shu Ching) Paediatric neuroanaesthesia: Time for a new subspecialty!			Girija Prasad Rath
1000-1030	Coffee break & exhibition viewing			
	Symposium 7: SNACC Panel 'Crises in Neuroanaesthesia'	Moderator: Wan Aizat binti Wan Zakaria; Zettie Akhtar Shuib	Symposium 8: Geriatric anaesthesia	Moderator: Zarina Abu Kasim
1030-1045	Crisis management overview – Checklists, cognitive aids and team management	John Bebawy	Lecture 8.1 (1030-1100): Prehabilitation for the older surgical patient: exercise, cognition and nutrition	Tiong Ing Khieng
1045-1100	Cardiac arrest in the prone position during spine surgery	Geraldine Jose	Lecture 8.2 (1100-1130): Postoperative delirium and cognitive dysfunction in elderly: current evidence and practices to minimise damage	Tanuja Shah
1100-1115	Loss of evoked potential signals	Masahiko Kawaguchi	Lecture 8.3 (1130-1200): Frailty and critical illness	Rafidah Atan
1115-1130	Venous air embolism	Audrey Tan		
1130-1145	Malignant intracranial hypertension	Jeffrey Pasternak		
1145-1215	Q&A/ Open Forum		Q&A (1200-1215)	
1215-1245	Lunch Symposium 3 by Hospimetrix (Moderator: Laila Ab Mukmin) Why do we need Brain Monitoring? Optimizing sedation and ensuring oxygenation			Basil Matta
1245-1400	Lunch & exhibition viewing			



9 July 2023, Sunday, Day 3

		NAS		AU: Geriatric anaesthesia	
Time	Agenda	Speaker	Agenda	Speaker	
	Symposium 9: Neuroanaesthesia	Moderator: Tan Wei Keang	Symposium 10: Geriatric anaesthesia	Moderator: Yeap Boon Tat	
1400-1425	Lecture 9.1: Regional anaesthesia in neurosurgery	Audrey Tan	Lecture 10.1: Multidisciplinary management of geriatric hip fractures: challenges and opportunities	Ling Jia Nee	
1425-1450	Lecture 9.2: Use of tranexamic acid in neurosurgery: effective and safe?	Nazhan Afeef Mohd Ariff @ Ghazali	Lecture 10.2: The aftermath of emergency laparotomy in the older patients	Tanuja Shah	
1450-1515	Lecture 9.3: Crisis management during interventional neuroradiology	John Bebawy	Lecture 10.2: The elderly in ICU: shared decision making and goals of care	Rafidah Atan	
1515-1530	Q&A		Q&A		
1530-1600	Coffee break & exhibition viewing				
	Symposium 11: Neuroanaesthesia	Moderator: Nahemah Hasanaly	Symposium 12: Geriatric Anaesthesia	Moderator: Nazhan Afeef Mohd Ariff @ Ghazali	
1600-1625	Lecture 11.1: Advanced intracranial monitoring and their role in traumatic brain injury	Benn Lancman	Lecture 12.1: Perioperative management of patients with dementia	Geraldine Jose	
1625-1650	Lecture 11.2: Processed electroencephalography: How, what and why?	Kwek Tong Kiat	Lecture 12.2: Parkinson's disease and anaesthesia	Yeap Boon Tat	
1650-1700	Q&A		Q&A		
1700	Adjourn		Adjourn		



Deepak Sharma (USA)

Enhancing excellence: A futuristic look at quality improvement in neuroanaesthesia

Quality measures in health care include structural, process, and outcomes measures as described by Donabedian. Validated, standardized outcome measures for perioperative neuroscience are currently lacking. Consequently, quality improvement (QI) efforts in neuroanesthesiology tend primarily to focus on process measures. Process measures are elements of care that focus on adherence to known or presumed best practices. Although some best practice standards (such as cerebral perfusion pressure) are associated with objectively measurable targets, other quality of care issues that influence outcomes are poorly defined. Numerous methods have been described to capture data about adverse outcomes and patient safety events, including chart review, incident reporting systems, trigger tools, direct observation, actively facilitated surveys or interviews, voluntary self-reporting, and registries. This information is then used to drive process improvement initiatives. Each of these methods may differ in their likelihood of identifying different types of events and outcomes, so using multiple approaches is likely to provide a more comprehensive picture of the quality of care and patient safety considerations. Resource allocation for QI programs can be effectively prioritized by targeting mitigation of adverse events having the most frequent occurrence or greatest potential for harm. In addition, identifying adverse events commonly reported by care providers can facilitate setting up institutional priorities, getting buy-in from providers for practice-based learning and improvement, and potentially informing QI agendas across institutions. However, in order to proactively advance quality and safety, it is important to identify quality measures and follow them regularly to evaluate overall institutional or provider level care delivery. Measuring quality of care is important for a number of reasons including but not limited to: (1) avoiding/minimizing complications, (2) identifying opportunities to advance patient care, (3) accreditation, standardization & regulation, (4) comparative assessment by payers/patients (5) physician feedback & performance improvement and (6) avoiding waste and containing cost. While quality measures for anesthesia care have been developed by various organizations such as the Anesthesia Quality Institute (AQI) and MPOG (Multicenter Perioperative Outcomes Group), these are not specific to the care of patients with neurological conditions or those undergoing neurosurgical procedures. Also, the quality measures in anesthesia are often not aligned with those developed by surgical specialties. During this presentation, we will discuss the first set of Neuroanesthesia quality measures developed at the University of Washington. We will discuss the rationale, methodology, process and barriers while addressing the potential for subspecialty specific quality measures in advancing Neuroanesthesia care.



John Moloney (Australia)

Challenges and controversies in trauma anaesthesia and resuscitation

Trauma resuscitations are complicated, high-risk, and time-sensitive actions that need the coordination of different specialists arriving from multiple areas in the hospital. (Arrowaili1, 2018)

The reduced indication for operative intervention in trauma along with the increasing role for anaesthesia in managing trauma patients outside the operating room has created a demand for trauma acute care anaesthesiologists. These locations (potentially) include prehospital, inter-hospital, radiology, emergency rooms and intensive care units.

The leading obstacle to more prevalent offsite trauma anaesthesia personnel is the lack of formal subspecialty training programs and credentialing requirements of different medical societies. (Perlman1, 2022) Anaesthesiologists are recognised experts in acute resuscitation, massive transfusion, airway management, and dynamic leaders in high stress environments. The anaesthesiologist is well placed to have a pathophysiological understanding of CBRNE events. This may enable us to play a role in multi-casualty events. We may be less comfortable in discussions about futility, with respect to life or limb.

The trauma anaesthesia specialist is becoming analogous to the perioperative physician. They bring their own significant expertise, whilst coordinating other clinicians to optimise patient outcomes.



Imaan Abdul Rahim (Malaysia)
Acute brain injury and multi-organ cross talks

Inter-organ cross talks in the human body exist either as physiological reflexes that help maintain homeostasis, or as part of pathological conditions where insult on one organ causes distant effects on other organs. Extracranial organ dysfunction after acute brain injury has traditionally been studied on an individual organ system basis. Two major pathways that have been very well described are brain-lung and brain-heart interactions. However, data suggest that gastrointestinal and kidney dysfunction in the brain-injured patient is a common occurrence and likely share similar mechanisms and pathophysiology. The cascade of autonomic and inflammatory mediators released after a brain insult can result in gut microbiome and mucosal atrophy leading to gut failure. Sympathetic activation also causes decreased renal perfusion and acute kidney injury. This talk aims to examine the extracranial effects of brain injury, the relevant mechanisms that may be involved in multiorgan dysfunction following brain insult, and how recognizing and managing these organ failures may affect outcome.

Clare Tan (Malaysia)
Dialysis for the injured brain patient

Patients with ESRD on regular dialysis may develop acute brain injury such as ischaemic or haemorrhagic stroke and patients with acute brain injury may develop AKI needing dialysis support. However, dialysis may be associated with further injury to the brain in these patients. Even in patients without brain injury, disequilibrium syndrome may develop in uraemic patients starting dialysis due to rapid change in solutes resulting in an osmolality gradient between serum and the brain. This may result in increased intracranial pressure and worsen the cerebral oedema. Dialysis may also be associated with other complications such as hemodynamic instability which may reduce cerebral blood flow and exacerbate secondary brain injury.

There is no consensus regarding the timing of dialysis in these patients. If possible, it may be beneficial to avoid dialysis in the first 24 hours post-acute brain injury. Some have suggested earlier initiation to avoid a significant rise in urea to minimise the risk of disequilibrium syndrome. Continuous forms of dialysis such as CRRT have better hemodynamic stability and result in a more gradual decrease in solutes and is generally preferred in these patients. Where CRRT is not available, modifications of HD regimen may be utilised to minimise the risk. These include SLED/F, shorter duration of HD, use of dialyser with smaller surface area, limited solute clearance with low blood and dialysate flow rate, dialysate sodium modelling, sequential ultrafiltration followed by dialysis, priming with albumin and the use of cool dialysate to improve hemodynamic stability.



Benn Lancman (Australia) New concepts in damage control resuscitation

This presentation outlines recent advancements in damage control resuscitation (DCR) for anaesthetic practitioners. DCR has revolutionized critical injury management, with evidence-based strategies including blood product administration, haemostatic agents, and perfusion-guided resuscitation. Attendees will gain practical insights on integrating DCR principles into anaesthetic practice, optimizing emergency and trauma outcomes. This session equips participants with up-to-date knowledge to enhance resuscitation skills and improve patient care.

Cheah Siew Lean (Malaysia) Traumatic crush syndrome

Crush syndrome also known as traumatic rhabdomyolysis is the systemic manifestation caused by crush injuries to skeletal muscle. Rhabdomyolysis rapidly developed after skeletal muscles are released from prolonged continuous pressure, resulting in hyperkalemia, shock, acute renal failure and other systemic symptoms. The pathophysiology involves multiple aspects such as myoglobinuria, renal ischemia and ischemia reperfusion injury. The syndrome has been described in disasters such as earthquakes, industrial and road traffic accidents where patients were entrapped under collapsed buildings or vehicle.

Extrication and scene management of victims involves the support of airway, breathing and circulation. The cornerstone of managing crush syndrome is early initiation of fluid therapy and diuresis to preserve renal function. In severe cases, intensive care including dialysis, ventilatory support, prevention of compartment syndrome and infection control is imperative to reduce mortality. However, the volatile environment and mass casualties in these catastrophe poses a challenge in rescue and resuscitation efforts. Recent years have seen concerted efforts globally in practicing appropriate triaging, predicting progression of crush syndrome, dynamic fluid resuscitation as part of confined space medicine and safe transfer to hospitals for further treatment. Crush syndrome can be life-threatening but the survival rate can be improved by appropriate management.



John Moloney (Australia)

Management of refractory haemorrhagic shock and coagulopathy in trauma

The recent release of PATCH highlights the ongoing search for a magic bullet in the control of massive haemorrhage and the management of the shocked patients.

The release of a large study examining the role of REBOA demonstrated a significantly higher blood loss in the REBOA group, versus standard care. An interpretation that may be made was a distraction or inability to optimally provide this standard care.

Damage control resuscitation includes the use of a massive transfusion protocol (guided by haematology if possible) and efforts to minimise hypothermia, acidosis and hypocalcaemia. Damage control surgery (or other intervention) reduces ongoing bleeding, and further physiological trespass.



Audrey Tan (UK) Frailty in neurosurgical patients

As the world population continues to age together with the advancements to neurosurgery techniques and anaesthesia, an increasing percentage of neurosurgical patients presenting are elderly in most countries. The role of risk stratification tools becomes essential for perioperative and surgical planning. Conventionally we rely on the chronological age to risk stratify but it is only one factor.

In recent years, there has been a growing interest in identifying frailty in neurosurgical patients. Frailty is a clinical state of increased vulnerability to stressors caused by a decline in multiple physiological systems and reserve. Though frailty is prevalent in the older adults, it is looks at the biological instead of the chronological age. Frailty is associated with a higher risk of morbidity, mortality and disability including longer hospital stays, higher rates of complications and increased healthcare costs.

There are several tools available to assess frailty which will be discussed in this talk. These tools utilized different measures, inclusive of physical performance, comorbidities, social factors, cognition and psychological function to identify frailty.

The identification of frailty can possibly aid in preoperative risk stratification, optimize perioperative care and improve patient outcomes.

Jeffrey Pasternak (USA) Neuroanaesthesia for pregnant patient

Anesthetic management of women requiring neurosurgical procedures during pregnancy poses some unique challenges to all members of the patient care team. The most common indications for neurosurgical procedures during pregnancy are intracranial procedures to treat tumors or vascular malformations, procedures to address problems related to ventriculoperitoneal shunts, and spine surgery.

This lecture will review the epidemiology of symptomatic brain tumors and vascular lesions among pregnant women. Evidence-based recommendations will be made on the appropriate timing for non-elective procedures during pregnancy. Use of various medications in pregnant patients will be discussed. These will include benzodiazepines, nitrous oxide, sugammadex, corticosteroids, anti-epileptic medications, and mannitol. Peri-procedural fetal monitoring will be discussed as will be use of hyperventilation to mitigate intracranial hypertension, and the impact and concerns associated with patient positioning during surgery. The impact of performing an intracranial procedure on overall maternal and fetal outcome will be reviewed. Anesthetic implications of intracranial vascular disorders and ventriculoperitoneal shunt malfunction will be reviewed. If time allows, pregnancy-specific pituitary disorders, specifically Sheehan's syndrome and pituitary apoplexy, will be discussed.



Nahemah Hasanaly (Malaysia) Anaesthesia for craniofacial surgery

Craniofacial abnormalities begin early in development where the incidence of craniosynostosis is about 1 in 2000 live birth. The main indication for corrective surgery focuses on the concern of raised intracranial pressure and severe exophthalmos to prevent neurocognitive sequela. However, having normal appearance does have a profound positive effect on the child's psychological development.

A range of corrective surgery can be offered from a minimally invasive technique to an open remodelling and reconstruction surgery. Despite advancement in surgical technique, anaesthetic management of these patients is challenging.

The potential difficulties arise due in part of malformation are mainly seen in the airway management and vascular access. While most of the surgery is performed in young infants, the small blood volume with major blood loss prompts the constant research on blood conserving strategy. Thus, to ensure a successful surgery, a well-prepared perioperative management to anticipate the potential difficulties and the myriad of complication is crucial.



Mohd Fitry Zainal Abidin (Malaysia) Thoracic trauma

Patients with thoracic trauma pose a significant threat to their lives. The management of these patients begins at the scene of the incident. Anaesthesia involvement can provide valuable input using both advanced diagnostic and therapeutic interventions. This talk discusses traumatic thoracic injuries focusing on new interventions and modern anaesthesia techniques.

Mohd Fahmi Lukman (Malaysia) Management of traumatised airway

Airway management in patients with direct trauma to the airway is among the most challenging problems for anaesthesiologists. Blunt or penetrating injuries to the head, oropharynx, neck, or upper chest can result in immediate or delayed airway obstruction. Common causes of direct airway trauma include blunt or penetrating maxillofacial injury, blunt or penetrating neck injury, smoke inhalation, facial burns, and caustic ingestion. The first step is to determine whether the airway needs to be secured urgently. If this is not the case, clinicians need to determine whether there are signs of impending airway compromise and possible difficult airway management. In a patient with direct trauma to the face, neck, or upper chest, signs of airway compromise include dyspnoea, stridor, drooling of saliva, trismus,odynophagia, and deviated trachea. Management of the patient varies according to the time, the availability of resources and the difficulties anticipated. It is best to secure the airway early whenever signs of active and impending obstruction are identified or there is doubt about the extent of the injuries. In no-time-available conditions, patients may present in extremis, hence the basic approach is the same as for patients without airway trauma. If time available and difficult airway is anticipated, there is time to consider different approaches and to prepare accordingly. If time available and difficult airway is not anticipated, standard RSII could be used. Patients are suitable for observation if they presented with normal vital signs, pulse oximetry, and manifests no signs of impending airway compromise.



Mohamad Hasyizan Hassan (Malaysia)

The mass disaster: the role of anaesthesiologist

During a mass disaster, the role of anaesthesiologist is crucial in providing medical care and support. The anaesthesiologist is involved in triaging and initial stabilization, providing emergency anaesthesia for procedures and surgeries, managing critical care victims, and providing effective pain relief through various techniques. The anaesthesiologist collaborates with other healthcare individuals, including surgeons, emergency and trauma physicians, nurses, and paramedics, to coordinate and deliver comprehensive patient care. The anaesthesiologist's role may vary depending on the disaster's nature, available resources, and the overall medical response plan. The anaesthesiologist must adapt while contributing to airway management, resuscitation, and critical care to ensure optimal care during challenging conditions.



Masahiko Kawaguchi (Japan)

Management of complications during awake craniotomy

Awake craniotomy is considered as a gold standard of care for resection of tumor or lesion of epilepsy, located within or close to the eloquent areas of the brain. The cortical mapping during awake craniotomy enables the identification of cortical and subcortical networks for individual patients' neurological functions, resulting in the preservation of brain function. There are two commonly used anesthetic methods for awake craniotomy; monitored anesthesia care and asleep-awake-asleep technique. During the awake craniotomy, the anesthesiologists have to care of the complications, including seizures, airway obstruction, respiratory depression, pain, nausea and vomiting, hypertension, mild brain swelling, accidental intracerebral injection of local anesthetics and etc. Of those, seizure and airway obstruction are complications, which require urgent intervention. Intraoperative seizures mainly occur due to electrical cortical stimulation during brain mapping. The seizures can be easily controlled by cortical surface irrigation with cold saline by the surgeon. If this is ineffective, low doses of intravenous propofol can be administered. Airway obstruction may occur due to excessive sedation, causing hypoxia and hypercarbia. Oral/nasopharyngeal airways may relieve airway obstruction but assisted ventilation and a supraglottic intubation device may be needed to manage hypoxia and hypercarbia. Awake craniotomy was considered a failure if conversion to general anesthesia was required or if adequate mapping or monitoring could not have been achieved. Failed awake craniotomy occurs in about 2 percent (0% to 6%) of awake craniotomies, may be minimized by appropriate patient selection and management. In this lecture, the management of complications during awake craniotomy are reviewed.

John Bebawy (USA)

Rupture of cerebral aneurysm in operating room

Open aneurysm surgery is associated with a wide variety of anesthetic, physiologic, and technical challenges. Consideration must be given to strict hemodynamic control throughout the various steps of the procedure, including at intubation and head fixation, as well as administering anesthetics which will facilitate intraoperative neuromonitoring. At the times of temporary clip application, further adjustments to hemodynamic parameters are necessary to ensure adequate collateral perfusion. But perhaps the most critical moment of hemodynamic control during these surgeries is in the moment of an inadvertent intraoperative aneurysmal rupture (IAR). This lecture will aim to provide key considerations and steps to handle this feared complication.



Kwek Tong Kiat (Singapore) Polytrauma in traumatic brain injury

Patients with traumatic brain injuries (TBI) are vulnerable to “secondary insults” such as hypoxemia, hypotension, and elevated intracranial pressure (ICP), which add secondary brain injuries and worsen neurologic outcomes. More than 50% of severe TBI patients have extra-cranial injuries involving the chest, abdomen, or long bones leading to significant blood loss and hypotension. The outcomes in these patients are significantly worse than those without extra-cranial injuries.

The first-line treatment in polytrauma patients involves bleeding control and haemostatic resuscitation and includes therapies strategies such as simultaneous multisystem surgery (SMS), damage control surgery (DCS) and damage control resuscitation (DCR). However, some of these treatment strategies might be ill advised or contraindicated in the presence of severe TBI where the overriding priority is to maintain cerebral perfusion pressures and avoid cerebral ischemia.

All polytrauma patients with severe TBI (without or after control of life-threatening haemorrhage) are at risk for intracranial hypertension and should receive intracranial pressure (ICP) monitoring. In such patients, it is recommended to avoid hypotension and for the systolic blood pressure to be maintained above 100 mmHg or the mean arterial pressure above 80 mmHg.

Coagulopathy is frequently present following trauma and especially so in polytrauma patients. In the presence of severe TBI, coagulopathy may worsen cerebral hematomas and neurologic outcomes. In polytrauma patients with TBI, it is recommended to maintain platelet counts above 50,000/mm³ and above 100,000/mm³ if there is ongoing bleeding or if emergency neurosurgery is required.



Jeffrey Pasternak (USA) Concussion and anaesthesia

Concussion is a functional syndrome typically consisting of neurological, behavioral, and cognitive manifestations following blunt head trauma. In developed nations, it has been estimated that approximately 1.2% of the population suffers from a concussion each year strongly supporting the notion that concussion is a major global health problem.

The diagnosis of concussion is frequently made based on the presence of a suspected head injury and the presence of various clinical manifestations. This diagnostic method is subjective as it typically relies on patients to report clinical manifestations. As such, there are major efforts underway to develop a laboratory test for concussion based on changes in serum or even salivary biomarkers.

Brain homeostasis is significantly altered following concussion. These effects include but are not limited to alterations in brain energy homeostasis and changes in resting cerebral blood flow and responses of cerebral blood flow to cerebral activity. Additionally, there is evidence for alterations in white matter tract integrity and an increase in neuroinflammation. Unfortunately, some of these changes can persist despite resolution of clinical manifestations.

Anesthesiologists commonly care for patients following concussion. At a single center, it was estimated that 14% of patients with a concussion received an anesthetic to facilitate a surgical or diagnostic procedure within 1 year of injury. Given that anesthesia can impact cerebral homeostasis, it is currently unclear whether the peri-anesthetic period has an impact on the vulnerable brain following concussion.



Tanuja Shah (UK)

Preparing for the greying tsunami: perioperative brain health in 2020s

Post operative cognitive decline is one of the most feared complications following surgery in older patients and can lead to a loss of future independence. With an ageing surgical population we will look at everyday strategies to mitigate this and the evidence for them.



Girija Prasad Rath, MD, DM

Pediatric Neuroanesthesia: Time for a New Subspecialty!

Pediatric neurosurgery is a well-established subspecialty that deals with the unique challenges a child with central nervous system (CNS) disease poses. Hence, the need for skilled pediatric neuroanesthesiologists has also increased recently, focusing on dedicated care of such children. Pediatric neuroanesthesia owes most of its routines, techniques, and instrumentation to anesthetics for children in general. Perioperative anesthetic care of children requires catering to and adapting to children's anatomy and physiology differences from adults. The response of neonates and infants to stress is markedly different from older children and adults; they have poor metabolic control and are more prone to hypothermia. Apart from the general physiological differences, the neuroanesthesiologists better understand the neurological pathology and concerns relating to ICP; they play a significant role in the optimal management of such children, greatly influencing the outcome. Several syndromes with CNS and multi-system manifestations have been described concerning children. Intracranial tumors, intractable epilepsy syndromes, craniofacial abnormalities (craniosynostosis and craniopagus twins), neurotrauma, hydrocephalus, spinal and cranial dysraphisms (neural tube defects), craniovertebral junction abnormalities (Chiari malformations), neurovascular diseases, moyamoya disease, the vein of Galen aneurysmal malformations, and kyphoscoliosis are some of the pathological conditions the anesthesiologist needs to have a thorough understanding of. The perioperative anesthetic and neuro-intensive care management of pediatric traumatic brain injury are also unique. Neurosurgery as a specialty is rapidly evolving with the advent of newer diagnostic modalities such as functional magnetic resonance imaging (fMRI); surgical techniques, microneurosurgery, endoscopy, stereotactic and robotic surgeries; and endovascular techniques. Many of these techniques are being increasingly employed in pediatric neurosurgery. Therefore, it is essential that anesthesiologists need to be updated on the latest developments to provide appropriate perioperative care among these children. And thence, pediatric neuroanesthesia should be recognized as a separate subspecialty. Currently, the focus of pediatric neuroanesthesia appears to be restricted to managing routine problems in most centers worldwide. With a multidisciplinary team approach the, perioperative care can reshape the outcome of complicated scenarios. Also, currently, the literature available on this topic seems to be limited, and hopefully, with the evolution of the subspecialty of pediatric neuroanesthesia, more meaningful research will be carried out.



John Bebawy (USA)

Crisis management overview- Checklists, cognitive aids and team management

Cognitive aids and evidence-based checklists have become an indispensable part of complex situation management in many industries and domains, and this is no different in the medical crisis literature. The purpose of such aids is not simply to provide instructions for a crisis situation, but more so to ensure that all details within the crisis are accounted for in the face of many distractions. Furthermore, utilization of such cognitive aids and checklists is a key portion of crisis team management, improves communication within the team, allowing all members to know and understand exactly what is occurring, what has been accomplished, and what remains to be done.

Geraldine Jose (Philippines)

Cardiac arrest in prone position during spine surgery

The prone position is commonly preferred in certain surgical spine procedures depending on the location of the spinal pathology. Cardiopulmonary arrest in this position may be very challenging to manage. A considerable effort is often required to return the patient to the supine position and initiate cardiopulmonary resuscitation (CPR) maneuvers. It can take as many as 5 to 6 people and up to 3 minutes to reposition a patient into the supine position. (1) Performance CPR in the supine position is well defined and detailed guidelines exist to standardize performance. (2) However, pathways as to CPR in the prone position is less established. A case of a 57 year old 70kg, ASA 3 for hypertension, dyslipidemia, bronchial asthma, mitral valve prolapse and previous CVD infarct with left sided residuals presented with progressing quadriparesis. He underwent C2-C3 laminectomy and excision of C2-C3 schwannoma in the prone position under GA. Unexpectedly, a sudden uncontrollable bleeding was noted during the excision of the tumor. The patient went into malignant ventricular arrhythmia and cardiac arrest for 3 1/2 minutes while the bleeding was still uncontrolled. Neuroprotection and anti-arrhythmic management were done immediately and CPR in the prone position proceeded until bleeding was ultimately controlled. There was Return of Spontaneous Circulation (ROSC) before patient was placed in the supine position.

This report will focus on prone CPR when it is the only plausible option for patients who cannot be repositioned to supine. Further work is needed to determine whether administration of prone CPR is effective under real-world conditions and for what patient populations. (1)

Anez, Cristobal, et al. Cardiopulmonary Resuscitation in the Prone Position in the Operating Room or in the Intensive Care Unit: A Systematic Review. *Anesthesia and Analgesia* 132(2): 285-292, Feb 2021.

Andersen LW, Holmberg MJ, Berg KM, Donnino MW, Granfeldt A. In-hospital cardiac arrest: a review. *JAMA*. 2019;321:1200-1210.



Masahiko Kawaguchi (Japan) Loss of evoked potential signals

Postoperative neurological dysfunction can develop after a various surgeries including spinal surgery, neurosurgery, and aortic surgery. In surgeries in which there is a risk of deterioration of neurological function, neurophysiological monitoring has been advocated to prevent the devastating complication. Motor evoked potentials (MEP) are most frequently used and sensitive to anesthetic suppression. A variety of anesthetics and neuromuscular blocking agent can attenuate MEP responses. In addition, the measures to keep the level of hypnosis and muscular relaxation at constant are crucial to detect the MEP changes. MEP can be altered not only by intraoperative motor tract injury due to surgical manipulation but also by anesthetics and changes in blood pressure, body temperature, and other physiological variables (systemic factors). Therefore, baseline MEP should be recorded from the muscles affected by surgical procedure immediately before starting surgical manipulation with the risk of motor tract injury as well as the beginning of the surgery, while control MEP should be recorded from the muscles not affected by surgical procedure to check the influences of systemic factors. Once the changes of MEP are observed based on the alarm criteria, multidisciplinary team members should share the results of MEP monitoring and respond to check the status of monitoring and to recover the possible motor nerve injury. The use of checklist would be preferable for the management of multidisciplinary team. The author will show the cases in which evoked potentials were lost intraoperatively, and discuss how to manage such situation as a multidisciplinary team.

Audrey Tan (UK) Venous air embolism

Venous air embolism (VAE) in neurosurgery is an uncommon but potentially life-threatening complication. VAE has a higher risk of occurring in neurosurgery compared to other surgical specialities particularly in procedures done in the sitting or semi-sitting position. VAE is caused by the entry of air into the venous system, which can lead to obstruction of blood flow, hypoxaemia and cardiac arrest. The lethal dose of air embolism is 3-4 ml.kg⁻¹.

This talk is a part of the session with the Society of Neuroscience in Anaesthesiology and Critical Care (SNACC) panel to address neuro-anaesthesia crisis management and aims to provide an overview of VAE, including its pathophysiology, clinical presentation, diagnosis, and management. The risk factors and mechanisms that contribute to VAE will be discussed. We will examine how VAE is recognised including signs, symptoms and various diagnostic strategies. Treatment options will be reviewed together with the importance of the roles of the different operating theatre team members on managing this serious critical incident.



Jeffrey Pasternak (USA) Malignant intracranial hypertension

Normal intracranial pressure (ICP) is approximately 7-15 mmHg. Increases in ICP can occur in the setting of a variety of brain disorders including brain tumors, intracranial hemorrhage, or traumatic brain injury. Given that the cranium contains brain, blood, and cerebrospinal fluid, early responses to increased ICP include decreases in intracranial blood, especially venous blood, and movement of cerebrospinal fluid in the spinal compartment. When these compensatory mechanisms are exhausted, ICP can rise quickly in response to smaller increases in intracranial contents. Increased ICP can lead to impaired cerebral blood flow and oxygen delivery and even movement of brain tissue within or out of the intracranial compartments – a process called “herniation”. Identification of the specific cause of increased ICP is important to determine the best course of action. Management of increased ICP and brain bulk is important to minimize risk for injury and optimize patient outcome.

This lecture will summarize perioperative management strategies in patients with intracranial hypertension. Topics will include recognition of increased ICP, hemodynamic management, pharmacologic treatment, and surgical techniques that can be used to treat intracranial hypertension.



Tiong Ing Kieng (Malaysia)

Prehabilitation for the older surgical patient: exercise, cognition and nutrition

While we celebrate longevity as a result of lifestyle improvement and medical advancement, living longer is rewarded with multimorbidity, including medical conditions requiring surgical care. Older surgical patients are at greater risk of experiencing postoperative complications (predominantly medical complications), slower and incomplete functional recovery, poorer quality of life, and higher mortality. There are ways to improve surgical outcome such as Enhanced Recovery After Surgery (ERAS), minimally invasive surgery but these efforts are often structured around the anticipated surgery instead of a patient cohort such as geriatric patients.

Prehabilitation, a more person-centered care, was first introduced to promote successful coping with the stress of surgery by enhancing the individual's functional capacity preoperatively. It is a multidimensional and multidisciplinary assessment and management, akin to comprehensive geriatric assessment (CGA) in management of geriatric patients. It was found to be useful for less healthy patients such as older patients. There are few elements of prehabilitation that have been studied. The key elements which are particularly relevant to older surgical patients are exercise, nutrition, and cognition. It is worth noting that prehabilitation is not a single concept but an essential part of the whole care process in older surgical patients, complementing other processes such as ERAS and postoperative rehabilitation.

Tanuja Shah (UK)

Postoperative delirium and cognitive dysfunction in elderly: current evidence and practices to minimise damage

Post-operative delirium is a serious complication following surgery. It is more common in emergency cases and in those with some pre-existing cognitive decline and can lead to prolonged length of stay as well as functional decline and increased rates of death. We will look at ways of identifying those at risk and putting in strategies in order to prevent or reduce the impact of this condition.

Rafidah Atan (Malaysia)

Frailty and critical illness

What is frailty? How do we define this? What is its impact on outcomes and what is the current thinking behind how this should guide our decision-making regarding patient care and triaging? The speaker hopes to address these topics during this talk.



Audrey Tan (UK)

Regional anaesthesia in neurosurgery

General anaesthesia with mechanical ventilation offers excellent control of physiological parameters and has traditionally been the first choice of type of anaesthesia in neurosurgery. However, there has been a recent interest of regional anaesthesia in neurosurgery due to the benefits it can offer.

Regional anaesthesia can be used as a sole technique in awake patients or as an adjunct with general anaesthesia for perioperative analgesia. This lecture will give an overview in the different blocks used in neurosurgery including its applications, advantages and disadvantages.

Several regional anaesthesia techniques are used in neurosurgery such as scalp blocks in cranial surgery, intraspinal and paraspinal blocks in spinal surgery which will be discussed.

Regional anaesthesia is a valuable tool in neurosurgery offering several benefits in the neurosurgical procedures including improved haemodynamic stability, reduced interoperative blood loss, blunted stress response and reduced opioid requirement and opioid related complications. It allows faster recovery times and improved patient satisfaction. Furthermore, regional anaesthesia can be used in patients with respiratory and cardiovascular comorbidities that make general anaesthesia more high risk.

By understanding the benefits and limitations of regional anaesthesia, neuro-anaesthetists can optimise perioperative care for patients, improving outcomes and patient satisfaction.

Nazhan Afeef Mohd Ariff@Ghazali (Malaysia)

Use of tranexamic acid in neurosurgery: effective and safe?

The use of tranexamic acid (TA) in neurosurgery is indeed beneficial in trauma and traumatic brain injury based on the CRASH-2 and CRASH-3 Trials. However, there are concerns raised with regards to its effectiveness and safety.

Neurosurgery encompasses brain and spine surgeries which include trauma, tumour, congenital related, vascular, neuromedical, pain management and combined with interventional procedures. Benefits of TA use comprise of reduction of mortality and bleeding incidences. Safety concerns take in the possibility of increased risk of thrombovascular events and seizures. Other expected benefits were not present despite TA use and it is debatable to some points. Ongoing researches includes TA use in elective and emergency neurosurgical cases. There are lack of evidences for TA optimal dose, extensive complications and dose adjustments.

In conclusion, TA does provide benefits in neurosurgery. Use of TA in surgeries that do not have enough evidences can be controversial.



John Bebawy (USA)

Crisis management during interventional neuroradiology

The interventional neuroradiology suite can be fraught with various challenges for administering anesthesia. Besides the patient's underlying neuropathology, there are various logistical and physiologic challenges that can relate to a lack of resources and sudden changes in the patient's condition which can necessitate swift and decisive action. One of the most feared complications that can occur in this setting is intraprocedural aneurysmal rupture. Knowing how to identify this complication, having the resources needed to treat it immediately available, and understanding the course of action and goals of care during this time are of paramount importance for the neuroanesthesiologist working in this environment.



Ling Jia Nee (Malaysia)

Multidisciplinary management of geriatric hip fractures: challenges and opportunities

Malaysia is projected to have the highest (3.56 folds) increase in the total number of hip fractures by 2050. At the moment, there are about 4500 hip fractures per year in Malaysia. Older people with fragility fractures presented not only with fractures, but alongside with their medical illnesses, frailty, multi-morbidity and disability. They have a very challenging peri-operative period, at risk of medical complications and many do not return to their pre-fracture level of function. Thus, healthcare professionals from different discipline backgrounds have their utmost important contributions for a high quality care of patients with hip fractures.

A multidisciplinary approach has been shown to be the most effective way to address the complex healthcare needs of patients with fragility fractures. The key to efficient multidisciplinary working has to be coordination and communication between the various team members. Responsibility is shared across the pathway depending on the patient's clinical need. For instance, the operative procedure is the responsibility of the surgeon and managing medical barriers to early mobilisation is better led by the geriatrician with the support of allied health team.

In view of multiple parties from different background of training is involved, the journey is not always smooth. What are the challenges we face? Who can ensure that all team members perform the required functions? Is the ward organisation friendly for the service? How is the manpower? Is our funding adequate?

Let us come together to discuss on how a fracture liaison service ensures a structured and coordinated services to overcome the challenges ahead.



Tanuja Shah (UK)

The aftermath of emergency laparotomy in the older patients

Emergency Laparotomy carries a significant mortality risk in the older person as well as risks of increased dependence. In the UK the National Emergency Laparotomy Audit has been running for over 10 years and has looked at ways in which the outcome for this population can be optimised. In this talk we will look at the results of this audit and also at ways in which it's findings can be incorporated into the Malaysian setting.

Rafidah Atan (Malaysia)

The elderly in ICU: shared decision making and goals of care

The demographics of patients admitted to the intensive care is rapidly changing with a larger proportion coming from the geriatric age group. In this talk, the speaker will address issues surrounding the elderly in the ICU including prognostic indices, individualising care and shared decision making.



Benn Lancman (Australia)

Advanced intracranial monitoring and their role in traumatic brain injury

TBI poses a significant global health challenge, necessitating comprehensive monitoring techniques. The presentation explores various examples of intracranial monitors, including intracranial pressure (ICP) monitors, cerebral blood flow (CBF) monitors, and brain tissue oxygenation (PbtO₂) monitors. These advanced monitoring tools offer valuable insights into intracranial dynamics, aiding in the development of personalized treatment strategies. The presentation highlights the impact of these monitors in improving TBI outcomes and underscores their significance in clinical practice.

Kwek Tong Kiat (Singapore)

Processed electroencephalography: How, what and why?

EEG waves represent the summation of excitatory post-synaptic potentials generated by individual neuronal cells in the cerebral cortex. Interpretation of raw EEG signals in the operating room can be challenging for anaesthesiologists. As such, a large number of processing algorithms have been developed to facilitate real-time analysis. Currently available depth-of-anaesthesia monitoring devices measure limited raw EEG activity from forehead electrodes and then process and analyze these signals using highly complex mathematical methods to derive a numerical index representing the anaesthetic state.

Although these processed EEG indices have been in use for 20 years, they have not yet become part of standard anaesthesiology practice due to the following limitations: 1) they are not able to ensure prevention of awareness when used; 2) these indices have also been developed from adult patient cohorts and are less reliable in paediatric populations; 3) lastly, these indices do not relate directly to the neurophysiologic effects of specific anaesthetics on the brain and cannot give an accurate picture of the brain's responses to these drugs. Yet these indices assume that the same index value reflects the same level of unconsciousness for all anaesthetics. This is unlikely to be true and underpins the key limitation of these indices and the likely reason for their lack of consistent evidence of benefit in clinical trials.

Neural oscillations are the most prominent feature of raw EEG waves with each anaesthetic drug class producing distinct oscillations. These oscillations can be related to the circuit mechanisms of drug action, with a growing body of evidence suggesting that anaesthetic-induced neural oscillations can be used to infer depth of anaesthesia and gain new insights into brain function. The failure of EEG indices to account of these distinct oscillations among different anaesthetics highlights their inherent limitation as reliable tools for monitoring the anaesthetic state at the bedside.



Geraldine Jose (Philippines)
Perioperative management of patients with dementia

As increasing numbers of elderly patients with dementia or mild cognitive impairment are likely to present for surgery, it is imperative that we are aware of the potential pitfalls in delivering safe anaesthesia to this neurologically vulnerable patient group.(1) It is of prime importance to give special consideration to concerns about acquisition of informed consent, preoperative risk assessment and management, the potential impact of anaesthetic drugs and their interactions, the incidence of postoperative delirium, and the effective multimodal postoperative analgesia. While much still remains to be elucidated, ongoing research into the long term effects of anaesthesia and surgery to cognition may lead one to understand the protective strategies to the brain in the perioperative period.

Alcorn S and I Foo. Perioperative Management of Patients with Dementia. BJA Education, vol 17, issue 3, March 2017, Pages 94-98.

Yeap Boon Tat (Malaysia)
Parkinson's disease and anaesthesia

As the incidence of patients with Parkinson's disease (PD) are increasing globally, anaesthesiologists must be well equipped with the necessary knowledge and skills in managing them. Highlights of this lecture include a brief pathophysiology of PD, clinical manifestations and the various peri-anaesthetic concerns when anaesthetizing PD Patients with a DBS implant coming for various surgeries.



At MSD, known as Merck & Co., Inc., Rahway, NJ, USA in the United States and Canada, we are unified around our purpose: We use the power of leading-edge science to save and improve lives around the world. For more than 130 years, we have brought hope to humanity through the development of important medicines and vaccines. We aspire to be the premier research-intensive biopharmaceutical company in the world – and today, we are at the forefront of research to deliver innovative health solutions that advance the prevention and treatment of diseases in people and animals. We foster a diverse and inclusive global workforce and operate responsibly every day to enable a safe, sustainable and healthy future for all people and communities. For more information, visit www.msd.com and connect with us on Twitter, LinkedIn and YouTube.



Hospimetrix Sdn Bhd, a leading specialist in providing the healthcare industry with medical devices of significant value since its inception more than two decades ago. It has been an institution made out of enthusiastic Sales Advisors, Technical Engineers, Customer Care and Sales Support team.

Hospimetrix's integrity and culture had earned the trust of various industry innovators alike- Masimo Corporation, Air Liquide Healthcare, Stryker Corporation, eVent Medical, MDoloris and Tanita. Providing local healthcare professionals with an access to clinically valuable devices and uncompromised after-sales support services with direct access to manufacturer.

All medical devices represented adhere to the requirements of the Malaysia Medical Device Authority directives. Hospimetrix, a GDPMD and ISO 9001 certified organization, is dedicated to its' commitments and responsibilities.



Founded in 2012, JA Assure has come a long way from its beginnings in Singapore to spreading its wings in Hong Kong, Malaysia and throughout the ASEAN region. From the start, we've embraced technology as a core element of our business going forward so that today – with over 50 years of combined experience – we're a team of talented experts with specializations in insurance, technology, finance, creative and client relations.

With our strong presence in Southeast Asia and expertise in niche areas of the insurance and Insurtech business, we have solidified our position as the industry's innovations leader in the region – offering services and related Insurtech solutions through several affiliates and brands.



Doctor Shield is a technology-driven platform that offers professional medical indemnity insurance to doctors and medical professionals. It is the world's first completely online medical indemnity insurance platform, providing fast and efficient access to liability insurance policies that can be purchased and administered instantly.

Doctor Shield's innovative insurtech online portal uses advanced technology to calculate premiums for medical indemnity and medical clinic insurance coverage, allowing users to purchase policies in just a few minutes. The platform has been designed to provide efficient renewals, servicing, and claims handling, saving time and effort for busy medical professionals.

Doctor Shield is a collaborative effort between Chubb, a leading global insurance company, and JA Assure, a specialized healthcare insurance broker. Its policies are underwritten by Chubb, providing users with peace of mind that they are covered by a reputable and trusted insurer.



Straits Scientific (M) Sdn Bhd also known as "3S" was established in 1985 specializing in providing quality healthcare products in Malaysia. With 38 years of experiences in the healthcare industry, the company plays a crucial role by bridging the gap between manufacturers and end-users, enabling healthcare providers to access a wide range of innovative and life-saving technologies.

3S encompasses various divisions that specialize in different areas of healthcare. Three key divisions in the company are the Diagnostic, Medical, and Scientific divisions. Each division focuses on distinct aspects of the healthcare industry, working together to provide comprehensive solutions and contribute to advancements in patient care.

The Diagnostic Division primarily focuses on the innovative diagnostic tools and equipment. This division plays a critical role in early disease detection, monitoring patient health, and aiding in the decision-making process for healthcare professionals. The Medical division, on the other hand focuses on point-of-care testing as a guide for management of various medical conditions. The Scientific division provides support to research laboratory with their wide range of research equipment and consumables to boost research project.

What sets 3S apart is their dedication to customer satisfaction. The company employs a knowledgeable and responsive team that provides personalized assistance to healthcare professionals. They understand the challenges faced by their clients and offer tailored solutions to meet their specific requirements. Whether it's providing technical support, facilitating product demonstrations, or offering training programs, 3S goes the extra mile to ensure a seamless customer experience.

3S stands out as a reliable and customer-centric company in the medical device sector. With their dedication to quality healthcare solutions, exceptional customer service, and commitment to patient care, they continue to be a trusted partner for healthcare providers.

Trade & Workshop Sponsors







Accumed Technology Sdn Bhd



Accurate & Reliable



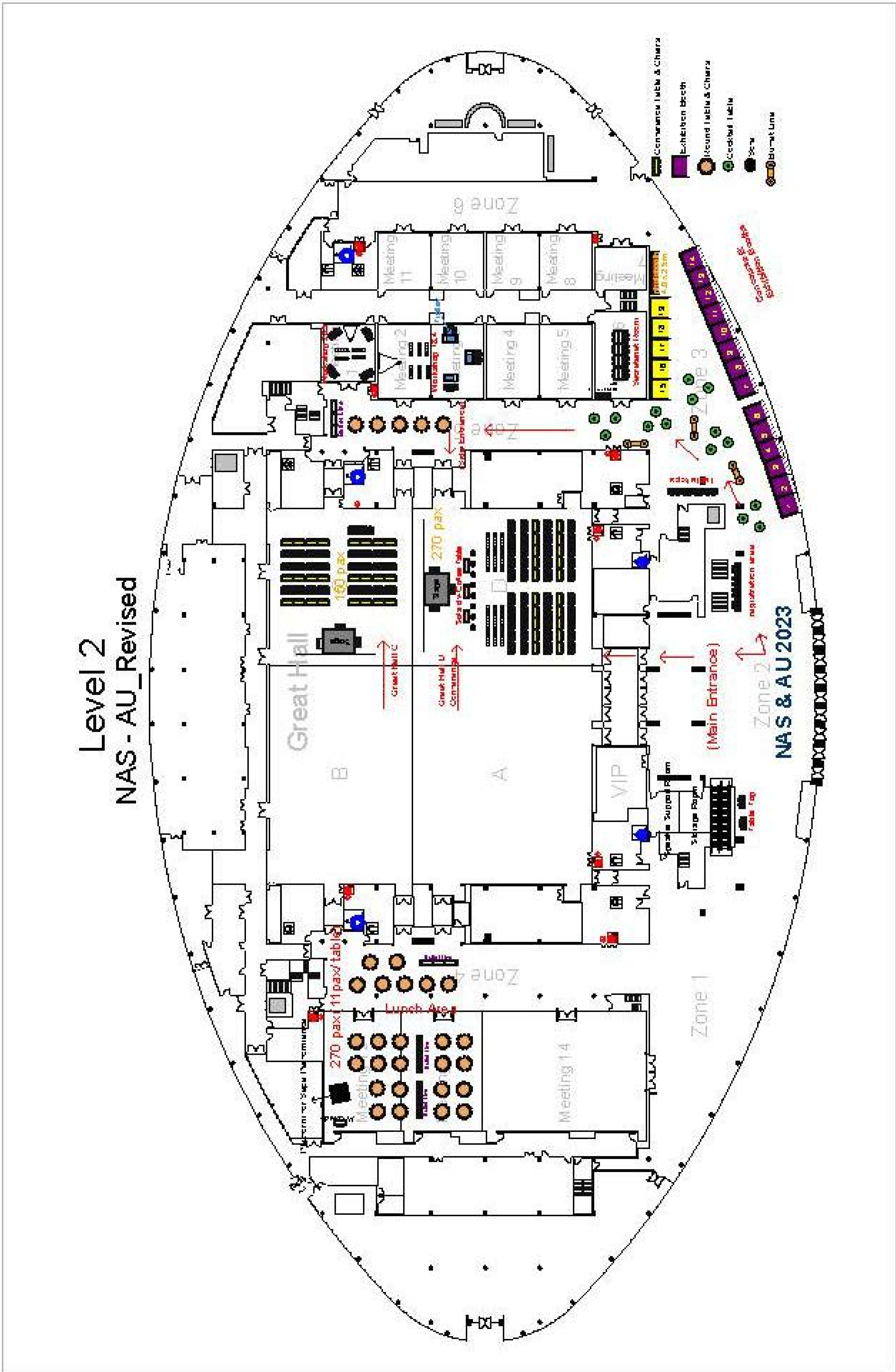
Dräger
Technology for Life

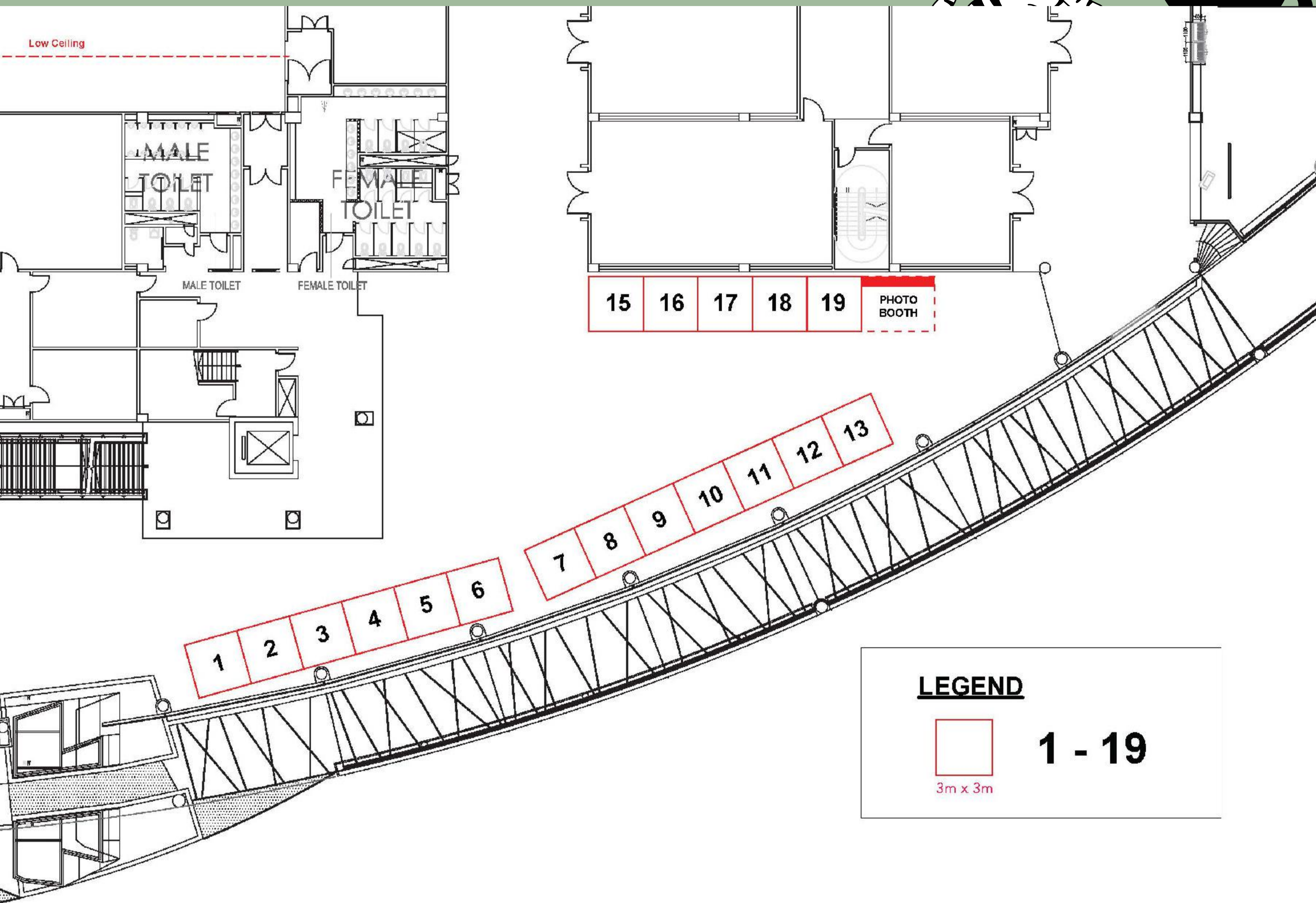
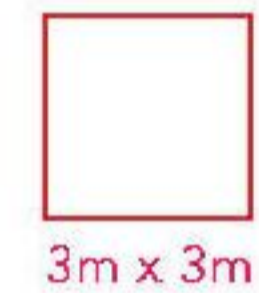
insanbakti





Level 2 NAS - AU_Revised



**LEGEND**

3m x 3m

1 - 19

Booth No.	Company
1	Syarikat Perniagaan Miscell S/B
2	Nestle Health Science
3	Fresenius Kabi
4	Nihon Kohden
5	SCHMIDT BioMedTech Sdn Bhd
6	DANMEDIK SDN BHD
7	DAYA CERGAS (M) SDN BHD
8	MedicWorld Sdn Bhd
9	Medi-Life (M) Sdn Bhd
10	PALL THAI MEDICAL SDN BHD

Booth No.	Company
11	G Medic & TA Healthcare
12	Globalmed Sdn Bhd
13	BMEC Malaysia Sdn Bhd
15	Merck Sharp & Dohme
16	Straits Scientific (M) Sdn Bhd
17	Medtronic
18	DOCTORSHIELD
19	Hospimetrix/ Masimo Corp



S.O.S. Kids helps critically sick children and their families to cope with their sickness and hope to create awareness to public with regards to the less fortunate.

As medical care advances, many illnesses that were once considered incurable have now become treatable. This is especially so for a number of serious childhood ailments including major birth defects such as that involving heart, lung and bowels, severe complications of many common childhood illnesses, for example diarrhoea and chest infection and trauma.

The availability of intensive care service has helped numerous children survived such life-threatening emergencies. At Sarawak General Hospital, Kuching, about 85% of the total number of children admitted into Paediatric Intensive Care unit survived. Each year approximately 10-15% of the survivors would have major organ damage, particularly in the lungs and brain, after initial recovery. They require continuous medical support and rehabilitation, even when at home, because the recovery process could be very slow and lengthy.

The supports and rehabilitation are essential because they would help the survivors attain the best possible eventual recovery; these include appropriate medical devices, adequate nutrition, suitable housing condition, immunization against vaccine-preventable infections and social assistance and moral support.

Unfortunately, the care for the children who survived their critical illness is very costly and stressful. It imposes a great financial burden to, or may even be ill-afford by, some families; which may compromise the quality of care, and consequently, their eventual health. For this reason many parents often have no alternative but to have their child stay in the hospital for months while awaiting the essential supports including housing condition to become available. It also results in considerable disruptions to the affected families' daily routines and functions. Among many, the family income is the most frequently compromised because one of the parents would have to look after their sick child at the hospital, while the other has to stop work to take care of their other children at home. Unlike many children with specific chronic conditions that could seek help from the existing active voluntary organization e.g. Sarawak Children's Cancer Society (SCCS) and The Sarawak Thalassaemia Society, there is no such specific support group for the critically sick children in our community yet. Hence, the idea of S.O.S Kids was born with the aim to improve the care of the critically sick children.



Our Aims & Objectives:

- To provide moral support and counselling if necessary to the families with critically ill children.
- To create public awareness, and disseminate medically sound information to the families, regarding childhood disease.
- To provide financial assistance to needy children and their families.
- To support the establishment of a conducive and well-equipped half-way house, hospital environment and medical consumables for critically ill children, where appropriate, for the care, treatment and management of critically ill kids.
- To support research projects in paediatric critical care medicine and enhance the expertise of medical staff and social workers.

Visit their Facebook page: <https://www.facebook.com/soskidskuchingsarawak/>



Borneo Convention Centre Kuching (BCCK)

The Borneo Convention Centre Kuching is the first dedicated convention and exhibition centre in Borneo. Located 8 km from the city centre of Kuching, it aims to organise and attract local and international concerts, events, exhibitions and conventions to Sarawak. For more information, please visit www.bcck.com.my

Location:

The Isthmus, Sejingkat,
93050 Kuching,
Sarawak, Malaysia



Pullman Kuching

Positive vibes from the stunning panoramic views of Kuching City and Sarawak River, Pullman Kuching offers spacious and contemporary interiors, creating a 5-star luxury and comfortable atmosphere for an escapade or business. Featuring a selection of outstanding facilities, restaurants and bar, Pullman Kuching also boost 389 rooms with uniqueness in mind that are designed to enrich guests with precious and exclusive comfort since inception in 2010. Please visit <https://www.pullmankuching.com/> for more information.

Location:

1A Jalan Mathies,
93100 Kuching, Sarawak,
Malaysia

Tel no.: +6082222888

Fax no.: +6082222999

E-mail: H6332-RE@accor.com (Miss Laura)

Free shuttle transfer service to and from Borneo Convention Centre and Pullman, Kuching will be provided (one round trip per day and only on 8-9 July).



Persatuan Kakitangan Anestesiologi Hospital Umum Sarawak,
Department of Anaesthesiology & Intensive Care (Surgical Directorate- Room S41)
Hospital Umum Sarawak,
Jalan Hospital,
93586 Kuching, Sarawak, Malaysia

Tel no.: +6082276428

Fax no.: +6082419495

E-mail: nas.au2023@gmail.com



ASIA PACIFIC NEUROCRITICAL CARE CONFERENCE 2024

28-30 JUNE 2024, FRIDAY - SUNDAY
BORNEO CONVENTION CENTRE, KUCHING SARAWAK, MALAYSIA

STRENGTH THROUGH DIVERSITY

JOINTLY ORGANISED BY

IN COLLABORATION WITH

IN PARTNERSHIP WITH

SUPPORTED BY

ADOPTED CHARITY

www.neuro-criticalcare.org

RAM 2024

REGIONAL AIRWAY MEETING

27 - 29 September
Pullman Kuching Hotel, Sarawak, Malaysia

www.regionalairwaymeeting.com

Joint Organisation of:

Managed by:

