



Malaysian Society
of Anaesthesiologists



College of
Anaesthesiologists, AMM

SOUVENIR PROGRAMME & ABSTRACT BOOK

Malaysian Society of Anaesthesiologists & College of Anaesthesiologists, AMM

ANNUAL SCIENTIFIC CONGRESS 2022

MyAnaesthesia 2022: FOCUS
Forging Onwards to a Collaborative Unified Success

4th - 7th August 2022

Shangri-La Hotel, Kuala Lumpur, Malaysia

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MESSAGE



I would like to thank the Malaysian Society of Anaesthesiologists (MSA) and the College of Anaesthesiologists (CoA), Academy of Medicine of Malaysia for inviting me to officiate the Annual Scientific Congress. I was informed that it has been three years since the last Congress was physically held in Ipoh, Perak in 2019. I am certain we are all grateful to be able to meet in-person after a long hiatus.

The last three years has been, without a doubt, a roller coaster ride of physical and mental emotions. From scrambling to organise our Intensive Care Units, to the vaccination exercises and many other responses throughout the pandemic, it goes without saying that we have learnt plenty along the way. Not the very least, the importance of working together for one common goal which brings me to the theme that is so aptly chosen by the Organising Committee, “MyAnaesthesia 2022: FOCUS - Forging Onwards to a Collaborative Unified Success”. My sincere congratulations for setting the tone for what I hope would be the path ahead as we move towards the next phase of our healthcare response.

I am appreciative of the many efforts that have been taken by both the MSA and the CoA in aiding the Ministry of Health to combat the pandemic. My sincere gratitude goes to the many members who have been working tirelessly. In addition to the ongoing clinical work, the MSA and the CoA have also tirelessly conducted many webinars, produced up-to-date guidelines and numerous educational material that allowed for a systematic approach in battling the pandemic. For that, I take this opportunity to convey my admiration, on behalf of the Ministry of Health, to both the MSA Executive Committee and the CoA Council under the leadership of Professor Dr Ina Ismiarti Sharifuddin and Professor Dr Marzida Mansor, respectively.

I trust that the challenges of organising meetings via the online or hybrid method is no longer something that we fret upon. The advantages of hosting meetings via the online portal have allowed the participation of many beyond the confines of the conference halls. Nevertheless, the opportunity to reconnect and share ideas in person is something that many of us have missed over last three years. I hope the delegates will take time to appreciate the efforts of the respective committees for persevering in organising the Congress despite the challenges.

The scope and breadth of the scientific programme provides the backbone to the success of the Congress. The participation of many eminent local and overseas speakers will enable delegates to learn from their expertise and thus, help improve future patient care.

Finally, I would like to thank the biomedical industry for being instrumental in many of our responses during the COVID-19 pandemic. We hope the collaboration with the industry and the clinicians continue to be positively enhanced. I am happy to see many of them physically present on site showcasing the latest products and medications that can be of use to our clinicians.

A handwritten signature in black ink, consisting of a stylized 'A' followed by a loop and a dot, representing the name Dato' Dr Asmayani Khalib.

Dato' Dr Asmayani Khalib
Deputy Director-General of Health (Medical), Ministry of Health, Malaysia

MESSAGE



I am pleased to welcome you to the Annual Scientific Congress 2022 of the Malaysian Society of Anaesthesiologists (MSA) and the College of Anaesthesiologists (CoA), Academy of Medicine of Malaysia. I would like to thank Dato' Dr Asmayani Khalib, Deputy Director-General of Health (Medical), for officiating this congress. MyAnaesthesia 2022 is the first hybrid meeting organised by the MSA and the CoA since Malaysia entered the endemic phase of COVID-19.

The theme of our congress is “MyAnaesthesia 2022: **FOCUS - Forging Onwards to a Collaborative Unified Success**”. We have invited prominent international and local speakers to present, share and discuss scientific questions, achievements, issues and challenges relevant to Anaesthesia and Critical Care. I believe this premier congress offers exciting plenaries, symposia and cutting-edge pre and in-congress workshops. In addition, we hope MyAnaesthesia 2022 provides a good platform for our fraternity to network, meet and interact with distinguished experts, clinicians, researchers, educators and biomedical industry partners to share experiences, foster collaborations, make new friends, and rekindle acquaintances.

I would like to congratulate the Scientific Committee led by Dato' Dr Yong Chow Yen for the excellent academic content planned meticulously to cater to our precious participants' different needs. I would like to thank the Organising Committee and the secretariat for their ideas, dedication, and hard work in ensuring the smooth running of this congress. My gratitude goes to all the biomedical industries that have continuously given us their support. I would like to express my most profound appreciation to all the faculty who took the time out of their busy schedules to share updates in their fields of expertise.

Finally, I thank all of you, our delegates, for participating in this Congress. I wish all of you an engaging and productive conference participation!

Professor Dr Ina Ismiarti Shariffuddin
President, Malaysian Society of Anaesthesiologists &
Organising Chairperson, MSA and CoA Annual Scientific Congress 2022

MESSAGE



It is my great pleasure to welcome you to the Malaysian Society of Anaesthesiologists (MSA) and the College of Anaesthesiologists (CoA), Academy of Medicine of Malaysia Annual Scientific Congress 2022 (MyAnaesthesia 2022). After two years of battling the COVID-19 pandemic, many of us are looking forward to a physical MyAnaesthesia event. Hence, we have decided to organise a hybrid Congress to give the participants the choice of virtual or physical attendance, whichever suits them. I would like to thank Dato' Dr Asmayani Khalib, Deputy Director- General of Health Malaysia (Medical), for officiating this event.

This year's theme, "FOCUS: **F**orging **O**nwards to a **C**ollaborative **U**nified **S**uccess", is apt because as anaesthesiologists' skill sets become increasingly specialised, collaboration as a practice becomes more important than ever. Collaboration can lead to a unified success when a group of people come together and contribute their expertise for the benefit of a shared objective or mission. It has been shown that organisations that collaborate well are more likely to be financially successful, culturally aligned and have higher engagement rates.

In line with the theme, we have added many topics in the scientific programme focusing on newer possible collaborative efforts such as Perioperative Medicine, Guideline Updates and Sustainability in Anaesthesia. There are many interesting and stimulating plenaries, symposia, problem-based learning sessions and refresher courses to choose from.

Please visit the physical and virtual booths supported by the biomedical industry that feature the latest information available in anaesthesia pharmacotherapy and technology, to participate in the lucky draws and so on. You can also take the opportunity to meet old friends and colleagues physically or virtually at this congress.

I would like to thank the Organising Committee for their hard work and creativity to make this congress a success. My special thanks also to the Scientific Committee led by Dato' Dr Yong Chow Yen, partners from the biomedical industry, the secretariat, the virtual platform provider and, last but not least, to all participants of the Congress.

I wish everyone a successful and enjoyable Congress.

A handwritten signature in black ink, appearing to read 'M. Mansor', with a horizontal line underneath.

Professor Dr Marzida Mansor

President

College of Anaesthesiologists, Academy of Medicine of Malaysia &

Deputy Organising Chairperson, MSA and CoA Annual Scientific Congress 2022

MESSAGE



Welcome to the 59th Annual Scientific Congress of the Malaysian Society of Anaesthesiologists (MSA) and the College of Anaesthesiologists (CoA), Academy of Medicine of Malaysia. Welcome to Kuala Lumpur.

In October 2021, the Scientific Committee was appointed and entrusted with the job of organising the academic content of this Congress. We were uncertain then whether the COVID-19 pandemic would be over by August 2022 or would we have to isolate ourselves at home again. We certainly hoped that our members and fraternity would return to some normalcy and have a face-to-face Congress and if the situation were to take a bad turn, we could rapidly switch to a virtual format. Thus, we conceptualised a hybrid meeting where our members who are on duty or are unable to travel, for some reasons, the opportunity to attend the congress virtually. Those who registered physically have the flexibility of joining via the virtual platform. Herein lies the philosophy of the MSA and the CoA that knowledge must reach out to our members using all technologies available and accessible as possible.

Nevertheless, it is our sincere wish that delegates who have registered as physical will attend in-person and fill up the conference halls to the brim. We hope you will take this opportunity to enjoy the fraternity comradeship and up-lifting conversations in the physical setting. After two and a half years of grueling pandemic work, followed by clearing of surgical back-log, we strive to provide everyone a pleasant place to catch up with friends, colleagues and industry partners.

There are four tracts in the scientific programme. Three tracts are hybrids, covering perioperative medicine, subspecialty anaesthesia, non-anaesthesia technical skills, well-being and professionalism. Physical participants have the option to attend the fourth track which consists of problem-based learning sessions and in-congress workshops. The objective of the physical-only tract is to provide more effective learning opportunities.

There are four pre-congress and three in-congress workshops to meet the delegates' varying interests and needs. Difficult airway, transoesophageal echocardiography, neuroanaesthesia monitoring modalities, erector spinae blocks and ultrasound guided vascular access aim to introduce new knowledge and refresh our skills.

Anaesthesiology trainers and trainees will have dedicated sessions. There are two pre-congress workshops (i.e., Simulation and Work-based Assessment Train-the-Trainer workshops), and a Master and Parallel Pathway Trainee session, where trainees and trainers are given updates and the opportunity to interact with the panel.

The members of the Scientific Committee would like to express our sincere gratitude to our speakers, chairpersons and delegates for the overwhelming support. We wish the oral and posters presenters all the best in their presentations. I wish to thank my two able Co-Chairpersons, Associate Professor Dato' Dr Wan Rahiza Wan Mat and Associate Professor Dr Azarinah Izaham and members of the Scientific Committee for their hard work.

With these, we hope to provide a wide comprehensive, inclusive and, most of all, enjoyable programme. It is our aim that knowledge should be made accessible to our members as much as possible.

A handwritten signature in black ink, appearing to be 'Yong Chow Yen'.

Dato' Dr Yong Chow Yen
Scientific Chairperson
MSA and CoA Annual Scientific Congress 2022

MSA HONORARY MEMBER

Professor Dato' Dr Patrick Tan Seow Koon

Citation by Associate Professor Dr Loh Pui San



BACKGROUND

Professor Dato' Dr Patrick Tan Seow Koon was born in Penang on the 20th January 1956 to Dr Peter Tan Ewe Aik and Dr Eleanor Eu Gaik Choo. He is the second child in a family of three children.

During his childhood, he studied in St Xavier's Primary, St Xavier's Institution Penang, and Leys School, Cambridge. After high school, he studied medicine in the prestigious London University, London Hospital Medical College, and Royal London Hospital. After graduating in 1980, Patrick did his Surgery Internship in Rush Green Hospital, Romford, and Medicine Internship in Rochford Hospital, Southend-on-Sea. This was followed by work as an Emergency Medicine Senior House Officer (SHO) and Neurosurgery SHO at Royal London Hospital.

A neuroanaesthetist, Dr Peter Sebel, asked Patrick to consider anaesthesia as a career, and offered him a job at the Royal London Hospital. So, Patrick began his remarkable career in anaesthesia at Brook Hospital, London, where he was rostered to participate in the neurosurgery and cardiac surgery lists soon after he had acquired the basics of anaesthesia. After six months at the Brook, he joined Royal London Hospital and spent three years as an anaesthesia and intensive care registrar, passing the Fellow of the College of Anaesthetists in Ireland (FCAI) in November 1985 and Fellow of the Royal College of Anaesthetists (FRCA) examination in February 1986.

As a Research Registrar at Middlesex Hospital, he published on a phase-2 analgesia trial with dipipanone conducted on human subjects at the Wellcome Research Laboratory in Beckenham and published on deep hypothermic circulatory arrest for aortic dissection repair surgery.

He was appointed as a Senior Registrar at the Royal Postgraduate Medical School Hammersmith Hospital and completed his higher specialist training following rotations in cardiac anaesthesia, obstetric anaesthesia at Queen Charlotte Maternity Hospital, paediatric anaesthesia at Great Ormond Street Hospital, and district hospital at Hillingdon. This was a period in which he published on valveless-ventilator technology for high frequency ventilation in a similar concept to airway pressure release ventilation, on an optical pressure-transducer for arterial pressure monitoring, and on obstetric epidural analgesia.

In 1990 he was offered the position of consultant anaesthetist in cardiothoracic anaesthesia at St George's Hospital London. Concurrently he had received an offer to be a Consultant Anaesthetist and Associate Professor at University of Malaya and he had decided to return to Malaysia to increase the numbers of anaesthetists trained in Malaysia. Therefore, he withdrew from the post at St George's, informing the interview committee that "it would be preferable if the position could be offered to one more worthy". Patrick is sincerely grateful to Professor Datuk Dr Alex Delilkan for supporting his appointment in Universiti Malaya.

WORK IN UNIVERSITI MALAYA

In Universiti Malaya, Patrick's clinical work involved cardiac anaesthesia, intensive care, paediatric anaesthesia, hepatobiliary anaesthesia and orthopaedic anaesthesia. He taught physiology for the Primary Master of Anaesthesiology and was examiner in the Conjoint Master of Anaesthesiology for many years.

Recognising that groundwork had to be laid for future intensive care training to be grown in Malaysia, Patrick passed the USMLE examination and was interviewed in Pittsburgh for a Critical Care Medicine Fellowship position. In 1996, during a sabbatical and research study leave, Patrick completed the Critical Care Medicine Clinical Fellowship in Pittsburgh and Critical Care Medicine Research Fellowship in Toronto. It was during the year in North America that Patrick published research on animal model hypoxemic acute lung injury, perfluorocarbon liquid ventilation and a clinical study on nitric oxide therapy. In 1999, Patrick and his wife Lucy passed the European Diploma of Intensive Care examination in Birmingham UK, becoming the first two Malaysians to complete training and acquire credentialing in intensive care.

Patrick was appointed Professor of Anesthesia and Intensive Care in University of Malaya in 1998. In the following year, Malaysia faced a novel paramyxovirus zoonotic outbreak of Nipah Virus encephalitis. University Malaya

MSA HONORARY MEMBER

Professor Dato' Dr Patrick Tan Seow Koon

Citation by Associate Professor Dr Loh Pui San

Medical Centre (UMMC) was one of three hospitals receiving hundreds of patients, many of whom needed intensive care and ventilation. Upscaling of intensive care facilities, nursing staff, and personal protective protocols was accelerated during this period until the end of the outbreak. The experiences of this period were published by the University of Malaya Nipah Virus Investigation Team in the Lancet and New England Journal, and the Team became the first recipient of the Merdeka award for Medicine and Science in 2008.

CONTRIBUTION TO INTENSIVE CARE UNIT

Patrick taught that intensive care needs to be titrated at the bedside according to interpretation of clinical data and therapy should be outcome-driven by hypothesis testing. Human safety for patient and healthcare professionals must be maintained through compliance with evidence-based protocols. Ethical standards, based on respect for autonomy and communication, were non-negotiable. Patrick had profound respect for multidisciplinary viewpoints from doctors, nurses, physiotherapists, pharmacists, nutritionists, patients, and families. He recognised the need for an ICU team to gel well together. Patrick has taught post-basic intensive care nursing courses in UMMC. Since retirement from University of Malaya Patrick has participated in Intensive Care Unit journal club discussions.

CONTRIBUTION TO MALAYSIA

As a teacher in anesthesia and intensive care, Patrick mentored, trained, and examined over 100 anesthesia specialists and two PhDs who have become leaders in the anesthesia, intensive care and nursing landscape in Malaysia and other countries. Patrick co-organised Pediatric Advanced Life Support teaching in University and State hospitals in Malaysia from 1993 to 2000. Patrick has been a strong supporter of training and cooperation in University and Ministry of Health hospitals and has served in the Ministry of Health committees on Unrelated Organ Transplantation, and on Draft Transplantation Law.

LEADERSHIP

As a leader in our fraternity, Patrick has been a past president of the College of Anesthesiologists, Malaysian Society of Anesthesiologists, and Asia Pacific Association of Critical Care Medicine. Patrick was Organising Chair of the Western Pacific Association of Critical Care Medicine Congress in Kuala Lumpur 1995. He was annual speaker at the Bali International Symposium on Critical Care and Emergency Medicine from 1997 to 2019.

In the home front of UM, Patrick served in the Faculty of Medicine as the Postgraduate Deputy Dean for 3 years and University of Malaya Medical Centre Hospital Deputy Director for 5 years influencing many policy changes and improvement in both our postgraduate training and hospital for better patient care.

Currently, he is a member of the Malaysian Bioethics Community and Chair of the Clinical Ethics Malaysia panel. He is also an author of the COVID-19 BIOETHICS Guidance for Clinicians.

PERSONAL LIFE

Patrick first met his paediatrician wife Dr Lucy Lum when working in Great Ormond Street Hospital. Both Patrick and Lucy originated from Pulau Tikus Penang but fate had it that their paths would cross in London. After their marriage, Lucy was instrumental in persuading Patrick to return to Malaysia where both their lives have been mutually and happily nourished by dedicated service and productive careers. Their marriage of 33 years has been blessed with three children, two of whom work in humanitarian social work - Louise in Women's Aid Organization, Isabelle in UN High Commissioner for Refugees. Their youngest son Peter is a medical student in Universiti Malaya.

Patrick's hobbies include cooking, walking, swimming, music, and history. He has been going 'green' by reducing his use of volatile anesthetic agents and investing in domestic solar photovoltaic energy to charge his electric vehicle and reduce his carbon footprint, thus facilitating guilt-free transportation.

HONOUR

Patrick was awarded the Dato' Paduka Mahkota Perak by His Royal Highness Sultan Azlan Muhibbuddin Shah in 2009.

Today we honour Professor Dato' Dr Patrick Tan Seow Koon for his life-long achievements and guidance to many of us who have graduated under his tutelage and teaching. Ever so humble and soft-spoken, he is our Teacher, Mentor and Friend whom we respect and learn from, forever.

MALAYSIAN SOCIETY OF ANAESTHESIOLOGISTS EXECUTIVE COMMITTEE 2021-2022

President	Professor Dr Ina Ismiarti Shariffuddin
President-Elect	Dato' Dr Yong Chow Yen
Immediate Past President	Professor Dr Marzida Mansor
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Coopted Committee Members	Lt Col Dr Mohamad Azlan Ariffin Associate Professor Dr Wan Mohd Nazaruddin Wan Hassan

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LOCAL FACULTY



Wang Chew Yin
Honorary Professor
Department of Anaesthesiology
Universiti Malaya
Kuala Lumpur



Yip Hing Wa
Anaesthesiologist
University Malaya Medical Centre
Kuala Lumpur



PROGRAMME SUMMARY

Date Time	5 th August 2022 (Friday)				6 th August 2022 (Saturday)				7 th August 2022 (Sunday)			
0800 - 0830	Registration / Login											
0830 - 0900	PLENARY 1				PLENARY 3							
0900 - 0930	SYMPOSIA		REFRESHER COURSE 1	PROBLEM BASED LEARNING 1	PLENARY 4				PLENARY 6			
0930 - 1000	1	2							PLENARY 7			
1000 - 1030	Tea / Trade Exhibition				OPENING CEREMONY				Tea / Trade Exhibition			
1030 - 1100	SYMPOSIA			PROBLEM BASED LEARNING 2	Tea / Trade Exhibition				SYMPOSIA			IN-CONGRESS WORKSHOP 3
1100 - 1130	3	4	5		SYMPOSIA		SELECTED POSTER AWARD PRESENTATIONS	IN-CONGRESS WORKSHOP 1	12	13	14	
1130 - 1200	LUNCH SYMPOSIUM 1				8	9			SYMPOSIA		MEET THE EXAMINERS	
1200 - 1230					BMI LECTURES		SYMPOSIA		15	16		
1230 - 1300					LUNCH SYMPOSIUM 2				CLOSING CEREMONY			
1300 - 1330	Friday Prayers / Trade Exhibition								Lunch			
1330 - 1400					PLENARY 5							
1400 - 1430												
1430 - 1500	PLENARY 2				BMI LECTURES		SELECTED ORAL AWARD PRESENTATIONS (MSA AWARD & MSA YIA AWARD)	IN-CONGRESS WORKSHOP 2				
1500 - 1530	SYMPOSIA		REFRESHER COURSE 2	PROBLEM BASED LEARNING 3	SYMPOSIA							
1530 - 1600	6	7			SYMPOSIA		10	11				
1600 - 1630												
1630 - 1700	Tea / Trade Exhibition											
1700 - 1730												
1730 - 1800	Annual General Meeting of the Malaysian Society of Anaesthesiologists				Annual General Meeting of the College of Anaesthesiologists							
1800 - 1900												
1930 - 2300					Presidents' Dinner & Award Presentation <i>(by invitation only)</i>							

PRE-CONGRESS WORKSHOP 1

4th August 2022 (Thursday)

Difficult Airway Management

Venue: Sarawak Room, Shangri-La Hotel, Kuala Lumpur, Malaysia

Time: 0830 - 1700

Facilitators: Mohd Fahmi Lukman, Muhammad Maaya, Nadia Md Nor, Rhendra Hardy Mohamad Zaini, Shahridan Mohd Fathil, Wan Aizat Wan Zakaria

Course Objective & Format

Airway management is an essential part of the anaesthesiologist's daily practice. The knowledge and skills needed to manage a challenging airway differs amongst all of us. This workshop will comprise of lectures, hands-on skill stations and discussion of case scenarios. It is targeted towards medical officers, trainees and specialists in terms of introducing, familiarising and strengthening the difficult airway management knowledge and skills.

PROGRAMME

- 0830 - 0900 Registration
- 0900 - 0905 Introduction
- 0905 - 0930 Getting the Most Out of the Supraglottic Airway
Mohd Fahmi Lukman
- 0930 - 0955 Ultrasound-Guided Airway Procedures
Shahridan Mohd Fathil
- 0955 - 1020 Tips and Tricks of Flexible Scope Intubation
Wan Aizat Wan Zakaria
- 1020 - 1045 Airway Management Guidelines - Putting it All Together
Muhammad Maaya
- 1045 - 1115 Break
- 1115 - 1245 **HANDS-ON SKILL STATIONS**
6 Skill Stations (30 minutes per rotation)
- Flexible Scope
Wan Aizat Wan Zakaria
- Bonfils Intubation Endoscope
Nadia Md Nor
- Front-of-Neck Airway
Muhammad Maaya
- Ultrasound for Airway Procedures
Shahridan Mohd Fathil
- Videolaryngoscope
Rhendra Hardy Mohamad Zaini
- Supraglottic Airway
Mohd Fahmi Lukman
- 1245 - 1400 Lunch

PRE-CONGRESS WORKSHOP 1

4th August 2022 (Thursday)

1400 - 1530 Hands-On Skill Stations

1530 - 1600 Break

1600 - 1700 Case Scenarios
Nadia Md Nor

1700 Closing



PRE-CONGRESS WORKSHOP 2

4th August 2022 (Thursday)

Transoesophageal Echocardiography

Venue: Pusat Pakar Perubatan UiTM, Sungai Buloh, Malaysia

Time: 0830 - 1700

Facilitators: Hasmizy Muhammad, Mohamad Hanafi Mohd, Nadia Hanom Ishak, Rusnaini Mustapha Kamar, Zuraini Md Noor

Course Objectives

1. To educate participants in the utility of Transoesophageal Echocardiography (TEE) in the non-cardiac and cardiac surgery as well the intensive care setting.
2. To demonstrate a basic understanding of the principles of echocardiography as well as TEE image acquisition & interpretation skills.
3. To allow participation in a practical and interactive TEE course that includes "hands-on" learning with real patients undergoing cardiac surgery.

Course Format

This one-day workshop consists of theoretical lectures and practical session in the cardiac operation theatre where participants will be given the opportunity to learn TEE usage in real patients. The workshop is tailored for novices and aims to provide a conducive learning environment for beginners in TEE. However, participants with a more advanced knowledge may also find the workshop useful.

Target Participants

All involved in the care of patients in particular Anaesthesiologists, Intensivists, Cardiac Surgeons and Emergency Physicians.

PROGRAMME

0830 - 0855 Registration & Breakfast

0855 - 0900 **INTRODUCTION**
Program Overview
Hasmizy Muhammad

0900 - 1000 **TUTORIAL**
Comprehensive TEE Examination
Nadia Hanom Ishak

Left Ventricular Systolic Function
Mohamad Hanafi Mohd

Left Ventricular Diastolic Function
Hasmizy Muhammad

1000 - 1300 **OT SESSION**
Care & Maintenance of TEE Probes
Placing, Handling & Manipulating a TEE Probe
Knobology
Image Acquisition and Optimization
Right Ventricular Function
Mitral Valve Function
Aortic Valve Function
Tricuspid & Pulmonary Valve Function
Assessing the Aorta
Intracardiac Masses, Pericardial Disease & Others
*Hasmizy Muhammad / Nadia Hanom Ishak / Mohamad Hanafi Mohd /
Zuraini Md Noor / Rusnaini Mustapha Kamar*

PRE-CONGRESS WORKSHOP 2

4th August 2022 (Thursday)

1300 - 1400	Lunch
1400 - 1500	SESSIONS IN THE OT
1500 - 1700	TUTORIAL Right Ventricular Function <i>Zuraini Md Noor</i> Aortic Valve <i>Hasmizy Muhammad</i> Mitral Valve <i>Mohamad Hanafi Mohd</i> Tricuspid & Pulmonary Valves <i>Rusnaini Mustapha Kamar</i> Hemodynamic Assessment <i>Nadia Hanom Ishak</i>
1700	Assessment, Course Evaluation & Closing



PRE-CONGRESS WORKSHOP 3

4th August 2022 (Thursday)

Simulation Training for Crisis Management

Venue: Sabah Room, Shangri-La Hotel, Kuala Lumpur, Malaysia

Time: 0800 - 1700

Convenors/Facilitators: Rafidah Atan, Lee Kwan Tuck, Nor Fadhilah Shahril

Speakers/Facilitators: Yip Hing Wa, Siti Nadzrah Yunus, Nor'azim Mohd Yunos, Ronny Ikmal Ahmad Kamil, Ahmad Shafwan Abdullah

Course Objectives

This workshop aims to provide a hands-on learning experience through participation in immersive simulation scenarios. The objective of this workshop is to enable participants to further improve their technical and non-technical skills.

Course Format

The conduct of the workshop will involve participants working in teams while managing various anaesthetic crises. There will be allocated times for prebriefing and debriefing. A team of trained facilitators will provide a safe learning environment.

Target Participants

All levels of personnel involved in the care of patients including specialists, medical officers, house officers, nurses and other allied health staff members.

PROGRAMME

0800 - 0900	Registration
0900 - 0940	Crisis Management Principles
0940 - 1000	Tea
1000 - 1010	Ice Breaking
1010 - 1110	Station 1 and Debriefing
1110 - 1130	Break and Lag Time
1130 - 1230	Station 2 and Debriefing
1230 - 1400	Lunch
1400 - 1500	Station 3 and Debriefing
1500 - 1520	Tea
1520 - 1620	Station 4 and Debriefing
1620 - 1700	Closing

PRE-CONGRESS WORKSHOP 4

4th August 2022 (Thursday)

Workplace-Based Assessment (*by invitation only*)

Venue: Selangor Room, Shangri-La Hotel, Kuala Lumpur, Malaysia

Time: 0800 - 1700

Facilitators: Anand Sanmugam, Ina Ismiarti Shariffuddin, Noorjahan Haneem Md Hashim, Christina Tan Phoay Lan, Vinod Pallath

Course Objectives

This workshop aims to:

1. Introduce the role of workplace-based assessments (WPBA) in clinical anaesthesiology training.
2. Optimise feedback in WBPA.
3. Train clinical teachers on the correct use of 3 different WPBA methods in anaesthesiology training.

At the end of this workshop, the participants should be able to:

1. Choose the appropriate WPBA method for assessing a particular competency.
2. Perform 3 methods of WPBA.
3. Provide feedback to learners and help learners formulate learning plans for improvement.

Course Format

This one-day hands-on workshop consists of interactive lectures and practical sessions in a safe setting. The workshop is tailored to clinical teachers, who will perform clinical teaching and WPBA on-the-run.

Target Participants

Senior and junior specialists supervising Anaesthesiology trainees.

PROGRAMME

0830 - 0845	Registration
0845 - 0915	Workshop Overview & Objectives Ice-Breaking <i>Noorjahan Haneem Md Hashim</i>
0915 - 1000	Principles of Workplace-Based Assessments <i>Christina Tan Phoay Lan</i>
1000 - 1015	Break
1015 - 1100	Essential Ingredients of WPBA: Feedback & Learning Plan <i>Ina Ismiarti Shariffuddin / Vinod Pallath</i>
1100 - 1200	Feedback & Learning Plan <i>Anand Sanmugam / Ina Ismiarti Shariffuddin / Noorjahan Haneem Md Hashim / Christina Tan Phoay Lan / Vinod Pallath</i>
1200 - 1245	Overview of WPBA Methods <i>Christina Tan Phoay Lan</i>
1245 - 1345	Lunch
1345 - 1445	METHOD 1 WPBA Directly Observed Procedural Skills <i>Anand Sanmugam / Ina Ismiarti Shariffuddin / Noorjahan Haneem Md Hashim / Christina Tan Phoay Lan / Vinod Pallath</i>
1445 - 1545	METHOD 2 WPBA Case-Based Discussion <i>Noorjahan Haneem Md Hashim / Anand Sanmugam / Ina Ismiarti Shariffuddin / Christina Tan Phoay Lan / Vinod Pallath</i>
1545 - 1645	METHOD 3 WPBA Mini Clinical Evaluation Exercise <i>Christina Tan Phoay Lan / Anand Sanmugam / Ina Ismiarti Shariffuddin / Noorjahan Haneem Md Hashim / Vinod Pallath</i>
1645 - 1700	Workshop Feedback Take Home Message Closing <i>Noorjahan Haneem Md Hashim</i>

DAILY PROGRAMME

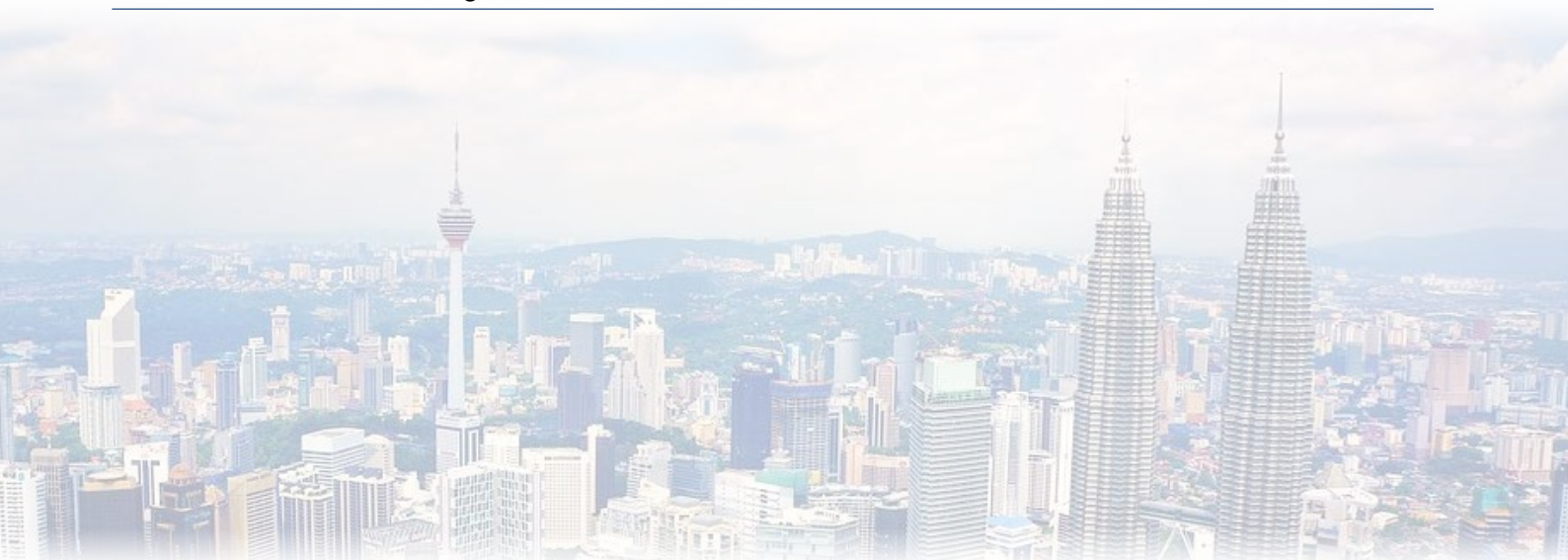
5th August 2022 (Friday)

0800 - 0815 Registration / Login			
0815 - 0900 PLENARY 1 Chairperson: <i>V Sivasakthi</i> Anaesthesia and Standard of Care <i>Mohamed Hassan Mohamed Ariff</i>		<i>Sabah</i>	
0900 - 1015 <i>Sabah</i> SYMPOSIUM 1 Obstetric Anaesthesia Chairpersons: <i>Lim Teng Cheow /</i> <i>Mohd Azizan Ghazali</i> Updates on Labour Epidural Analgesia: The Influence on Neonatal Outcomes <i>Azlina Masdar</i> Covid-19 Pregnant Patients - What we have Learnt from the Pandemic? <i>Norliza Mohd Nor</i> Crises during Neuraxial Block in Obstetrics <i>Noraslawati Razak</i> Q&A	0900 - 1015 <i>Sarawak</i> SYMPOSIUM 2 Professional Development Chairpersons: <i>Mohd Namazie Ibrahim /</i> <i>Seah Keh Seng</i> Fee Schedule: Past, Present and Future <i>Gunalan Palari Arumugam</i> Anaesthesiology and Critical Care National Curriculum <i>Noorjahan Haneem Md Hashim</i> Anaesthetic Allergy Clinic <i>Kwok Fan Yin</i> Q&A	0900 - 1015 <i>Melaka</i> REFRESHER COURSE 1 Updates in Pain Management Chairpersons: <i>Law Yen Shuang /</i> <i>Mary Suma Cardoso</i> Update on Neuropathic Pain: Diagnosis, Assessment and Management <i>Andrew Rice</i> Managing Difficult Cancer Pain: Pharmacological and Interventional Therapies <i>Rushin Maria Dass</i> Analgesics Adjuvants in Acute Pain Management <i>Lim Siu Min</i> Q&A	<div style="background-color: #004a87; color: white; padding: 5px; text-align: center;">PHYSICAL PARTICIPANTS ONLY</div> 0900 - 1015 <i>Johor</i> PROBLEM BASED LEARNING 1 Perioperative Medicine Optimising Haemodynamic Status Intraoperatively <i>Moderators:</i> <i>Mohd Fitry Zainal Abidin /</i> <i>Omar Sulaiman /</i> <i>Sheliza Jamil</i>
1015 - 1035 Tea & Trade Exhibition			
1035 - 1150 <i>Sabah</i> SYMPOSIUM 3 Perioperative Medicine 1 Chairpersons: <i>Abdul Karim Othman /</i> <i>Mohamed Hassan</i> <i>Mohamed Ariff</i> Ambulatory Anaesthesia: Patient Selection, Patient Related Outcomes <i>Niraja Rajan</i> Depth of Anesthesia and Outcome - <i>The Balanced Anaesthesia Study</i> <i>Matthew Chan</i> Clinical Risk Assessment Tools in Anaesthesia <i>Seleen Cheah</i> Q&A	1035 - 1150 <i>Sarawak</i> SYMPOSIUM 4 Airway Chairpersons: <i>Muhammad Maaya /</i> <i>Rusnaini Mustapha Kamar</i> Airway Training: Covid-19 Challenges and Innovations <i>Sang Hyun Lee</i> Are All Video Laryngoscopes the Same? <i>Mohd Fahmi Lukman</i> High Flow Nasal Cannulas: Anatomy and Applications <i>Cheah Saw Kian</i> Q&A	1035 - 1150 <i>Melaka</i> SYMPOSIUM 5 Regional Anaesthesia Chairpersons: <i>Azrin Mohd Azidin /</i> <i>Shahridan Mohd Fathil</i> Baby & Blocks: A Road to Enhanced Recovery <i>Nur Hafizhoh Abd Hamid</i> Safety in Regional Anaesthesia Monitoring <i>Muhamad Rasydan Abd Ghani</i> Business Class Anaesthesia; Blocks in Private Practice <i>Mafeitzeral Mamat</i> Q&A	<div style="background-color: #004a87; color: white; padding: 5px; text-align: center;">PHYSICAL PARTICIPANTS ONLY</div> 1035 - 1150 <i>Johor</i> PROBLEM BASED LEARNING 2 Paediatric Managing a Restless Child in PACU <i>Moderators:</i> <i>Rufinah Teo /</i> <i>Ina Ismiarti Shariffuddin /</i> <i>Phang Ye Yun</i>

DAILY PROGRAMME

5th August 2022 (Friday)

1200 - 1300		LUNCH SYMPOSIUM 1 (<i>Aspen</i>) Chairperson: <i>Norliza Mohd Nor</i> Time to Embrace Crash Spinal for Our Category 1 Emergency LSCS! <i>Chan Yoo Kuen</i>	<i>Sabah</i>
1300 - 1445		Friday Prayers & Trade Exhibition	
1445 - 1530		PLENARY 2 Chairperson: <i>Shahridan Mohd Fathil</i> Advanced Lumbar Spine Procedure - Epiduroscopy <i>Hue Jung Park</i>	<i>Sabah</i>
1530 - 1645	<i>Sabah</i>	SYMPOSIUM 6 Paediatric Anaesthesia Chairpersons: <i>Kwok Fan Yin /</i> <i>Sushila Sivasubramaniam</i> EEG-Monitoring in Paediatric Anaesthesia - Applications and Limitations <i>Bong Choon Looi</i> NORA in Children <i>Rufinah Teo</i> Peri-Operative Blood Management in Paediatrics <i>Phang Ye Yun</i> Q&A	
1530 - 1645	<i>Sarawak</i>	SYMPOSIUM 7 Neuroanaesthesia Chairpersons: <i>Ahmad Afifi Mohd Arshad /</i> <i>Vanitha Sivanaser</i> Emergency Management of Acute Intracerebral Haemorrhage <i>Chong Chin Ted</i> Intraoperative Neuromonitoring for Intracranial Surgery <i>Leong Kok Weng</i> Neuroanaesthesia for the Occasional Neuroanaesthetist <i>Laila Ab Mukmin</i> Q&A	
1530 - 1645	<i>Melaka</i>	REFRESHER COURSE 2 Guideline Updates Chairpersons: <i>Lim Thiam Aun /</i> <i>Loh Pui San</i> Update on ERAS Guidelines <i>Omar Sulaiman</i> Hip Fracture - NICE Guideline <i>Sheliza Jamil</i> Update on OSA Guidelines <i>Edwin Seet</i> Q&A	
		PHYSICAL PARTICIPANTS ONLY	
		1530 - 1645 <i>Johor</i> PROBLEM BASED LEARNING 3 Obstetric Emergencies Moderators: <i>Noraslawati Razak /</i> <i>Azlina Masdar /</i> <i>Chan Yoo Kuen /</i> <i>Norliza Mohd Nor /</i> <i>Muniswaran Ganesham @</i> <i>Ganeshan</i>	
1645 - 1730		Tea & Trade Exhibition	
1730 - 1900		Annual General Meeting of the Malaysian Society of Anaesthesiologists	<i>Sarawak</i>



DAILY PROGRAMME

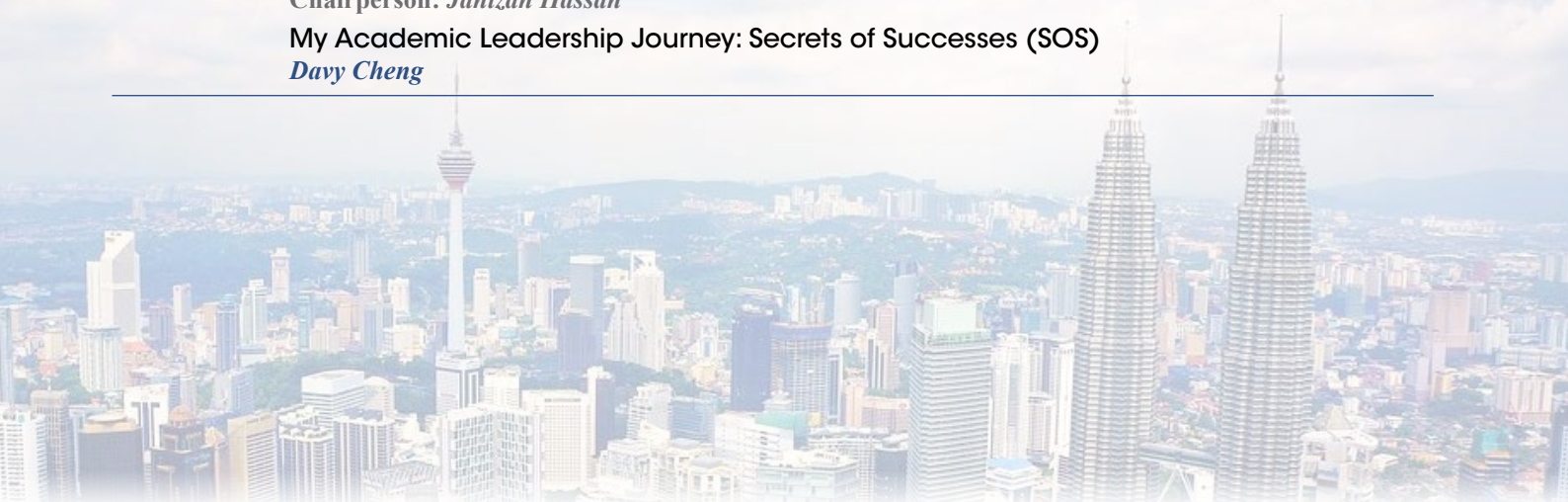
6th August 2022 (Saturday)

0800 - 0815	Registration / Login	
0815 - 0900	PLENARY 3 Chairperson: <i>Seah Keh Seng</i> Impact of Intraoperative Care on Postoperative Outcomes: Best Practices and Evidence Update <i>Girish Joshi</i>	Sabah
0900 - 0945	PLENARY 4 Chairperson: <i>Raveenthiran Rasiah</i> Obstetric Anaesthesiologists as Custodians of the Foetus <i>Chan Yoo Kuen</i>	Sabah
0945 - 1100	OPENING CEREMONY Arrival of Deputy Director-General of Health (Medical), Ministry of Health, Malaysia <i>Y Bhg Dato' Dr Asmayani Khalib</i> National Anthem Recital of Doá <i>Dr Mafeitzeral Mamat</i> Speeches President, Malaysian Society of Anaesthesiologists & Organising Chairperson, MSA/CoA Annual Scientific Congress 2022 <i>Professor Dr Ina Ismiarti Shariffuddin</i> President, College of Anaesthesiologists, Academy of Medicine of Malaysia & Deputy Organising Chairperson, MSA/CoA Annual Scientific Congress 2022 <i>Professor Dr Marzida Mansor</i> Deputy Director-General of Health (Medical), Ministry of Health, Malaysia <i>Y Bhg Dato' Dr Asmayani Khalib</i> Conferment of the MSA Honorary Membership Professor Dato' Dr Patrick Tan Seow Koon <i>Citation by Associate Professor Dr Loh Pui San</i> Launching: Malaysian Journal of Anaesthesiology (MyJA) <i>Professor Dr Ina Ismiarti Shariffuddin</i> Recommendations for Patient Safety and Minimal Monitoring Standard during Anaesthesia and Recovery (5 th Edition) 2022 <i>Professor Dr Marzida Mansor</i> Recommendations for Ultrasound Guided Vascular Access 2022 <i>Professor Dr Marzida Mansor / Dr Hasmizy Muhammad</i> Congress Montage	
1100 - 1120	Tea & Trade Exhibition	

DAILY PROGRAMME

6th August 2022 (Saturday)

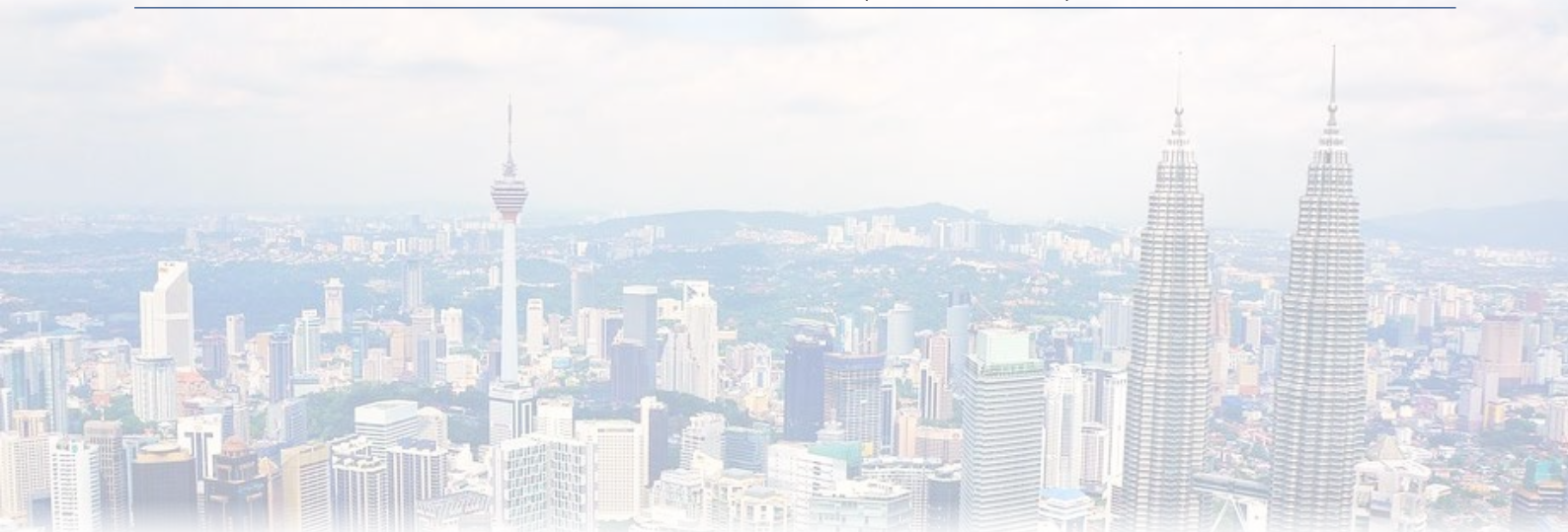
<p>1120 - 1235 <i>Sabah</i> SYMPOSIUM 8 Perioperative Medicine 2 Chairpersons: <i>Anand Chandrasegaran / Laila Ab Mukmin</i> Strategies in Cardiology Pre-Operative Consultation <i>Abdul Karim Othman</i> Prehabilitation and Testing in Perioperative Care <i>Wan Fadzlina Wan Muhd Shukeri</i> Sarcopenia in Geriatric Patients <i>Loh Pui San</i> Q&A</p>	<p>1120 - 1235 <i>Sarawak</i> SYMPOSIUM 9 Thoracic Anaesthesia Chairpersons: <i>Mohamad Hanafi Mohd / Nadia Hanom Ishak</i> Management of Hypoxia during One-Lung Ventilation <i>Javier H Campos</i> Protective One-Lung Ventilation <i>Marcelo Gama de Abreu</i> Anaesthetic Management of Traumatic Tracheal Injury <i>Maseeda Mohamed Yusof</i> Q&A</p>	<p>1120 - 1305 <i>Melaka</i> SELECTED POSTER AWARD PRESENTATIONS</p>	<p>PHYSICAL PARTICIPANTS ONLY</p>
<p>1235 - 1305 <i>Sabah</i> BMI LECTURE 1 (Medtronic) Chairperson: <i>Kevin Ng Wei Shan</i> Clinical EEG Monitoring in Anaesthesia <i>Tan Wah Tze</i></p>	<p>1235 - 1305 <i>Sarawak</i> BMI LECTURE 2 (Merck Sharp & Dohme) Chairperson: <i>Mohamad Hanafi Mohd</i> Updates on the Guidelines for Neuromuscular Block Management and Its Place in Multimodal Anesthesia <i>Jan Mulier</i></p>	<p>1120 - 1305 <i>Johor</i> IN-CONGRESS WORKSHOP 1 Neuroanaesthesia Neuro-Monitoring Modalities <i>Convenor: Vanitha Sivanaser</i> <i>Facilitators: Fadhli Suhaimi Abdul Sukur / Leong Kok Weng / Mohd Fahmi Lukman</i></p>	
<p>1315 - 1415 LUNCH SYMPOSIUM 2 (Pfizer) <i>Sabah</i> Chairperson: <i>Kevin Ng Wei Shan</i> Multimodal Analgesia in Postoperative Pain Management and ERAS Guidelines Implementation <i>Milton Raff</i></p>			
<p>1415 - 1500 PLENARY 5 <i>Sabah</i> Chairperson: <i>Jahizah Hassan</i> My Academic Leadership Journey: Secrets of Successes (SOS) <i>Davy Cheng</i></p>			



DAILY PROGRAMME

6th August 2022 (Saturday)

<p>1500 - 1530 <i>Sabah</i> BMI LECTURE 3 (K-One) Chairperson: <i>Ina Ismiarti Shariffuddin</i> Ventilators in Limited Resources Situations <i>Mafeitzeral Mamat</i> Ventilators: Moving Forward after the Covid-19 Pandemic <i>Ina Ismiarti Shariffuddin</i></p>	<p>1500 - 1530 <i>Sarawak</i> BMI LECTURE 4 (Radiometer) Chairperson: <i>Yong Chow Yen</i> The Use of Transcutaneous Oximetry in Wound Management <i>Andrew Ng Wei Aun</i></p>	<p>1500 - 1645 <i>Melaka</i> SELECTED ORAL AWARD PRESENTATIONS (MSA AWARD & MSA YIA AWARD)</p>	<p>PHYSICAL PARTICIPANTS ONLY</p>
<p>1530 - 1645 <i>Sabah</i> SYMPOSIUM 10 Cardiac Anaesthesia Chairpersons: <i>Maseeda Mohamed Yusof / Jahizah Hassan</i> Hemodilution, Cell Salvage and Ultrafiltration in Cardiac Surgery <i>Tae-Yop Kim</i> Update on Cardiac Surgery Associated Acute Kidney Injury <i>Gudrun Kunst</i> Difficult Weaning from Cardiopulmonary Bypass <i>Hasmizy Muhammad</i></p>	<p>1530 - 1645 <i>Sarawak</i> SYMPOSIUM 11 Field Anaesthesia and ICU Chairpersons: <i>Norliza Mohd Nor / Yong Chow Yen</i> Field Anaesthesia and International Aid: Afghanistan Experience 2021 <i>Mafeitzeral Mamat</i> Field Anaesthesia: Rapid Transit and Makeshift ICU Response - The Military Experience <i>Mohamad Azlan Ariffin</i> Covid-19 Field and Hybrid ICU in KKM: Challenges and Success <i>Helmi Abdul Halim</i></p>		<p>1500 - 1645 <i>Johor</i> IN-CONGRESS WORKSHOP 2 Erector Spinae Plane Block <i>Convenor:</i> <i>Shahridan Mohd Fathil</i> <i>Facilitators:</i> <i>Muhamad Rasydan Abd Ghani / Nur Hafizhoh Abd Hamid</i></p>
<p>Q&A</p>	<p>Q&A</p>		
<p>1645 - 1730 Tea & Trade Exhibition</p>			
<p>1730 - 1900 Annual General Meeting of the College of Anaesthesiologists <i>Sarawak</i></p>			
<p>1930 - 2300 PRESIDENTS' DINNER & AWARD PRESENTATION (by invitation only)</p>			



DAILY PROGRAMME

7th August 2022 (Sunday)

0800 - 0845	Registration / Login		
0845 - 0930	PLENARY 6 Chairperson: <i>Hasmizy Muhammad</i> Advances in Lung Isolation for Thoracic Surgery <i>Peter Slinger</i>		
0930 - 1015	PLENARY 7 Chairperson: <i>Marzida Mansor</i> Sustainability in Anaesthesia <i>Seema Gandhi</i>		
1015 - 1035	Tea & Trade Exhibition		
1035 - 1150	<i>Sabah</i>	1035 - 1150	<i>Sarawak</i>
SYMPOSIUM 12 Monitoring Chairpersons: <i>Wan Fadzlina Wan Muhd Shukeri / Zuraini Md Noor</i> Can We Trust a Radial Artery Pressure? <i>André Denault</i> Intraoperative Neuromonitoring: Physiology and Applications <i>Fadhli Suhaimi Abdul Sukur</i> Bleeding on the Operating Table - Point of Care Elastography <i>Mohd Fitry Zainal Abidin</i> Q&A		SYMPOSIUM 13 Critical Care Chairpersons: <i>Nadia Md Nor / Nor'azim Mohd Yunos</i> POCUS in ICU <i>Yip Hing Wa</i> Intraoperative Sepsis - Presentation and Management <i>Cheah Saw Kian</i> Fluid Resuscitation in Sepsis - When is it Enough? <i>Mohd Zulfakar Mazlan</i> Q&A	1035 - 1150 SYMPOSIUM 14 Well-Being & The Anaesthesiologists Chairpersons: <i>Helmi Abdul Halim / Marzida Mansor</i> Movement is Medicine <i>Nik Sorfina Nadira Nik Hamdan</i> Well-Being in Anaesthetic Trainees <i>Sally El-Ghazali</i> Implementing Culture of Well-Being in the Work Place <i>Wan Aizat Wan Zakaria</i> Q&A
PHYSICAL PARTICIPANTS ONLY			
1035 - 1305 <i>Johor</i> IN-CONGRESS WORKSHOP 3 Ultrasound Guided Vascular Access Convenor: <i>Hasmizy Muhammad</i> Facilitators: <i>Ahmad Afifi Mohd Arshad / Azrin Mohd Azidin / Lim Teng Cheow / Maseeda Mohamed Yusof / Mohamad Hanafi Mohd</i>			



DAILY PROGRAMME

7th August 2022 (Sunday)

<p>1150 - 1305 <i>Sabah</i></p> <p>SYMPOSIUM 15 Ground Breaking Trials</p> <p>Chairpersons: <i>Rhendra Hardy Mohamad Zaini / Wan Rahiza Wan Mat</i></p> <p>Vision Cardiac Surgery Trial: High-Sensitivity Troponin I after Cardiac Surgery and 30-Day Mortality <i>Wang Chew Yin</i></p> <p>POISE 3-Tranexamic Acid in Patients Undergoing Noncardiac Surgery <i>Wang Chew Yin</i></p> <p>POISE-3 Blood Pressure Control <i>Seleen Cheah</i></p> <p>HIP ATTACK <i>Chaw Sook Hui</i></p> <p>Aggressive Intraoperative Warming versus Routine Thermal Management during Non-Cardiac Surgery - The PROTECT Trial <i>Matthew Chan</i></p> <p>Q&A</p>	<p>1150 - 1305 <i>Sarawak</i></p> <p>SYMPOSIUM 16 Pain Management</p> <p>Chairpersons: <i>Lim Siu Min / Ramani Vijayan</i></p> <p>Innovative Education Tools in Pain Management <i>Mary Suma Cardosa</i></p> <p>Clinical Hypnosis as an Adjunct in Pain Management <i>Anand Chandrasegaran</i></p> <p>Interventions in Acute Pain Management <i>Law Yen Shuang</i></p> <p>Q&A</p>	<p>1150 - 1305 <i>Melaka</i></p> <p>MASTER AND PARALLEL PATHWAY TRAINEE SESSION</p> <p>Programme Updates and Meet the Examiners</p> <p>Moderator: <i>Wan Mohd Nazaruddin Wan Hassan</i></p> <p>Panelists: <i>Azarinah Izaham / Mohd Zulfakar Mazlan / Noorjahan Haneem Md Hashim / Omar Sulaiman / Vanitha Sivanaser</i></p>	
1310 - 1330	<p>CLOSING CEREMONY</p> <p>Lucky Draw</p> <p>MyAnaesthesia 2023, Kuching, Sarawak</p>		<i>Sabah</i>
1330	Lunch		

**Subject to Change*



PLENARY 1

ANAESTHESIA AND STANDARD OF CARE

Mohamed Hassan Mohamed Ariff

Institut Jantung Negara, Kuala Lumpur, Malaysia

Medicolegal implications of the duty of a medical practitioner. Some local and international medicolegal cases involving anaesthesiologists duty of care will be discussed.

SYMPOSIUM 1 - Obstetric Anaesthesia

UPDATES ON LABOUR EPIDURAL ANALGESIA: THE INFLUENCE ON NEONATAL OUTCOMES

Azlina Masdar

Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

Childbirth is one of the milestones in life, but it is also one of the most painful experience a woman has to endure. Good labour analgesia is a measure of patient satisfaction and epidural is the most effective and most widely accepted labour analgesia. The availability of neuraxial analgesia for labour is a reflection of standard obstetric care in many countries nowadays. The rate of labour epidural varies internationally, between 20-70% of all deliveries. The research outcome of labour analgesia is not complete if it's not including the neonatal fate.

"The delivery of an alert active baby into the arms of a conscious and pain free mother is one of the most exciting and rewarding experiences in medicine" by Moir. Neonatal morbidity is not only distressing to the babies and parents, but also to the healthcare workers. Birth asphyxia or injuries, infections and respiratory distress are among the top morbidities during immediate neonatal period. This lecture will explore recent evidences on the neonatal outcomes related to labour epidural analgesia, the controversies and recommendations. Does it cause autism? Does it increase court claims?

SYMPOSIUM 1 - Obstetric Anaesthesia

COVID-19 PREGNANT PATIENTS - WHAT WE HAVE LEARNT FROM THE PANDEMIC

Norliza Mohd Nor

Hospital Selayang, Selangor, Malaysia

It has been slightly over 2 years since Covid-19 has taken a global roller-coaster ride and landed on our shore. SARS-CoV-2 is the strain of coronavirus which causes Covid-19 infection. It was first identified in Wuhan City, China at the end of 2019, following reports of cluster of viral pneumonias. Within a few months of its discovery, the infection has spread globally and became a pandemic.

SARS-CoV-2 virus is a novel coronavirus and knowledge about it was scarce. Obstetric patients are among the vulnerable cohort and are at increased risk of severe illness and mortality. Due to its high fatality rate, there was a global race to find cure and solution. The clinical guidelines and recommendations were rapidly changing as we learnt more and more about the virus and the disease process.

This lecture will try to walk you through the global experience in combating Covid-19 infection in obstetric patients from various perspectives; including Public Health preventive measures and clinical management of Covid-19. I hope what we have learnt so far from this pandemic, will make us better prepared for future unprecedented times.

SYMPOSIUM 1 - Obstetric Anaesthesia

CRISES DURING NEURAXIAL BLOCK IN OBSTETRICS

Noraslawati Razak

Hospital Sultanah Nur Zahirah, Terengganu, Malaysia

Crisis is defined as a time when a difficult or important decision must be made. As an anesthesia provider, by its nature, will be involved in crises. Problems will inevitably occur despite attempts to prevent it. The primary weapon of crisis management is the detection and correction of evolving problems, incidents, critical incidents and adverse outcomes.

Common crises that strike us most are the total spinal and local anesthetic toxicity (LAST). Nevertheless, there are other inevitable incidents that might happen during neuraxial block that need prompt decision in avoidance of adverse outcomes to the obstetrics. It includes hypotension, hypoxaemia, central nervous system injury, peripheral nerve injury and cardiac arrest. Equipment-related incidents also may contribute to adverse outcomes, including breakage of spinal needle during intrathecal injection and breakage of epidural catheter during its removal.

The principles of handling crises can be divided into two, dynamic decision making and team management. Each category has 5 components. Cognitive components of dynamic decision making may include knowing the environment, anticipate and plan, allocate attention wisely, use all available information and cognitive aid, and mobilize resources. Team management components may include declaring an emergency early rather than late, 'leadership and followership', distribution of workload, communicating effectively and documentation of crises.

After a major crisis, we need to stay involved in the patient's care, speak with the patient's family, ensure the medical record is complete, have a quality management reporting system and provide psychological support for the anaesthesia providers.

SYMPOSIUM 2 - Professional Development

ANAESTHESIOLOGY AND CRITICAL CARE NATIONAL CURRICULUM

Noorjahan Haneem Md Hashim

University Malaya Medical Centre, Kuala Lumpur, Malaysia

The anaesthesiology training programme aims to prepare anaesthesiologists for independent practice in Malaysia. The New National Anaesthesiology curriculum presents a structure to address the different aspects of training by defining the competencies required for completion, the learning opportunities, assessment strategies and the role of each stakeholder. The curriculum was written by a group of trainers from all universities offering the programme, the Ministry of Health and College of Anaesthesiologists, based on the country's healthcare needs, licensing requirements and trainee input; and benchmarked against international standards to ensure relevance and feasibility of training.

The speaker will share the curriculum overview in this talk and highlight the differences with the current training programmes.

SYMPOSIUM 2 - Professional Development
ANAESTHETIC ALLERGY CLINIC

Kwok Fan Yin

Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Perioperative anaphylaxis is an acute, potentially life-threatening hypersensitivity reaction. The incidence ranges from 1:1250 to 1:18600. It is important to refer to the anaesthetic allergy clinic following an episode of perioperative anaphylaxis to improve patient safety and outcome in subsequent surgeries and anaesthesia.

The anaesthetic allergy clinic in Hospital Kuala Lumpur is the only testing centre in Malaysia to investigate perioperative anaphylaxis. It was established in March 2014 and receives referrals from across the whole country. The presentation will include case presentation, indications for referral to the anaesthetic allergy clinic, workflow of the clinic including skin and serum testing, as well as identified culprits of perioperative anaphylaxis in Malaysia.

REFERENCE

1. Mertes PM, Volcheck GW, Garvey LH, Takazawa T et al. Epidemiology of Perioperative Anaphylaxis. *La Presse Meicale*. 2016;**45**(9):758-67
2. 6th National Audit Project of the Royal College of Anaesthetists (NAP6): Perioperative Anaphylaxis. May 2018
3. Australian and New Zealand Anaesthetic Allergy Group (ANZAAG) testing guidelines 2016

REFRESHER COURSE 1 - Updates in Pain Management

UPDATE ON NEUROPATHIC PAIN: DIAGNOSIS, ASSESSMENT AND MANAGEMENT

Andrew Rice

Imperial College London, United Kingdom

The speaker will start by presenting a clinical algorithm for the accurate diagnosis of neuropathic pain which is based on the current IASP definition as updated in 2011.¹ This defines neuropathic pain as “Pain directly caused by a lesion or disease of the somatosensory system”. The clinical algorithm² conveniently follows the conventional procession of a clinical consultation and has sequential elements that cover history, examination and investigation. On this basis it ascribes increasing levels of diagnostic certainty from “possible” through “probable” to “definite” neuropathic pain. Following this, an updated evidence appraisal of the rigour and validity of the diagnostic methods used in neuropathic pain. Finally, the evidence base for neuropathic pain pharmacotherapy³ will be discussed, whilst also pointing out the paucity of evidence supporting the use of neuromodulation.^{4,5} He will finish by noting the relative absence, at least compared to musculoskeletal pain, of the biopsychosocial model from neuropathic pain management and the opportunities for innovative research in that domain.

1. Jensen TS, Baron R, Haanpaa M, Kalso E, Loeser JD, Rice AS, et al. A new definition of neuropathic pain. *Pain*. 2011;**152**(10):2204-5
2. Finnerup NB, Haroutounian S, Kamerman P, Baron R, Bennett DL, Bouhassira D, et al. Neuropathic pain: an updated grading system for research and clinical practice. *Pain*. 2016;**157**(8):1599-606
3. Finnerup NB, Attal N, Haroutounian S, McNicol E, Baron R, Dworkin RH, et al. Pharmacotherapy for neuropathic pain in adults: a systematic review and meta-analysis. *The Lancet Neurology*. 2015;**14**(2):162-73
4. O’Connell NE, Ferraro MC, Gibson W, Rice AS, Vase L, Coyle D, et al. Implanted spinal neuromodulation interventions for chronic pain in adults. *Cochrane Database Syst Rev*. 2021;**12**:CD013756
5. Ferraro MC, Gibson W, Rice ASC, Vase L, Coyle D, O’Connell NE. Spinal cord stimulation for chronic pain. *Lancet Neurol*. 2022;**21**(5):405

REFRESHER COURSE 1 - Updates in Pain Management

MANAGING DIFFICULT CANCER PAIN: PHARMACOLOGICAL AND INTERVENTIONAL THERAPIES

Rushin Maria Dass

Columbia Asia Bukit Rimau, Selangor, Malaysia

According to the World Health Organization 48,639 new cancer cases recorded in Malaysia in 2020 and this number is expected to double by 2040. Effective pain management in cancer patients with pain is an essential part of oncologic management as there are evidence to increased survival. Pancreatic, head & neck cancer has a high prevalence of cancer pain.

Cancer pain is still one of the most feared entities in cancer and about 75% of these patients require treatment with opioids for severe pain. Management is difficult in patients with episodic or incidental pain, neuropathic pain, substance abuse and with impaired cognitive or communication skills.

The three-step World Health Organization analgesic ladder was developed in 1986 to specifically address the worldwide problem of under, poorly treating cancer pain, or both. Designed in a format that can be implemented easily, with clinical and cost-effectiveness in mind, it is reported to be successful in 80-90% of patients, and emphasizes regular 'by the clock' administration of appropriate, effective oral analgesia. However, recently an additional step was added to the ladder to address the needs of patients where pain is poorly controlled despite optimal pharmacological management. This step includes numerous non-pharmacological procedures that are robust recommendations for treating persistent pain, even in combination with the use of strong opioids or other medications. This group encompasses interventional and minimally invasive procedures.

REFRESHER COURSE 1 - Updates in Pain Management

ANALGESICS ADJUVANTS IN ACUTE PAIN MANAGEMENT

Lim Siu Min

University Malaya Medical Centre, Kuala Lumpur, Malaysia

Acute perioperative pain management remains a challenge despite advancement of technology and anaesthesia techniques. Opioids had been used in managing acute perioperative pain in the past but now falling out of favour due to opioid crisis, ERAS protocol, and potential side effects. Multimodal analgesia is a proven strategies to reduce or even eliminate opioid use in perioperative pain management. I will be focusing on analgesics adjuvants used in the multimodal analgesia strategies and presenting on studies and guidelines that support their use, with suggested appropriate dosing regiments in clinical practices.

OPTIMISING HAEMODYNAMIC STATUS INTRAOPERATIVELY

Mohd Fitry Zainal Abidin

Universiti Malaya, Kuala Lumpur, Malaysia

Maintaining homeostasis of haemodynamics is essential in treating patients throughout the perioperative period. With the latest advancement in medical technologies, haemodynamic monitoring is one of the fields that has made significant progress in recent years. However, applying the technologies to clinical practice remains challenging for anaesthesiologists. This problem-based learning session aims to integrate the knowledge of physiology and physics into clinical conditions, ultimately leading to the best perioperative outcome for our patients.

SYMPOSIUM 3 - Perioperative Medicine 1

AMBULATORY ANAESTHESIA: PATIENT SELECTION, PATIENT RELATED OUTCOMES

Niraja Rajan

Penn State Health, United States of America

Advances in procedural techniques and instruments, and pharmacology have made it possible to perform many procedures in the ambulatory setting that were previously considered the sole purview of the inpatient setting. In turn, with improved longevity and the increased prevalence of obesity, the population in general is afflicted with many of the comorbidities that accompany aging and obesity.

With migration of medically complex patients undergoing more extensive surgical procedures to the ambulatory setting, selecting the appropriate patient is vital. Identifying suitability for ambulatory surgery is a dynamic process that depends on a complex interplay between the surgical procedure, patient characteristics, and the expected anesthetic technique. In addition, the type of ambulatory setting (i.e. short-stay facilities, hospital-based ambulatory center, freestanding ambulatory center, and office-based surgery) and social factors, such as availability of a responsible individual to take care of the patient at home, can also influence patient selection.

While perioperative risk stratification tools have been validated in the inpatient setting, there is need for a validated risk assessment tool in the outpatient population. To understand what constitutes high risk in the ambulatory setting, it is important to consider the outcomes of interest to the ambulatory setting. Ambulatory surgery, in the grand scheme is safe with low mortality and major morbidity. Most facilities therefore track patient-reported outcome measures and quality indicators that are reportable to regulatory authorities. Commonly tracked and reported measures include patient fall, patient burns, all-cause hospital admission/transfer, acute care revisit (emergency room or clinic) within 24 h or return to the operating room.

SYMPOSIUM 3 - Perioperative Medicine 1

DEPTH OF ANESTHESIA AND OUTCOME - *THE BALANCED ANAESTHESIA STUDY*

Matthew Chan

The Chinese University of Hong Kong, Hong Kong

An association between increasing anaesthetic depth and decreased postoperative survival has been shown in observational studies. The Balanced Anaesthesia study was a large international trial to compare all cause 1-year mortality in older patients, who had increased risk of complications after major surgery, and randomly assigned to light general anaesthesia (BIS 50) or control (deep anaesthesia with BIS 35). A total of 6,644 patients were randomly assigned to BIS 50 or BIS 35. 1-year mortality was 6.5% (212 patients) in the BIS 50 group and 7.2% (238 patients) in the BIS 35 group (hazard ratio 0.88, 95%CI 0.73 to 1.07, absolute risk reduction 0.8%, 95%CI: -0.5 to 2.0). In a sub-study of 665 patients, the incidence of postoperative delirium in the BIS 50 group was 19% and in the BIS 35 group was 28% (odds ratio 0.58, 95%CI: 0.38 to 0.88). At 1 year, those in the BIS 50 group demonstrated significantly better cognitive function than those in the BIS 35 group (9% with abbreviated mental test score ≤ 6 vs 20%; $P < 0.001$).

In conclusion, among patients undergoing major surgery, targeting BIS 50 (light anaesthesia) was not associated with lower 1-year mortality than control (deep anaesthesia with BIS 35), but light anaesthesia (BIS 50) reduced the risk of postoperative delirium and cognitive impairment at 1 year.

The trial is registered with the Australian New Zealand Clinical Trials Registry, ACTRN12612000632897.

SYMPOSIUM 3 - Perioperative Medicine 1

CLINICAL RISK ASSESSMENT TOOLS IN ANAESTHESIA

Selen Cheah

Hospital Sultanah Nora Ismail, Johor, Malaysia

In perioperative medicine, risk prediction starts prior to surgery. Actual risks and benefits are unique to individuals, procedure, type of anaesthesia and individual's perception. Besides clinical assessment of patient's physical status, clinical risk assessment tools are helpful in preoperative risk estimation to guide treatment decisions and facilitate shared decision-making between patients and clinicians. Risk assessment tools help to identify patients at risk of adverse perioperative events, requiring individualized care plan to reduce perioperative morbidity and mortality.

However, all risk stratification models have limitations and should be used within an overall clinical decision-making process. Risk score models are simple to use but do not provide an individual risk prediction of an adverse outcome. On the other hand, risk prediction models are more accurate in predicting an individual patient's risk but are more complex to use.

Risk calculator which integrates subjective and objective measurement tends to have a more accurate risk estimation. Nevertheless, most risk calculators are not validated in different population, limiting its global generalizability. Forging forward, we need a collaborative unified effort from clinicians, researchers and ministry of health to develop a clinical risk assessment tool in anaesthesia which is applicable to our local population.

SYMPOSIUM 4 - Airway

AIRWAY TRAINING: COVID-19 CHALLENGES AND INNOVATIONS

Sang Hyun Lee

Sungkyunkwan University School of Medicine, Seoul, Republic of Korea

Teaching airway is absolutely mandatory and is important in critical care. It became even more important and challenging during Covid-19 pandemic, because we need to meet the needs of proper patient care and infection precautions.

However, almost all traditional airway training courses had to be cancelled during the Covid-19 pandemic, and the concept of airway training are evolving over the past 2 years. Integration of Digital technology with simulated training (Hybrid simulation with airway task trainer, High fidelity simulation etc.) and “Flipped classroom concept” are novel approaches to airway training.

Teaching the “airway teachers” and “educators” first, with these challenges and innovations, may be important to better equip “future” and “current” airway teaching clinicians (e.g., European Society of Airway Management; Teach the airway teaches with “Flipped classroom concept”).

Challenges in “airway training” in this Covid-19 era are leading us to novel and innovative directions. We hope to make the best of resources from this Digital Age and create new Airway training paradigms.

SYMPOSIUM 4 - Airway

ARE ALL VIDEO LARYNGOSCOPES THE SAME?

Mohd Fahmi Lukman

National Defence University of Malaysia, Kuala Lumpur, Malaysia

Video-assisted laryngoscope (VAL) refers to the use of a video component together with a typical rigid laryngoscope blade to augment a direct laryngeal view. VAL is useful for the anticipated and unanticipated difficult airway because the video view magnifies the laryngeal exposure and overcome difficulties with alignment of the visual and tracheal axes. Over the years, VAL has altered the approach to difficult airway management with an improved and magnified laryngeal view, and hence enhanced intubation conditions and intubation success rates across various patient and provider populations. VAL are available with a variety of blade shapes. Many VAL blades are hyper-angulated, with an overall angulation of around 60 degrees, in contrast to Macintosh-VAL blades which have angulation of 30 to 35 degrees. These two distinct blade types require two distinct techniques for use. To complicate matters further, there are VAL blades with intermediate angle. Meta-analyses of randomized controlled trials comparing VAL with direct laryngoscopy in patients with predicted difficult airways reported improved laryngeal views, a higher frequency of successful intubations, a higher frequency of first attempt intubations, and fewer intubation manoeuvres with VAL, findings for time to intubation were equivocal. However, there are heterogeneity appearing in meta-analyses comparing performances of different type of blades. Hence, there is no clear answer as to what the best VAL blade is to use for patients and settings. Currently, it is reasonable to match the expected airway anatomy to that of the blade type.

SYMPOSIUM 4 - Airway

HIGH FLOW NASAL CANNULAS: ANATOMY AND APPLICATIONS

Cheah Saw Kian

Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

What is HFNC? HFNC (high flow nasal cannula) is an oxygen supply system providing humidified and heated high flow oxygen up to 60L/min in order to exceed the flow demand of the patients. It can also provide small amount of PEEP effect and helps in carbon dioxide washout to reduce anatomical dead space. Meanwhile, there are some other benefits including ease of interface application, minimizes problems of claustrophobia as well as easily tolerated. Some of the limitations of HFNC include lack of monitored parameters, lack of patient alarms and lack of backup ventilation. Current clinical practice guideline supporting HFNC as respiratory support for hypoxaemia respiratory failure, following intubation, postoperative oxygen therapy for high risk and/or obese patients following cardiac or thoracic surgery but no recommendation for peri-intubation period. High flow oxygen therapy also had role in patients required oxygen therapy in prone position by improving their gas exchange and reduce lung strain by homogenization pleural pressure gradient. Although there is good clinical evidence for HFNC usage, yet, by delaying intubation in patients who failed HFNC will lead to poor outcome. Therefore, validated tool such as ROX index (relationship between arterial oxygen saturation/fraction of inspired oxygen ratio and respiratory frequency) is one of the important indicators to predict the possible outcome on patients with high flow oxygen therapy.

SYMPOSIUM 5 - Regional Anaesthesia

BABY & BLOCKS: A ROAD TO ENHANCED RECOVERY

Nur Hafizhoh Abd Hamid

Hospital Sultanah Bahiyah, Kedah, Malaysia

Paediatric Regional Anaesthesia has gained acceptance worldwide over the past few decades. To date, ERAS® society had published a perioperative care consensus for neonatal intestinal surgery. Nevertheless, despite only targeting the neonatal group, the protocol had strongly incorporated regional anaesthesia to enhance their recovery after surgery. Regional Anaesthesia in paediatric patient plays an important role as perioperative analgesia modality with additional benefits of

- i. improving postoperative pain scores
- ii. reducing total opioid consumption
- iii. improving quality of emergence from anaesthesia
- iv. reducing incidence of postoperative nausea and vomiting
- v. reducing incidence of postoperative respiratory complications
- vi. promoting early mobilization & reduce hospital length of stay
- vii. reducing incidence of persistent postsurgical pain & progression into chronic pain

My aim is to share a spectrum of modality in practising regional anaesthesia in paediatric patients. It can be initiated by both anaesthesiologist and surgeons to ensure these children is pain-free and will have a better perioperative experience.

SYMPOSIUM 5 - Regional Anaesthesia

SAFETY IN REGIONAL ANAESTHESIA MONITORING

Muhamad Rasydan Abd Ghani

Sultan Ahmad Shah Medical Centre @ IIUM, Pahang, Malaysia

Since the beginning of the 21st century, there has been a resurgence of regional anaesthesia practices, influenced by advances in the medical field, better access of ultrasound to patients and the widespread interest in regional anaesthesia among the new generation of anaesthesiologists. Even it is practiced by our emergency physician colleagues. Multiple strategies are needed to reduce the incidence of peripheral nerve injury during nerve blockade. The use of ultrasound, nerve stimulator and injection pressure monitoring are some of the safety methods incorporated as part of regional anaesthesia monitoring. Injection pressure monitoring is a relatively new concept that progressively recognized as a standard safeguard against intraneural injection that could lead to permanent nerve damage during peripheral nerve block. Although it is nonspecific, but it is very sensitive for detecting potentially deleterious needle tip position during peripheral nerve block. Limiting pressure to less than 15 psi is safe for peripheral nerve block. In Malaysia with the availability of nerve guard from Pajunk[®] makes it an inexpensive and easy to include as part of the safety monitoring in regional anaesthesia.

SYMPOSIUM 5 - Regional Anaesthesia

BUSINESS CLASS ANAESTHESIA; BLOCKS IN PRIVATE PRACTICE

Mafeitzeral Mamat

Gleneagles Hospital Medini, Johor, Malaysia

Are private hospital care especially anaesthesia can be considered premium compared to government setups? Patient satisfaction of their immediate surgical procedure and post op care is the most important feedback for the perceived quality care of the institution.

Regional blocks can be a game changer which helps the multi-disciplinary team for early recovery of the patient's functional status. We will look on how this is made possible and perhaps a proposal for reference.

PLENARY 2

ADVANCED LUMBAR SPINE PROCEDURE - EPIDUROSCOPY

Hue Jung Park

The Catholic University of Korea, School of Medicine, South Korea

Chronic lower back or leg pain was found to occur not only in response to mechanical stimuli, but also to chemical irritation around the nerve root sheath, gray rami communicantes and sinuvertebral nerve. Sometimes, the chemical factors are more important. Because some large herniated disc may not always cause any sensory symptom, size of disc and symptoms are not always correlated with each other. Leakage of the disc material into the epidural space following an annular tear leads to acute inflammation and consequent epidural adhesions, which result in compression of the nerve roots. While peridural or neural fibrosis in itself is not painful, it can produce pain by trapping spinal nerves so that movement produces tension in the inflamed nerves.

Generally, fluoroscopic-guided epidural injections have been used to treat radicular pain or radiculopathy. Transforaminal epidural injections have produced favorable results for managing lumbosacral radicular pain secondary to L-HIVD, spinal stenosis, and etcs. However, a considerable number of patients do not achieve meaningful pain relief through epidural injections. This was because the epidural space in these cases was restricted by perineural or epidural adhesions and fibrotic tissues. So the injectate frequently failed to spread effectively into the ventral epidural space. Therefore, I'd like to introduce Sacral Epiduroscopic Laser Decompression (SELD) and Transforaminal Epiduroscopic Laser Annuloplasty (TELA) as advanced lumbar spine procedures.

SYMPOSIUM 6 - Paediatric Anaesthesia

EEG-MONITORING IN PAEDIATRIC ANAESTHESIA - APPLICATIONS AND LIMITATIONS

Bong Choon Looi

KK Women's and Children's Hospital, Singapore

The ability to monitor the electroencephalography (EEG) during clinical anaesthesia is one of the most exciting developments in anaesthesiology in recent years. Finally, we can visualise the direct effects of anaesthetic agents on the brain, our ultimate target organ. This is especially important in paediatric anaesthesia, where patients come in a wide range of ages, body sizes, and developmental stages, with varying anaesthetic requirements. There is also concern regarding the long-term effects of anaesthesia exposure in young children. Hence, the ability to monitor and titrate anaesthetic doses according to each individual child's EEG response may potentially reduce anaesthetic doses, improve hemodynamic stability, prevent perianaesthetic critical incidents and improve patient safety.

This lecture aims to:

- i) discuss the importance of monitoring the EEG during paediatric anaesthesia;
- ii) describe how to monitor the EEG waveforms and spectrogram using commercially available EEG monitors;
- iii) describe the age-related differences in the paediatric EEG;
- iii) illustrate the clinical utility of EEG monitoring in guiding paediatric anaesthesia care in various clinical scenarios;
- iv) discuss the limitations of paediatric EEG monitoring using commercial EEG monitors.

At the end of the lecture, participants will appreciate the importance of EEG-guided anaesthesia in children in providing personalized anaesthesia care, gain a basic understanding of EEG waveforms during anaesthesia and wakefulness, understand the clinical utility of EEG monitoring in various clinical scenarios, and be aware of the potential limitations of EEG monitoring.

SYMPOSIUM 6 - Paediatric Anaesthesia

NORA IN CHILDREN

Rufinah Teo

Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

Non-operating room anaesthesia or NORA-based procedures comprised of a larger share of modern anaesthesia practice than ever before as case volumes increase year after year. Research analysing the location and of the anaesthesia either in operating room or NORA has been conducted to determine the perioperative risks, care transition and handovers associated with transfer of patients. The Joint Commission has required anaesthesiologists to assist their non-anaesthesia colleagues to provide safe care of sedation/anaesthesia for children. Anaesthesia room site in paediatric patients must meet the standards and expectation of anaesthesia set for operating room as defined by American Society of Anaesthesiologist's (ASA).

Anaesthesia outside the operating room practice may differ across globally largely due to the range of procedures and indications. Paediatric NORA may be required more frequently compared to adult counterpart. Although certain procedures are unique to this subset of population, the common anaesthetic challenges remained consistent either with patient factor, personnel, equipment or the environment when anaesthetising patient outside the operating room.

Anaesthetic management of NORA procedures should consider the following key points to ensure the smooth running and safety of patients. First sedation-related policies and procedures should be part of a quality assurance initiative. Its safety and effectiveness are determined by the environment and the availability of experts rather than the pharmacological characteristics of the sedative agent. There must be a comprehensive guideline to address the current management gap and lastly the recovery criteria must not differ to those of the post anaesthesia care unit.

REFERENCES

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SYMPOSIUM 6 - Paediatric Anaesthesia

PERI-OPERATIVE BLOOD MANAGEMENT IN PAEDIATRICS

Phang Ye Yun

Hospital Tunku Azizah, Kuala Lumpur, Malaysia

Perioperative bleeding and the subsequent need for blood product transfusion are associated with significant morbidity and mortality, hence the importance of perioperative blood management. Perioperative blood management refers to perioperative blood transfusion and adjuvant therapies. Perioperative blood transfusion addresses the preoperative, intraoperative, and postoperative administration of blood and blood components; whereas adjuvant therapies refer to drugs and techniques to reduce or prevent blood loss and the need for transfusion of allogeneic blood. The primary goals of hemorrhage management are to promote hemodynamic stability, to maintain organ perfusion and oxygen delivery, to avoid dilutional coagulopathy, and to reduce harm and side effects of transfusion.

The management of massive hemorrhage and massive transfusion has been described in adults through studies and experience in combat situations, however, the treatment of massive hemorrhage in children is less well defined and many regimens related to its management have been extrapolated from the adult literature and techniques. Paediatric data on successful perioperative blood management are limited and the optimal approach is currently unknown, leading to practice variability among institutions, depending on resource availability and patients' needs. Children are not small adults and evidence-based strategies specifically designed for management of massive hemorrhage and transfusion in children should be utilized to help decrease preventable morbidity and mortality. This presentation will discuss and look through evidence and guidelines for patient blood management in the paediatric patient specifically in the perioperative period.

SYMPOSIUM 7 - Neuroanaesthesia

EMERGENCY MANAGEMENT OF ACUTE INTRACEREBRAL HAEMORRHAGE

Chong Chin Ted

Tan Tock Seng Hospital, Singapore

Spontaneous intracerebral hemorrhage (ICH), defined as nontraumatic bleeding into the brain parenchyma, is the second most common subtype of stroke. We will cover the aetiological factors such as chronic hypertension, cerebral amyloid angiopathy, and anticoagulation: concept of the Golden Hour, Emergency Neurologic Life Support (ENLS) management algorithm; and the phenomenon of haematoma expansion. Recent clinical trials examining acute blood pressure control, pharmacological haemostatic therapy and surgical intervention such as haematoma evacuation have advanced our understanding of ICH management. Timely and aggressive management in the acute phase may mitigate secondary brain injury. The initial management should include initial medical stabilization; rapid, accurate neuroimaging to establish the diagnosis and elucidate an etiology; prevention of hematoma expansion (blood pressure management and reversal of coagulopathy); consideration of early surgical intervention; and ICH characterisation. This review aims to provide a clinical approach for the practicing clinician.

SYMPOSIUM 7 - Neuroanaesthesia

INTRAOPERATIVE NEUROMONITORING FOR INTRACRANIAL SURGERY

Leong Kok Weng

Beacon Hospital, Selangor, Malaysia

Neuromonitoring is a budding expertise, and is emerging as the standard of care in neurosurgery and neurocritical care. It allows for early detection of neurological trespass, facilitates identification of neural structure/pathways, guides adjustment of anaesthetics depth and manipulation of physiological parameters, as well as neurodiagnostic and neuroprognostication. Use of neuromonitoring has been consistently shown to reduce patients' harm, preserve nerve function, improve long-term neurological and functional outcome, and lower medical malpractice claims. Several commonly used modalities for intracranial surgery include EEG, ECoG, SSEP, MEP, free-running or triggered EMG (fEMG or tEMG), BAEP, VEP, & microelectrode recording (MER) - each with their own indications, applications, contraindications, & sensitivity to anaesthetic agents. For example, any anaesthetic agent augmenting GABAergic transmission (benzodiazepine, propofol, etomidate), effectively abolish MER, making identification of subcortical nuclei (during deep brain stimulator insertion) futile. Despite new modalities and software being approved by governing medical authorities, the gold standard of neuromonitoring remains unchanged i.e., functional neuromonitoring on an awake and cooperative patient.

NEUROANAESTHESIA FOR THE OCCASIONAL NEUROANAESTHETIST

Laila Ab Mukmin

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The rising demand for the emergency and elective neurosurgery means that many hospitals must provide anaesthesia service with or without attending neuroanaesthetist. This talk is to focus on the practical approach to neuroanaesthesia for the general anaesthetists who must become an occasional neuroanaesthetist especially in dealing with emergency neurosurgery. The basic principle of neuroanaesthesia remains the same, which revolves around the concept and clinical application of cerebral and spinal cord blood flow (CBF, SCBF), cerebral and spinal perfusion pressure (CPP, SPP) and intracranial pressure (ICP). CBF is regulated to be constant across various physiological conditions by cerebral autoregulation, vasomotor reactivity, and neurovascular coupling. The loss of autoregulation in diseased brain and spinal cord poses an ischemic and haemorrhagic threat as the blood flow becomes pressure-dependent to the systemic blood pressure. The physiological and pharmacological effects on these parameters do affect the overall outcomes of the surgery and intraoperative manipulation of these cerebral haemodynamics could facilitate the surgery. A practical way to approach neuroanaesthesia is by focusing on the surgical and anaesthesia considerations specific to neurosurgical condition and requirement. Surgical consideration includes the diagnosis and planned surgery, positioning, and post-operative plan. Anaesthesia consideration includes the airway and conscious levels, the ICP status, presence of spinal cord injury, co-morbidities including pre-existing seizure, use of intraoperative monitoring, and estimated blood loss. It is important to have a common agreed goal regarding haemodynamic values among the team involved prior to the surgery. Lastly, knowing what we as anaesthetist, can control and what should be avoided is the key to a 'drama-less' neuroanaesthesia.

REFRESHER COURSE 2 - Guideline Updates

UPDATE ON ERAS GUIDELINES

Omar Sulaiman

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Enhanced Recovery After Surgery (ERAS) is an evidence-based paradigm shift in perioperative anesthesia care with multimodal perioperative protocol focused on promotion of return to physiological function. It fundamentally shifts the traditional patient care to one that standardize it based on published evidence. ERAS protocol of 20 items along with a database to support the implementation of the principles. The theory identifies, divides and adapts each step taken through the entire perioperative patient's journey to facilitate efficient and safe progress through perioperative assessment and optimization until discharge and rehabilitation.

REFRESHER COURSE 2 - Guideline Updates

HIP FRACTURE - NICE GUIDELINE

Sheliza Jamil

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NICE guidelines for hip fracture aims to improve care for people above 18 years old, who are admitted to hospitals due to hip fractures, until discharged from hospital and return to the community. These guidelines emphasized on surgery as early as it is possible, and also recommend coordination of care between multidisciplinary hip fracture rehabilitation programmes, so that patients can recover and regain their mobility faster. It is useful for healthcare professionals, commissioners and providers, and adults with hip fracture and their families and caregivers.

REFRESHER COURSE 2 - Guideline Updates

UPDATE ON OSA GUIDELINES

Edwin Seet

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Obstructive sleep apnoea (OSA) is prevalent in patients presenting for surgery, particularly in patients with obesity and those scheduled for bariatric procedures. Over half of patients with OSA may be unrecognized prior to anaesthesia, putting these vulnerable patients at risk of perioperative adverse events.

The American Society of Anesthesiologists, the American Academy of Sleep Medicine, Society of Anesthesia and Sleep Medicine, Canadian Anesthesia Society and others have published clinical guidelines pertaining to the perioperative management of OSA. Uptodate.com has also summarised the evidence and provided pointers for the practicing Anaesthesiologists. These serve to reduce complications in surgical patients with OSA.

The refresher course will explore the current published literature and evidence; review the preoperative, intraoperative and postoperative management of patients with OSA, including evaluation, diagnosis, risk mitigation and monitoring.

PLENARY 3

IMPACT OF INTRAOPERATIVE CARE ON POSTOPERATIVE OUTCOMES: BEST PRACTICES AND EVIDENCE UPDATE

Girish Joshi

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Intraoperative management influences both immediate and long-term outcomes beyond hospital stay (e.g., postoperative complications and readmission after discharge from hospital). The objective of this talk is to discuss recent publications evaluating intraoperative interventions that can influence perioperative outcomes. The lecture concludes that anesthesiologists (as the key perioperative physicians) play a pivotal role in improving perioperative outcomes. There are no differences in postoperative outcomes between spinal and general anesthesia or between total intravenous anesthesia and inhalation anesthesia. Optimal general anesthetic technique would include avoidance of deep anesthesia (0.8-1 MAC is adequate) and minimization of neuromuscular blocking drugs (NMBD) with appropriate reversal of residual paralysis based of degree of blockade at the time of reversal. Neuromuscular function (at the ulnar nerve) of all patients receiving NMBD should be monitored. Although quantitative neuromuscular monitoring is optimal, commercially available devices have limitations. Opioids should be used sparingly; however, there is no role for opioid-free anesthesia. Efficacy of analgesic adjuncts such as lidocaine, dexmedetomidine, and ketamine infusions remains questionable, and there are concerns of potential adverse effects. Multimodal pain prophylaxis should include paracetamol and NSAIDs/COX-2 specific inhibitors given either preoperatively or intraoperatively and continued postoperatively combined with local/regional analgesia with opioids reserved for rescue. PONV prophylaxis should include dexamethasone and 5HT3 antagonists for all patients irrespective of risk factors. In addition, lung protective ventilation with normocarbica, goal-directed hemodynamic (fluid and blood) management, glycemic control, venous thromboembolism prophylaxis, and antibiotic prophylaxis are critical.

OBSTETRIC ANAESTHESIOLOGISTS AS CUSTODIANS OF THE FOETUS

Chan Yoo Kuen

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Dr Apgar, in her capacity as an obstetric anesthesiologist showed 70 years ago that it was possible to extend into the pediatric domain and change the landscape of care for the newborn. She brought forth the elegantly simple Apgar Score which is used worldwide to assess the state of the newborn so that care providers can focus on what needs done. We are now seeing evidence of our tentacles being spread in the direction of care for the fetus alongside that traditionally provided by the obstetrician. The classification of emergency caesarean sections to facilitate the categorization of the needs not only of the mother but more the unseen needs of the fetus is a clear example of that move. In two of the advanced countries the provision of timely care to meet the physiological needs of the fetus has been shown to be dismal. A team which includes the obstetric anesthesiologists is now focusing on improving this segment of care so that the fetus does not have to suffer a lifetime of damage brought about by poor in-utero care. With skills inherent in an obstetric anesthesiologist, we may ultimately be leading that care.

SYMPOSIUM 8 - Perioperative Medicine 2

STRATEGIES IN CARDIOLOGY PRE-OPERATIVE CONSULTATION

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Strategy is defined as a plan designed to achieve a particular goal or target and the goals of pre-operative cardiology consultation are:

1. To treat an inadequately treated cardiac condition before surgery
2. To provide data to use in anaesthesia management
3. Possibly to diagnose a medical condition before surgery

Current strategies of cardiology pre-operative consultation demonstrate a scenario of

1. An overuse of pre-operative cardiac consultations
2. Uncertain whether the consultation reaches its expected goal

Non-specific approach/manner of pre-operative cardiology consultation request remain as a significant cause of unnecessary investigations and decreased cost effectiveness. Due to the nonspecific pre-operative cardiology request, cardiology often makes broadly inclusive, general remarks about perioperative management of the patient and may recommend pre-operative diagnostic work-up that does not influence the patient's outcome but prolongs the hospital stay or cancellation of the surgery.

Therefore, physician initiating the pre-operative cardiology consultation must specify the reason for pre-operative cardiology consultation and ask the cardiologist to delineate the relative risks and benefits of any further diagnostic or therapeutic steps, as well as any post-operative follow-up plan.

PREHABILITATION AND TESTING IN PERIOPERATIVE CARE

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Optimising a patient's condition before surgery to improve the postoperative outcome can be achieved by using pre-habilitation; preoperative interventions focusing on modifiable risk factors to improve the physical, nutritional, and mental status of the patient. A multimodal and multidisciplinary pre-habilitation approach induces a synergistic effect between the various interventions and positively affect the postoperative outcome, although large-scale and high-quality studies are needed to confirm the promise of the early evidence. Preoperative testing (e.g., chest radiography, electrocardiography, laboratory testing, urinalysis) is often performed before surgical procedures. These investigations can be helpful to stratify risk, direct anaesthetic choices, and guide postoperative management, but often are obtained because of protocol rather than medical necessity. The decision to order preoperative tests should be guided by the patient's clinical history, comorbidities, and physical examination findings.

MANAGEMENT OF A PATIENT WITH HYPOXIA DURING ONE-LUNG VENTILATION

Javier H Campos

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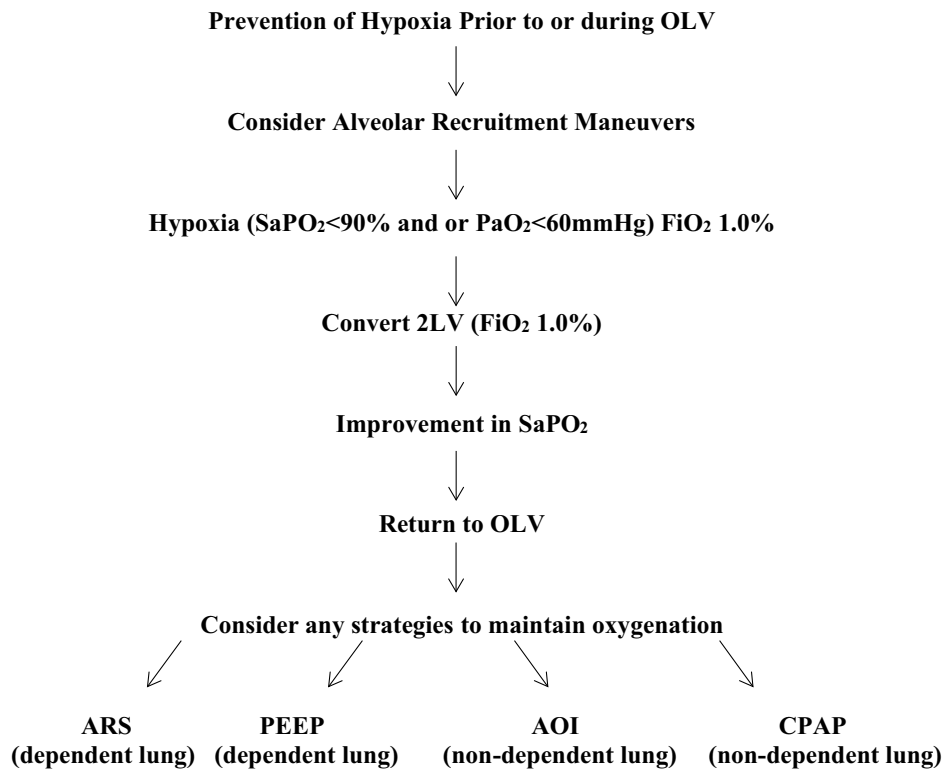
One-lung ventilation (OLV) often is required to facilitate surgical exposure in the thoracic surgical patient with the use of a double-lumen tube or a bronchial blocker.¹ During OLV, an obligatory intrapulmonary shunt may produce hypoxemia because of collapse of the nondependent lung and increased atelectatic areas in the dependent lung.² This hypoxemic event will activate hypoxic pulmonary vasoconstriction (HPV), which leads to contraction of the vascular smooth muscle in the pulmonary circulation in response to a low regional partial pressure of alveolar oxygen thus decreasing the shunt by redirecting pulmonary blood flow to the well-oxygenated and dependent lung.³

Hypoxemia during OLV is defined as a decrease in oxygen saturation (SaPO₂) measured by pulse oximetry of less than 85% to 90%; usually such episodes last a few minutes. It also may be defined as arterial oxygen tension (PaO₂) of less than 60 mmHg when the patient is being ventilated at an inspired oxygen fraction (FiO₂) of 1.0%.⁴

The incidence of hypoxemia during OLV is currently less than 4% in part because of the use of flexible fiberoptic bronchoscopy to achieve optimal position of lung isolation devices. It is also attributable to the introduction of newer volatile anesthetics that cause less inhibition of HPV in a dose-dependent manner and less venous admixture during OLV.

Factors that increase the risk of hypoxia during OLV: right-sided thoracic surgery, high percentage of ventilation or perfusion to the operative lung, normal preoperative spirometry, morbidly obese patient and low PaO₂ during two lung ventilation in the lateral decubitus position.

Strategies to manage hypoxia during OLV:



OLV = one-lung ventilation

2LV = two-lung ventilation

CPAP = continuous positive airway pressure

PEEP = positive end expiratory pressure

ARS = alveolar recruitment strategies

AOI = apneic oxygen insufflation

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PROTECTIVE ONE-LUNG VENTILATION

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One-lung ventilation should accomplish appropriate gas exchange, but also avoid damage to the ventilated lung. Experimental and clinical studies have shown that mechanical ventilation has the potential to worsen or even trigger lung injury (ventilator-induced lung injury - VILI). Possible mechanisms of VILI are overdistension (volutrauma), and repetitive collapse/reopening of lung units (atelectrauma), which can directly damage the parenchyma and trigger an inflammatory response. During one-lung ventilation, positive end-expiratory pressure (PEEP) may stabilize lungs minimizing atelectrauma. On the other hand, lower tidal volumes may limit the tissue stretching and reduce volutrauma. The use of protective low tidal volumes is associated with a reduced incidence of postoperative pulmonary complications in patients without injured lungs. Patients receiving intraoperative mechanical ventilation with both lower tidal volumes and appropriate levels of PEEP seem to be less prone to develop lung injury, pulmonary infection and atelectasis. However, depending on the mechanical properties of lungs, even lower tidal volumes can result in relatively high distending pressures, so-called driving pressure. Recently, it has been suggested that driving pressure might be an indicator for the adequacy of protective ventilation, or even the key factor behind VILI.

The objective of this lecture is to provide attendees with information to understand the mechanisms of VILI and select the mechanical ventilation strategy that best fits patients submitted to one-lung ventilation according to a pathophysiologic rationale and clinical evidence.

ANAESTHETIC MANAGEMENT OF TRACHEAL INJURY

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Tracheal injury is rare and may be lethal, but most are treatable. Many patients die because of associated injuries to vital structures, hemorrhage, tension pneumothorax, or respiratory failure. Thus, a prompt diagnosis is necessary. Treatment is determined based on the extent and severity of the injury. Tracheal injuries are heterogeneous, thus investigating the aetiology and understanding the mechanism of injury is crucial in its multidisciplinary treatment and management strategies. Thus, the question we need to ask is, in the trauma adult requiring emergency control of the airway, what is the best treatment algorithm to follow for management of a 'difficult airway'?

MY ACADEMIC LEADERSHIP JOURNEY: SECRETS OF SUCCESSSES (SOS)

Davy Cheng

The Chinese University of Hong Kong, Shenzhen, China

Learning Objectives:

- 1) My Medicine Journey
- 2) Leadership SOS - Secrets of Success: The Good, The Bad, and the Ugly

HEMODILUTION, ULTRAFILTRATION, AND CELL SALVAGE IN CARDIOVASCULAR SURGERY

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Preoperative anemia is a risk factor for morbidity and mortality after cardiac operations, but preoperative transfusion to higher hemoglobin levels impacted this risk. As shown in the Recent guideline from the society of thoracic surgeons, both factors, anemia, and transfusion, showed a much greater incidence of serious postoperative complications.¹

Various strategies have been employed to reduce perioperative anemia and bleeding. Hemodilution, hemoconcentration, and intraoperative cell salvage have been applied to reduce the amount of intraoperative bleeding and allogenic blood transfusion during cardiac surgery.

Acute normovolemic hemodilution (ANH) is a common anesthesia practice to intentionally induce hemodilution and reduce intraoperative blood loss in major surgeries. Whole blood is withdrawn & replaced by substituting IV fluid before the event of major bleeding. The dilution of all blood components reduces the actual loss of all blood components during the same amount of intraoperative bleeding. The withdrawn blood, with a higher concentration of RBC and all plasma components, is collected in the CPD bag, stored at room temperature during the main surgical procedure, and then re-infused at the end of surgery. The collected blood can be devoid of the undesirable effects of heparin and cardiopulmonary bypass (CPB)-related inflammatory process during cardiac surgery. The degree of hemodilution, the amount of collected blood, usually 1 to 3 units, should be carefully adjusted during ANH. It should be determined by the patient's reserve and the amount of expected intraoperative bleeding. Additionally, as the benefits of ANH are directly linked to the amount of blood withdrawn from the patient, it needs sophisticated protocols.

The re-infusion of collected blood will attenuate postoperative anemia and bleeding disorder.

Despite previous literature supporting ANH-induced decline of allogeneic red blood cells (RBC) transfusions,² ANH has been underused in cardiac surgery. The reasons for the underuse of ANH include additional preoperative time for use, possible lack of attention to "Patient Blood Management strategies", underestimation of its efficacy, and real or perceived risks of ANH.¹ In the meantime, few studies demonstrated whether ANH reduces the transfusion of platelets and other plasma components other than that of RBC.

Applying CPB induces various impacts on all blood components. CPB-induced hemodilution dilutes all blood components, pro-coagulants, anti-coagulants, and anti-fibrinolytics. CPB induces the dilution of antithrombin (AT) and increases thrombin activity.³ This can induce prothrombotic status during CPB. By contrast, heparin for anticoagulation during CPB strongly enhances AT activity.

The volume of characteristics of priming fluid is also important. The Society of Thoracic Surgeons blood conservation guidelines recommend minimizing CPB circuit prime volume (PV) as an integral, evidence-based blood conservation strategy. In a registry study published in 2017, employing more than 47,000 patients published, the ratio of CPB-prime volume to estimated blood volume (PV ratio) was an independent predictor of transfusion.⁴ In this study, patients exposed to a PV ratio of 0.15 had reduced intraoperative RBC transfusions compared with patients having higher or lower PV ratios. However, reduction of PV ratio to below 0.15 did not protect patients from intraoperative RBC transfusion. PV ratio higher or lower than 0.15 increased exposure to transfusion. Therefore, especially for patients entering the operating room with a low Hct, if the PV ratio has reached 0.15, a strategy other than reducing PV is recommended. Minimally invasive extracorporeal circulation (MiECC) can be employed to minimize hemodilution and reduce the need for RBC transfusion. MiECC preserves fibrinogen and platelets, the major determinants of clot strength after surgery.^{5,6}

Retrograde autologous priming (RAP) for CPB attenuates the degree of CPB-induced hemodilution by preserving RBC (Hct).⁷ When RAP was combined with ANH, higher Hct values and lower transfusions were provided.⁸

Previous trials in the ICU setting demonstrated higher s-Cr levels and the incidence of renal replacement therapy in the use of HES.⁹ The results advised us not to use HES even in cardiac surgery. However, we must remember that these trials did not include routine cardiac surgery patients. In a multicenter study published in 2016, intra-operative and postoperative use of HES 130/0.4 does not increase the risks of acute kidney injury and dialysis after cardiac surgery.^{10,11} A retrospective cohort study published in 2016 found that using a lower dose of modern HES, of less than 30 mL/kg, reduced the incidence of acute renal injury.¹¹ However, HES-induced coagulation disorder is still problematic.¹²

Ultrafiltration (UF) is the procedure to remove free water, which has already been added at the beginning of CPB. By removing free water, UF increases RBC mass and attenuates CPB-induced anemia. Like CPB-induced hemodilution, UF increases the relative concentrations of pro-coagulants and anti-coagulants. It is not easy to predict the impact of UF on coagulation profiles because of the complexity of various factors, including the volume of removed free water, the baseline coagulation status before applying UF, and the changes in the net balance of pro-coagulants and anticoagulants. In pediatric patients undergoing cardiac surgery, the modified-ultrafiltration (MUF) method has been adopted as standard practice in 75% of pediatric centers in North America. Normovolemic MUF (N-MUF) provides greater platelet aggregation and less bleeding in adult complex cardiac surgery.¹³ However, in contrast with pediatric patients, blood filtration during or after CPB is not a standard procedure in adult patients. The influence of MUF on the coagulation system, perioperative blood loss, and the clinical outcome remains controversial in adult cardiac surgery.

Zero-balance ultrafiltration (ZBUF) during CPB can be used to reduce pro-inflammatory mediators during cardiac surgery. It is also helpful to attenuate metabolic acidosis during CPB, but it reduces intraoperative urine output by 0.03 mL/kg/h and increases the use of conventional UF.¹⁴

Intraoperative cell salvage reduces overall blood loss during cardiac surgery. Use of cardiotomy suction during and immediately after administering much volume of the cardioplegic solution increases systemic K⁺ level and sometimes results in extreme hyperkalemia. Selective use of Cell saver, especially during this period, would be beneficial to avoid undesirable side effects of hyperkalemia and efforts to reduce serum K⁺.

However, we should consider that, unlike cardiotomy suction, applying more cycles of the cell saver process results in a greater loss of plasma components.

In 2014, Australian National Blood Authority recommended implementing point-of-care viscoelastic (POC VE) tests for managing perioperative bleeding patients. The cardiac surgery data after implementing POC VE tests showed that the numbers of patients who received RBC, platelets, and FFP were significantly reduced by 26%, 57%, and 64%, respectively, and the numbers of transfused RBC, platelet, and FFP units were also significantly reduced by 35%, 63%, and 79%, respectively.

As in trauma patient care, the use of lyophilized plasma factor and seems promising in cardiac surgery. Prothrombin-complex concentrate (PCC) and fibrinogen concentrates (FC) may be superior to FFP and cryoprecipitate transfusion in cardiac surgery. Their use enables to avoid timing issues for prompt factor supplementation since they do not need to undergo cross-matching and thawing. TACO and TRALI can be avoided as they do not need a large volume and do not have residual plasma inside. They are produced by a virally-inactivated and pathogen-free process.

PCC reduced the risk of RBC transfusion and the amount of transfused RBC and platelet in cardiac surgery.^{15,16} Recent European consensus guideline stated that the efficacy of 4-factor PCC in cardiac surgery patients, who are not taking vitamin K antagonist therapy, has not yet been assessed in randomized controlled trials.¹⁷ This guideline suggested the use of POC VE assays to evaluate PCC's effect during cardiac surgery.¹⁷ As mentioned in the EACTA guidelines in 2021, the fibrinogen levels measured by the Clauss method are comparable to those measured by the amplitude of FIBTEM tracing (A5) of the ROTEM assay.¹⁸ Both values can be used for monitoring the effect of fibrinogen supplementation in cardiac surgery.¹⁹

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UPDATE ON CARDIAC SURGERY ASSOCIATED ACUTE KIDNEY INJURY

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Enhanced recovery was introduced over 20 years ago as a patient-centred perioperative concept and describing a multimodal and multidisciplinary approach to improve postoperative pathophysiology and rehabilitation with the benefit of shorter length of stay and less postoperative complications. Whereas enhanced recovery has been applied in most surgical subspecialties, it was only recently introduced in cardiac surgical patients. We first described, that applying a care bundle in cardiac patients, and thus the concept of aggregation of marginal gains, is feasible and has the potential to reduce postoperative complications. Evidence based enhanced recovery guidelines for perioperative Care in Cardiac Surgery were introduced and there is now an urgent need to implement these to fill the gap between knowing and doing. One of these recent recommendations suggests the use of novel biomarkers and biomarker-guided implementation of the KDIGO (kidney disease improving global outcomes) guidelines to identify and treat patients at risk for kidney injury.

Acute kidney injury (AKI) is a common complication in patients after major surgery with incidence rates of AKI after surgery between 13% and 50%. It does not only negatively affect patient morbidity and mortality but also health care costs.

The novel urine analysis of insulin-like growth factor-binding protein 7 (IGFBP7) and tissue inhibitor metalloproteinase-2 (TIMP-2) as urinary cell cycle arrest biomarkers (Nephrocheck®) has been shown to reliably predict postoperative AKI within hours after surgery with high sensitivity and specificity and a multicentre RCT demonstrated a beneficial effect on postoperative renal outcomes with the use of Nephrocheck.

This presentation will explore the pathophysiological background of Cardiac Surgery Associated Acute Kidney Injury and clinical management strategies towards prevention.

DIFFICULT WEANING FROM CARDIOPULMONARY BYPASS

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Weaning from Cardiopulmonary Bypass (CPB) requires excellent communication and teamwork between anaesthesiologist, surgeon and perfusionist. The goal of weaning is to achieve smooth transition from mechanical circulatory support to spontaneous heart activities with adequate blood flow and pressure through the pulmonary and systemic circulation. The weaning is complete once the protamine has been administered and both venous and arterial cannulas have been removed.

Prior to weaning process, the patient's body temperature and physiology should return to normal. The electrolytes, glucose, haematocrits, and acid-base imbalance needs to be corrected. The cardiac may or may not require epicardial pacemaker for normal rate, rhythm and contractility, and the lungs has effective mechanical ventilation.

Difficult weaning from CPB occurs when the first weaning was failed, or the patient required mechanical device to separate from CPB. In complex CPB separation, high perioperative mortality rate can occur. Myocardial function is the single most important determinant of successful weaning from CPB. Few studies showed that other factors such as age, mitral surgery, previous cardiac surgery, partial thromboplastin time, and CPB duration were independent predictors of CPB separation.

Integration of advance hemodynamic monitors such as pulmonary artery balloon catheter, pulse contour analysis, transoesophageal echocardiography and treatment with inotropes, vasopressor, haemostasis control and mechanical circulatory support will help in difficult weaning from CPB.

FIELD ANAESTHESIA AND INTERNATIONAL AID: AFGHANISTAN EXPERIENCE 2021

Mafeitzeral Mamat

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Anaesthetists working in austere environments will generally be expected carry out a far broader range of tasks than at home. As team members, they need to be prepared to assist in decisions regarding the limits of treatment for patients, given the capacities of the staff, the workload and the available resources.

Anaesthetic techniques need to be adapted to the prevailing circumstances. Despite the constraints of the austere environment, minimum standards of conduct and monitoring must be followed. This is to ensure the best outcome for the ailing patients.

FIELD ANAESTHESIA: RAPID TRANSIT AND MAKESHIFT ICU RESPONSE - THE MILITARY EXPERIENCE

Mohamad Azlan Ariffin

Hospital Angkatan Tentera Tuanku Mizan, Kuala Lumpur, Malaysia

Pandemic Covid-19 had a huge impact on medical care, the surge of patients who need critical care were more than the pre-existing medical facilities could handle. The setup of field hospital with ICU capability has been deployed to cope with this situation. The field hospital was set up in different places in the countries to help to ease the burden of the healthcare system. The transit and makeshift ICU was among the concept utilized in Hospital Medan Labuan and Disaster Management Zone. The lecture will share the experiences encountered and the improvement made to serve better.

COVID-19 FIELD AND HYBRID ICU IN KKM: CHALLENGES AND SUCCESS

Helmi Abdul Halim

Hospital Kepala Batas, Pulau Pinang, Malaysia

Covid-19 pandemic posed an unprecedented challenge to an already strained health care system in Malaysia. Concerted effort and strategies were made to increase hospital beds and particularly ICU beds to meet the sudden surge in requirements. Repurposed ward, Field ICU and Field Hybrid ICU were rapidly setup and successfully manage the need of ICU beds in timely manner. Issues related to rapid increase in ICU beds were addressed accordingly. Teamwork shown by all parties involved during the pandemic was proven to be the key factor for the success. Long term plan is required to further increase the capacity of ICU beds in Malaysia.

ADVANCES IN LUNG ISOLATION FOR THORACIC SURGERY

Peter Slinger

University of Toronto, Canada

Advances in airway management that have improved the ability of Anesthesiologists to provide safe and reliable lung isolation in patients with difficult upper or lower airways include pediatric video-bronchoscopes, video-laryngoscopes, new bronchial blockers and improved designs of double-lumen tubes. The Anesthesiologist should always keep in mind the fundamental principles of lung isolation which can be summarized as the “**ABCs**”:

- A) Know the normal tracheo-bronchial **Anatomy** and any abnormal anatomy of each case.
- B) Always use a fiberoptic **Bronchoscope**, preferably a video-bronchoscope, to position a DLT or bronchial blocker. Avoid blind manipulation of a device in an abnormal airway.
- C) Always examine the **Chest imaging** yourself before beginning the case.

SYMPOSIUM 12 - Monitoring

CAN WE TRUST A RADIAL ARTERY PRESSURE?

André Denault

Montreal Heart Institute, Canada

In 1985, a similar title of this editorial was published in *Anesthesiology* by Stern et al.¹ The title was “Can we trust the direct radial artery pressure immediately following cardiopulmonary bypass (CPB)?” The study included 18 patients undergoing cardiac surgery. In normal patients, we typically observe a greater systolic arterial pressure (SAP) in the peripheral artery than in the aorta, while the mean (MAP) is the same in the peripheral artery and in the aorta.² However, after CPB, this relationship is completely altered, and the radial artery SAP becomes significantly lower to the central aortic pressure. Several other investigators from the United States,^{3,4} Chile,⁵ Australia,⁶ Israel,⁷ Belgium⁸ and Canada⁹⁻¹¹ reported similar observations. Those observations led several cardiac center to abandon the radial artery pressure in cardiac surgery and use or combine it with more central arterial access such as the brachial or the femoral artery,¹² In this lecture we will briefly review the literature on this topic, describe our experience at the Montreal Heart Institute and describe methods that allow to suspect such a gradient before concluding.

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INTRAOPERATIVE NEUROMONITORING: PHYSIOLOGY AND APPLICATIONS

Fadhli Suhaimi Abdul Sukur

Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Intraoperative neuromonitoring (IONM) has already become the standard of care in neuro and spine surgery. It offers near-real-time assessment of neuronal pathway during surgery that promptly detect decline in neuronal function and allows immediate intervention to enabling reduction of post-operative neurological complications. Besides that, neurophysiological mapping helps to identify anatomically indistinct neural structures and this important information avoids injuries to critical structures during surgery. Different modalities of IONM are available (EEG, EMG, SSEP, MEP, BAEP and VEP) and each modalities monitors a specific neural pathway. Integrating multimodal of IONM during surgery is recommended as an effective way to avoid permanent neurological injury as it will optimize recording and isolated use of each modality can leads to false negative findings. Studies have shown that with the use of IONM, there are significant improvement in neurological outcomes. This lecture mainly highlighting the indication of IONM, physiology and applications of different modalities of IONM during surgery.

BLEEDING ON THE OPERATING TABLE - POINT OF CARE ELASTOGRAPHY

Mohd Fitry Zainal Abidin

Universiti Malaya, Kuala Lumpur, Malaysia

One of the challenges in the anaesthesiologists' world is to handle massive bleeding in the operating theatre. While most centres are adopting the fixed ratio massive transfusion protocol (MTP), some practise viscoelastic test point-of-care (VET POC) testing guided transfusion protocol to tackle this problem. Is the VET POC-guided transfusion protocol superior to the MTP? This session will discuss the basic understanding of VET POC, followed by the interpretation of the results and how to make an appropriate intervention in clinical practice.

POCUS IN ICU

Yip Hing Wa

University Malaya Medical Centre, Kuala Lumpur, Malaysia

POCUS refers to using portable ultrasonography at a patient's bedside for diagnostic, therapeutic, and procedural purposes. Evidence suggests that POCUS contributes to earlier and improved diagnosis, helps healthcare costs, and improves patient outcomes. There has been growing momentum for using POCUS in various disciplines, including anesthesia and critical care. This symposium provides an overview of common POCUS applications in intensive care settings.

INTRAOPERATIVE SEPSIS - PRESENTATION AND MANAGEMENT

Cheah Saw Kian

Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

According to Sepsis-3 definition, sepsis is defined as life-threatening organ dysfunction caused by dysregulated host response to infection. Septic shock is a subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality. There are multiple aetiologies of sepsis either due to infective or non-infective causes. Sepsis basically is due to immunological imbalances of inflammation and anti-inflammation responses. Immunological imbalances will lead to immunoparalysis and subsequent recurrent nosocomial infection, viral reactivation and multiorgan failure. Common presentations of sepsis include septic encephalopathy, septic cardiomyopathy, acute kidney injury (AKI) and acute respiratory distress syndrome (ARDS). Perioperative sepsis management is important for septic patients presenting for surgery. These include preoperative resuscitation as to optimize organ perfusion, intraoperative careful induction and maintenance of anaesthesia as well post-operative organ support in ICU. As an overall, perioperative sepsis management should be planned before surgical intervention or anaesthesia induction as to ensure favourable patients' clinical outcome.

FLUID RESUSCITATION IN SEPSIS - WHEN IS IT ENOUGH?

Mohd Zulfakar Mazlan

Universiti Sains Malaysia, Kelantan, Malaysia

Fluid Resuscitation in Sepsis - When is it enough? Fluid resuscitation can be crystalloids and colloids. Crystalloid is recommended as the first line of fluid of choice. The balanced crystalloid is a fluid of choice instead of normal saline, where available. The albumin is a colloid of choice in patients who received large amounts of crystalloid during initial resuscitation. The starch-based solution is recommended against being used. The suggestion is also against the gelatin-based fluid. The total volume suggested is at least 30ml/kg within the first 3 hours. The monitoring suggested is dynamic parameters such as pulse pressure variation, stroke volume variation, or echocardiography following fluid bolus or passive leg raising test over static parameters such as the single reading of central venous pressure, inferior vena cava diameter, and heart rate. The physical examination such as capillary refill time was suggested to be used in combination with dynamic parameters to guide the fluid resuscitation. The trend of lactate level was suggested as the biomarker of choice in guiding fluid resuscitation with the aim of mean arterial pressure (MAP) of 65 mmHg. In sepsis, only fifty percent of the patients were on fluid responders during initial resuscitation. However, there was not enough evidence to suggest fluid restrictive or fluid liberal during 24 of fluid resuscitation. Therefore, fluid resuscitation should only be given to a patient with signs of hypoperfusion. An individualized early adequate and late conservative fluid strategy is recommended.

MOVEMENT IS MEDICINE

Nik Sorfina Nadira Nik Hamdan

National Academy of Sports Medicine & Institute of Integrative Nutrition, Kuala Lumpur, Malaysia

Introduction to Primary Foods (Beyond Your Plate)

Nutrition is a secondary source of energy. Primary foods, or nonfood sources of nourishment, are what really fuel us. As children, we all lived on primary food. Lovers thrive on the pure bliss and peace they're experiencing, while passionate entrepreneurs are fueled by their work. The excitement and rapture of daily life feeds us more completely than any food. Primary Food goes beyond the plate, nurturing us on a deeper level. Four main Primary Foods are:

- Career
- Physical Activity
- Spirituality
- Relationships

How movement relates to primary foods

Without regular exercise, no amount of kale or quinoa will make up for a lack of movement. Just like certain foods protect us from heart disease, cancer, and diabetes, regular physical activity has incredible benefits too. Without exercise, it's hard to reach your full physical and mental potential.

Easy ways to incorporate more movement into your life

- Little changes can be made to daily life
- Get an accountability buddy
- Find activities you like most

WELL-BEING IN ANAESTHETIC TRAINEES

Sally El-Ghazali

London North West London Hospital Trust, United Kingdom

Well-being is essential to our health and overall happiness. Not only does it have a positive impact on individuals and reduce the risk of burnout and stress, but also of benefit to our patients. This session focuses on wellbeing and is particularly relevant given how tough the COVID-19 pandemic has been tough on all of us - both personally and professionally. It has taken its strain and affected individuals mentally, emotionally and physically. Anaesthesiologists have been instrumental at keeping departments and rotas running and been a great strength for each other during this difficult and ever-changing period. It is important to recognise the importance of wellbeing and discuss and learn from the various projects and campaigns that have been introduced to improve wellbeing and morale of anaesthesiologists.

VISION CARDIAC SURGERY TRIAL: HIGH-SENSITIVITY TROPONIN I AFTER CARDIAC SURGERY AND 30-DAY MORTALITY

Wang Chew Yin

Universiti Malaya, Kuala Lumpur, Malaysia

BACKGROUND: The threshold for the cardiac marker troponin used to define myocardial infarction and myocardial injury for patients undergoing cardiac surgery include a wide range (10-70 times the lab normal value) in the current consensus guidelines.

METHODS: This multinational prospective cohort study included patients 18 yrs old and older undergoing cardiac surgery. High sensitive cardiac troponin I was measured at 3-12 hrs after surgery and on days 1, 2 and 3. Death and incidence of major vascular complications were assessed. Cox analyses using a regression spline was used to map out the the relationship between peak troponin measurements and 30-day mortality. The European System for Cardiac Operative Risk Evaluation II score was used to estimate mortality risk.

RESULTS: 13, 862 patients were included. 30-day mortality was 2.1% and the incidence of major vascular complications was 2.9%. The estimated threshold troponin value from day 1 post operative associated with death within 30 days was 5,670 ng/L (95% CI, 1045 to 8260), which is 218 URL in patients undergoing CABG or aortic-valve replacement or repair. Patients who underwent other cardiac surgery, estimated threshold troponin value associated with death within 30 days was 12,981 ng/L (95% CI, 2673 to 16,591), which was 499 times URL.

CONCLUSIONS: Our study showed that a higher level of high-sensitive troponin I was associated with an increased of mortality within 30 days, which was much higher than the thresholds set by consensus guidelines for estimating perioperative MI and myocardial injury risks.

POISE 3-TRANEXAMIC ACID IN PATIENTS UNDERGOING NONCARDIAC SURGERY

Wang Chew Yin

Universiti Malaya, Kuala Lumpur, Malaysia

BACKGROUND: Peri-operative bleeding can lead to serious adverse outcomes. Tranexamic acid (TXA) is an antifibrinolytic drug that has been shown to reduce bleeding in patients undergoing non cardiac surgery.

METHODS: This multi-centre randomised controlled trial included 114 centres (22 countries). Patients undergoing non-cardiac surgery at risk of bleeding and vascular events were selected. Patients received TXA (1g-IV bolus) or placebo at the start and end of surgery. The primary composite efficacy outcome included life-threatening bleeding, major bleeding, and bleeding into a critical organ at 30 days. The primary safety outcome was myocardial injury after non-cardiac surgery, non-hemorrhagic stroke, peripheral arterial thrombosis, and symptomatic proximal venous thromboembolism at 30 days.

RESULTS: 9535 patients were included (TXA n=4757 and placebo n=4778). TXA had a significant decrease in composite of bleeding events 433 patients (9.1%) vs 561 patients (11.7%) in the placebo group (-2.6 percentage points; hazard ratio [HR], 0.76; P<0.001 for superiority). Composite cardiovascular outcome events occurred in 649 patients (14.2%) given TXA compared to 639 patients (13.9%) given placebo (HR, 1.02; absolute difference, 0.3 percentage points; one-sided p=0.04 for non-inferiority). The findings did not establish the non-inferiority of tranexamic acid for the primary safety outcome.

CONCLUSIONS: TXA significantly reduces the primary composite bleeding outcome in patients undergoing noncardiac surgery vs placebo. Although TXA did not increase the risk of composite vascular outcome, the non-inferiority of TXA for the primary safety outcome was not established.

POISE-3 BLOOD PRESSURE CONTROL

Seleen Cheah

Hospital Sultanah Nora Ismail, Johor, Malaysia

BACKGROUND: Optimal perioperative blood pressure management and antihypertensive medications management before and after surgery remained unclear in patients undergoing noncardiac surgery.

METHODS: This trial used partial 2x2 factorial design of hypotension-avoidance versus hypertension-avoidance strategy (reported here) and tranexamic acid versus placebo. Total of 7490 eligible patients across 110 centres in 22 countries were randomized (1:1) through a central computerized system. Patients in hypotension-avoidance strategy were instructed to withhold renin-angiotensin-aldosterone system inhibitors; other usual antihypertensive medications were received in a stepwise manner before and for 2 days after surgery when systolic blood pressures ≥ 130 mmHg; intraoperative mean arterial pressure (MAP) target was ≥ 80 mmHg. Patients in hypertension-avoidance strategy were to continue all antihypertensive medications before and after surgery; intraoperative MAP target was ≥ 60 mmHg. Major vascular complication, a composite of vascular death, nonfatal myocardial injury after noncardiac surgery, stroke, and cardiac arrest at 30 days, was the primary outcome.

FINDINGS: The primary outcome occurred in 13.9% of the patients (520 of 3742) in the hypotension-avoidance group and in 14% of the patients (524 of 3748) in the hypertension-avoidance group; hazard ratio (HR) of 0.99; 95% confidence interval (CI) of 0.88 to 1.12; p value 0.92. There was no difference in other clinical outcomes between the 2 groups. Results on the main outcome were consistent for patients who chronically used 1 (HR 1.02; 95% CI 0.82-1.26) or > 1 (HR 0.97; 95% CI 0.84-1.13) antihypertensive medications.

INTERPRETATION: No difference in 30-day major vascular complications between perioperative hypotension-avoidance and hypertension-avoidance strategies in patients undergoing noncardiac surgery.

HIP ATTACK

Chaw Sook Hui

Universiti Malaya, Kuala Lumpur, Malaysia

The HIP ATTACK trial assessed whether accelerated surgery could reduce mortality and major complications in patients with a hip fracture. HIP ATTACK was an international, randomised, controlled trial done at 69 hospitals across 17 countries. Patients with a hip fracture that required surgery and were aged 45 years or older fulfilled the eligibility criteria. Patients were randomly assigned through a central computerised randomisation system to either accelerated surgery (goal of surgery within 6 h of diagnosis) or standard care. The primary outcomes were 90-days mortality and a composite of major complications. Data were analysed according to the intention-to-treat principle. Between March 14, 2014, and May 24, 2019, 2970 participants were enrolled and randomly assigned to receive either accelerated surgery (n=1487) or standard care (n=1483). The median time from hip fracture diagnosis to surgery was 6 h (IQR 4-9) in the accelerated-surgery group and 24 h (10-42) in the standard-care group (p<0.0001). 140 (9%) in accelerated surgery group and 154 (10%) in standard care group died, with a hazard ratio (HR) of 0.91 (95% CI 0.72 to 1.14) and absolute risk reduction (ARR) of 1% (-1 to 3; p=0.40). Major complications occurred in 321 (22%) patients in the accelerated surgery group and 331 (22%) in the standard care group, with an HR of 0.97 (0.83 to 1.13) and an ARR of 1% (-2 to 4; p=0.71). Among patients with a hip fracture, accelerated surgery did not significantly lower the risk of mortality or a composite of major complications compared with standard care.

AGGRESSIVE INTRAOPERATIVE WARMING VERSUS ROUTINE THERMAL MANAGEMENT DURING NON-CARDIAC SURGERY - THE PROTECT TRIAL

Matthew Chan

The Chinese University of Hong Kong, Hong Kong

Moderate intraoperative hypothermia promotes myocardial injury, surgical site infections, and blood loss. Whether aggressive warming to a truly normothermic temperature near 37°C improves outcomes remains unknown. The PROTECT trial, is a multi-centre trial aimed to test the hypothesis that aggressive intraoperative warming reduces major perioperative complications. In this parallel group, superiority trial, patients (aged ≥ 45 years), had at least one cardiovascular risk factor, were scheduled for inpatient noncardiac surgery expected to last 2-6 h with general anaesthesia, were randomly assigned to receive either aggressive warming to a target core temperature of 37°C (aggressively warmed group) or routine thermal management to a target of 35.5°C (routine thermal management group). A total of 5,056 participants were enrolled, of whom 5,013 were included in the intention-to-treat population. At least one of the primary outcome components (myocardial injury after non-cardiac surgery, cardiac arrest, or mortality) occurred in 246 (9.9%) of 2497 patients in the aggressively warmed group and in 239 (9.6%) of 2490 patients in the routine thermal management group. In conclusion, the incidence of a 30-day composite of major cardiovascular outcomes did not differ significantly in patients randomised to 35.5°C and to 37°C. At least over a 1.5°C range from very mild hypothermia to full normothermia, there was no evidence that any substantive outcome varied. Keeping core temperature at least 35.5°C in surgical patients appears sufficient.

This study is registered with ClinicalTrials.gov, NCT03111875.

INNOVATIVE EDUCATION TOOLS IN PAIN MANAGEMENT

Mary Suma Cardosa

Hospital Selayang, Selangor, Malaysia

Pain Education is an important tool in improving pain management and has been recognised as one of the priorities for the International Association for the Study of Pain (IASP), with 2018 being designated as the Year for Excellence in Pain Education, with emphasis on bridging the gap between knowledge and practice. There is much that we know about pain and pain management and in order to translate this into better pain care, we need to have innovative educational programs for healthcare providers to recognise, assess and treat pain appropriately.

This talk will focus on innovative education initiatives worldwide, focusing on those that have been targeted at Lower and Middle Income Countries (LMICs), particularly in Southeast Asia. These include the Essential Pain Management program (EPM), the IASP Pain Management Camps and the IASP Multidisciplinary Pain Toolkit project. I will describe the different approaches to pain education which focuses not only on transfer of knowledge but also of skills to healthcare professionals from multidisciplinary backgrounds in LMICs. All our education programs promote a bios-psychosocial understanding of pain, and a multimodal, interdisciplinary approach to pain management.

The COVID-19 global pandemic has changed the method of education in the world, and this has included pain education. The transition from in-person to virtual education program has posed challenges but has also resulted in the development of teaching methods which can now reach a wider audience at lower cost.

CLINICAL HYPNOSIS AS AN ADJUNCT IN PAIN MANAGEMENT

Anand Chandrasegaran

Columbia Asia Klang Hospital, Selangor, Malaysia

This talk is about exploring clinical hypnosis in pain management. The practice of hypnosis in perioperative medicine has been extensively studied and published in many international clinical papers. I will be sharing experiences of hypnosis in pain management. I will be sharing videos on some strategies used in some surgeries, venepuncture and induction method that is used, which called as physiological ideodynamic induction. This talk will also include the neurophysiological basis of hypnosis in managing patient's pain and anxiety. This talk focuses at clinical applications of hypnosis as an adjunct in pain management.

INTERVENTIONS IN ACUTE PAIN MANAGEMENT

Law Yen Shuang

Hospital Sultan Ismail Johor Bahru, Johor, Malaysia

Interventions used in acute pain management is ever progressing with new techniques introduced or even old techniques revisited or modified. Advances in regional anaesthesia and the ubiquity of ultrasound have advanced acute pain management to a different level. Some of these techniques were adopted from chronic pain management strategies, namely genicular nerves block for knee surgeries, which was originally used for knee denervation in chronic knee pain. For thoracic and abdominal surgeries, the advent of interfascial plane blocks like PECS 1 & PECS 2, serratus anterior plane block and erector spinae plane (ESP) block have gained much popularity due to their efficacy in pain reduction and considerable safety profile. Understanding the limitations of these plane blocks is important as results may not be as consistent as compared to traditional central neuraxial blocks like thoracic or lumbar epidural analgesia. As for surgeries on extremities, the interventions are directed not just for good sensory blockade but also to prevent motor weakness post operatively, which can potentially limit rehabilitation. An example is the use of pericapsular nerve group (PENG) block for hip fracture surgeries. Interventions planned should be individualized and procedure specific. Incorporating psychological interventions like cognitive behavioural therapy during the perioperative period have also shown to improve patient's outcome post operatively in terms of pain and function.

MSA AWARD / MSA YIA AWARDS

- ID 031 A PILOT STUDY COMPARING SUCCESSFUL INTUBATION USING APA™ VIDEO LARYNGOSCOPE AND GLIDESCOPE IN PATIENTS WITH ANTICIPATED DIFFICULT AIRWAY BY ANAESTHETISTS**
C L Wong, L W Luah, T B K Eric
Hospital Pulau Pinang, Pulau Pinang, Malaysia
- ID 034 DEVELOPMENT AND VALIDATION OF CREATININE-BASED ESTIMATES OF THE GLOMERULAR FILTRATION RATE EQUATION FROM CHROMIUM EDTA IMAGING IN THE MULTI-RACIAL MALAYSIAN POPULATION**
Chee Rong James Wong¹, Ina Ismiarti Shariffuddin¹, Azrina Md Ralib², Sook Hui Chaw¹, Wai Yee Chan³, Fatimah Dzaharudin⁴, Nicetha Lily¹, Kevin Ng W S¹
¹*Department of Anaesthesiology, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia*
²*Department of Anaesthesiology and Intensive Care, Kulliyah of Medicine, International Islamic University Malaysia, Pahang, Malaysia*
³*Department of Biomedical Imaging, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia*
⁴*Department of Mechanical Engineering Kulliyah of Engineering, International Islamic University Malaysia, Selangor, Malaysia*
- ID 044 ULTRASONOGRAPHY ASSESSMENT OF NECK ANATOMY FOR PREDICTION OF DIFFICULT MASK VENTILATION IN OBESE PATIENTS**
Ignatius Wong Hsun-Hong¹, Raha Abdul Rahman¹, Muhammad Maaya¹, Siti Nidzwani Mohamad Mahdi¹, Azlina Mazdar¹, Aliza Mohamad Yusof¹, Nur Yazmin Yaacob², Azarinah Izaham¹
¹*Department of Anaesthesiology and Intensive Care, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia*
²*Department of Radiology, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia*
- ID 045 ULTRASOUND-GUIDED QUADRATUS LUMBORUM BLOCK FOR POSTOPERATIVE ANALGESIA IN PAEDIATRIC SURGICAL PATIENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS**
Mayura H Damanhuri, Ina I Shariffuddin, Huey Nee Ng, Ka Ting Ng, Sook Hui Chaw
Universiti Malaya, Kuala Lumpur, Malaysia
- ID 063 EVALUATION OF THE CLINICAL FRAILTY SCALE IN PREDICTING POSTOPERATIVE ADVERSE OUTCOMES: A PROSPECTIVE STUDY**
Kevin Tan Teck Meng, Azarinah Izaham, Joanna Ooi Su Min, Jaafar Md Zain, Cheah Saw Kian, Muhammad Maaya
Department of Anaesthesiology & Intensive Care, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia
- ID 067 IMPLEMENTATION OF BUNDLE OF PRE-OPERATIVE ANAESTHETIC CARE IN IMPROVING ITS EFFICIENCY AND QUALITY OF PATIENT CARE**
Janice T M Goh, Woon L Lim, Sook H Chaw, Mohd F Z Abidin, Siti N Yunus, Wei K Tan, Carolyn C W Yim, Alvin J H Foo, Mohd N M Zaki, Ummu Y Hamid, Nurulain A Rahman
Universiti Malaya, Kuala Lumpur, Malaysia
- ID 078 SURGICAL WAITING LIST AND SLOT ASSIGNMENT: ENSURING FEASIBILITY OF SCHEDULING USING SATURATION DEGREE METHOD**
Mohamad Khairulamirin Md Razali¹, Abdul Hadi Abd Rahman², Masri Ayob², Razman Jarmin³, Liu Chian Yong⁴, Muhammad Maaya⁴, Azarinah Izaham⁴, Raha Abdul Rahman⁴
¹*Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia, Selangor, Malaysia*
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LIST OF BEST E-POSTER (RESEARCH CATEGORY) PRESENTATIONS

- ID 022 EVALUATING THE RELIABILITY OF ACTA-PORT SCORE AS A PERIOPERATIVE BLOOD TRANSFUSION RISK PREDICTION TOOL FOR PATIENTS UNDERGOING CARDIAC SURGERY IN UNIVERSITI KEBANGSAAN MALAYSIA MEDICAL CENTRE**
W H Sahabudeen, O S M Joanna
Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia
- ID 027 PREVENTION OF SHIVERING POST SUBARACHNOID BLOCK: COMPARISON BETWEEN DIFFERENT DOSES OF INTRAVENOUS MAGNESIUM SULPHATE**
R G Low, A Izaham, J Md Zain, N Md Nor, H J Low, A M Yusof
Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia
- ID 028 EFFECT OF EARLY HYPEROXIA IN CRITICALLY ILL AND NON-CRITICALLY ILL PATIENTS IN A TERTIARY HOSPITAL: A RETROSPECTIVE STUDY**
Kauthar Md Rashid, Wan Rahiza Wan Mat, Ahmad Fairuz Abdul Shokri, Cheah Saw Kian, Jaafar Md Zain
Hospital Counselor Tuanku Muhriz, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia
- ID 029 A COMPARISON OF SYSTEMATIC VERSUS SUBDERMAL SURGICAL SITE INFILTRATION AFTER ABDOMINAL HYSTERECTOMY: A RANDOMISED CONTROLLED TRIAL**
Haridass Gunasegaran¹, Wan Rahiza Wan Mat¹, Chew Kah Teik², Omar Sulaiman³
¹*Department of Anaesthesiology and Intensive Care, Hospital Counselor Tuanku Muhriz, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia*
²*Department of Obstetrics and Gynaecology, Hospital Counselor Tuanku Muhriz, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia*
³*Department of Anaesthesia and Intensive Care, Hospital Sultanah Aminah, Johor Bharu, Johor, Malaysia*
- ID 051 A RANDOMIZED CONTROLLED TRIAL COMPARING FULL GLOTTIS VIEW VS. PARTIAL GLOTTIS VIEW DURING INTUBATION USING CMAC D-BLADE VIDEOLARYNGOSCOPE IN SIMULATED CERVICAL INJURY PATIENT**
S Y Ong, C C Cheong, S H Chaw, S M Lim, W A Wan Zakaria, N A Mohd Omar
Universiti Malaya, Kuala Lumpur, Malaysia
- ID 059 SINGLE DOSE INTRAVENOUS IRON ISOMALTOSIDE VS ORAL IRON MONOTHERAPY IN PATIENTS WITH ANAEMIA AFTER POSTPARTUM HAEMORRHAGE**
Ainina Zulkeplee¹, Carolyn Yim C W¹, Intan Syafiqah Ikram Shah¹, Doris Ng S W², Aizura Syafinaz Ahmad Adlan²
¹*Department of Anaesthesiology, Universiti Malaya, Kuala Lumpur, Malaysia*
²*Department of Obstetrics & Gynaecology, Universiti Malaya, Kuala Lumpur, Malaysia*
- ID 062 ASSESSMENT OF THE QUALITY OF CHEST COMPRESSIONS ON MANIKIN WITH AND WITHOUT AUDIO-VISUAL FEEDBACK AMONG ANAESTHETIC TRAINEES WORKING IN THE INTENSIVE CARE UNIT**
Tan Eng Thye, Raha Abdul Rahman, Jaafar Md Zain, Maryam Budiman, Siti Nidzwani Mohamad Mahdi, Joanna Ooi Su Min, Muhammad Maaya
Department of Anaesthesiology & Intensive Care, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia
- ID 065 PROGNOSTIC UTILITY OF MONOCYTE DISTRIBUTION WIDTH IN CRITICALLY ILL PATIENTS**
Soo Ki Yang¹, Nurfariza Ramly¹, Azrina Md Ralib¹, Jerry Liew Ee Siung², Norlelawati A Talib³, Mohd Basri Mat Nor¹
¹*Department of Anaesthesiology and Intensive Care, Kulliyah of Medicine, International Islamic University Malaysia, Pahang, Malaysia*
²*Department of Pharmacy, Hospital Queen Elizabeth, Kota Kinabalu, Sabah, Malaysia*
³*Department of Pathology and Laboratory Medicine, Kulliyah of Medicine, International Islamic University Malaysia, Pahang, Malaysia*

LIST OF BEST E-POSTER (RESEARCH CATEGORY) PRESENTATIONS

**ID 070 A SURVEY OF STRESS LEVELS, STRESSORS AND COPING MECHANISMS AMONGST
POSTGRADUATE ANESTHESIA TRAINEES**

Nur Fazlina Zainudin¹, Nadia Md Nor², Yeoh Chih Nie², Syarifah Noor Nazihah Sayed Masri², Qurratu'Aini Mustafa², Raha Abdul Rahman², Azarinah Izaham²

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LIST OF E-POSTER (CASE REPORT OR SERIES) PRESENTATIONS

- ID 004 CASE REPORT: HYPNOSIS AS A NON-PHARMACOLOGICAL APPROACH FOR CONSCIOUS SEDATION DURING AN ANGIOPLASTY PROCEDURE**
Anand Chandrasegaran, Shahrul Zuraidi Bin Idris
Columbia Asia Hospital - Klang, Selangor, Malaysia
- ID 011 CASE REPORT: CONGENITAL APLASIA OF LEFT LUNG**
B J Ng, S C Teo
Sarawak General Hospital, Sarawak, Malaysia
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²*Sultan Ahmad Shah Medical Centre @ IIUM, Department of Anesthesiology and Intensive Care, International Islamic University Malaysia, Pahang, Malaysia*
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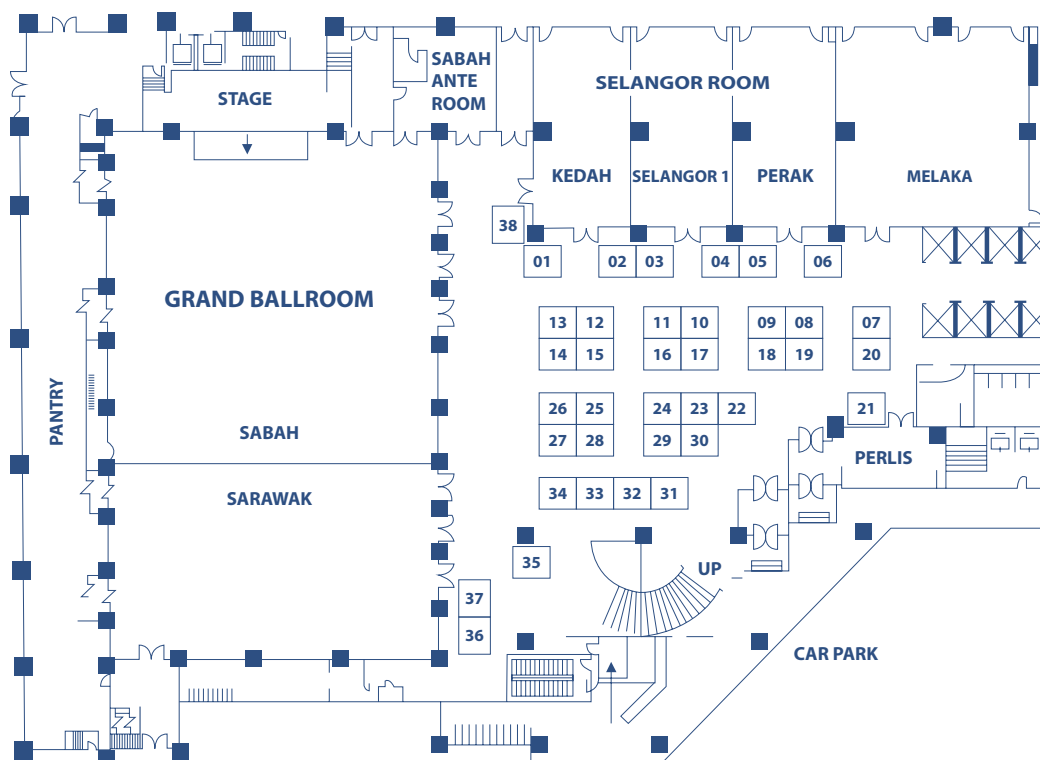
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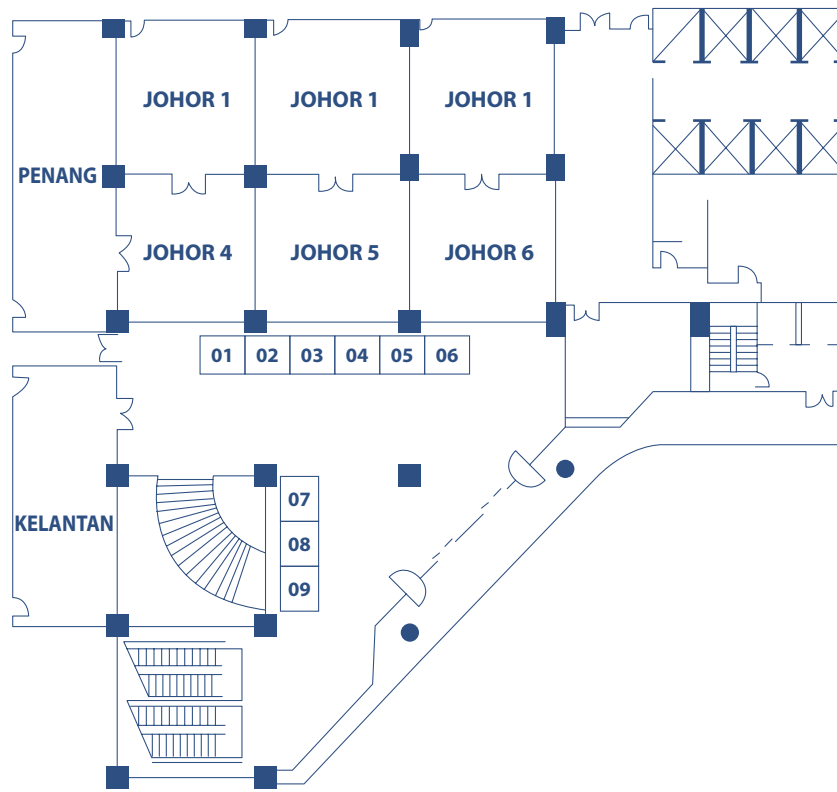
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