

# EBPOM-ASIA 2022

Evidence-Based Perioperative Medicine (Asia)

9 - 11 December 2022, Singapore

[www.ebpomasia.org](http://www.ebpomasia.org)

23<sup>RD</sup> GENERAL SCIENTIFIC MEETING OF  
SINGAPORE SOCIETY OF ANAESTHESIOLOGISTS  
General Scientific Meetings of  
Society for Geriatric Medicine (Singapore)  
Geriatric Surgery Society of Singapore

*Mastering Perioperative Resilience*

# Programme cum Abstract Book

Organised by:



International Collaborators:



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# WELCOME MESSAGE

On behalf of the Organising Committee, we are delighted to extend our warmest welcome to Singapore and the second iteration of the Evidence-Based Perioperative Medicine - Asia Congress 2022 (EBPOM-Asia 2022).

Under the theme Mastering Perioperative Resilience, EBPOM-Asia 2022 aims to inspire you with eminent personalities and experts from far and near, discussing innovative and evidence-based strategies to improve our care for patients undergoing surgery.

This second iteration of EBPOM-Asia is jointly organised by our three local societies (Singapore Society of Anaesthesiologists, the Society for Geriatric Medicine of Singapore and the Geriatric Surgery Society of Singapore) in collaboration with EBPOM International and ANZCA Perioperative Medicine SIG.

This collaboration enables EBPOM-Asia 2022 to feature and network with internationally renowned clinicians and researchers who have agreed to share their expertise generously and discuss and debate new developments and controversial topics that impact our daily practice. During the conference, there is a platform for participants to share their research abstracts on any topic pertinent to perioperative care.

We would also like to take this opportunity to extend our thanks to the 118 invited faculty speakers and moderators and our industry partners who have helped make this Congress possible. Special thanks also to EBPOM International and ANZCA Perioperative Medicine SIG, who have played a big part in assembling the best international and regional talent for this Congress.

Most importantly, we would like to thank you for joining EBPOM-Asia 2022, and we wish you a rewarding time during your stay in Singapore and at the Congress!



**A/Prof Hairil Rizal Abdullah**  
*Organising Chair  
EBPOM-Asia 2022*



**A/Prof Tan Kok Yang**  
*Co-Chairperson  
Local Organising Committee*



**A/Prof Edwin Seet**  
*Co-Chairperson  
Local Organising Committee*



**Dr Matthew Chen Zhixuan**  
*Co-Chairperson  
Local Organising Committee*

*President  
Geriatric Surgery of Singapore*

*President  
Society for Geriatric Medicine of  
Singapore*

# GENERAL CONGRESS INFORMATION

## e-PROGRAMME CUM ABSTRACT BOOK

The e-Programme cum Abstract book will be available for viewing/downloading from the Congress Website from Friday, 9 December 2022.

## CONGRESS VENUE

The EBPOM-Asia 2022 will be held at the NTUC Centre @ One Marina Boulevard  
Level 7, One Marina Boulevard  
Singapore 018989  
(Located between OUE Bayfront @ Collyer Quay and One Raffles Quay)

[Direction](#) to NTUC Centre @ One Marina Boulevard

## CONGRESS SECRETARIAT ROOM

Meeting Room 702, Level 7, NTUC Centre @ One Marina Boulevard.

Operating Hours:

Day	Date	Time
Friday	9 December 2022	3:00 pm – 8:00 pm
Saturday	10 December 2022	7:30 am – 6:00 pm
Sunday	11 December 2022	7:00 am – 5:00 pm

## REGISTRATION AND INFORMATION DESK

The Registration Desk is located at the Level 7 Foyer, NTUC Centre @ One Marina Boulevard.

Operating Hours:

Day	Date	Time
Friday	9 December 2022	3:00 pm – 8:00 pm
Saturday	10 December 2022	7:30 am – 5:00 pm
Sunday	11 December 2022	7:30 am – 12:00 pm

## BADGES

Please note that delegates are required to wear their congress name badges at all times at NTUC Centre @ One Marina Boulevard. Access to all rooms will be monitored. Name badges are not transferable. The Organiser reserves the right to request proof of identity.

Should you lose your badge, please proceed to the Registration Counter at Level 7 Foyer, NTUC Centre @ One Marina Boulevard for a replacement badge. Each replacement badge will cost **SGD 50.00+ GST**.

## BADGE SCANNING PRIVACY POLICY

You understand that by allowing your badge to be scanned during the Congress, you are giving consent to share your personal data with the sponsors and exhibitors, allowing them to contact you about their products or services and any information collected may be shared outside of Singapore for the same purposes.

The Congress Organisers, Congress Management Company and their partners will not be held responsible should the information collected be misused for other purposes by the sponsors and exhibitors.

# GENERAL CONGRESS INFORMATION

## EXHIBITIONS

The Exhibition will be located in Room 701 and the Mezzanine Area, Level 7 NTUC Centre @ One Marina Boulevard.

Operating Hours:

Day	Date	Time
Saturday	10 December 2022	8:30 am – 6:00 pm
Sunday	11 December 2022	8:30 am – 4:45 pm

## CATERING

The following items will be served in the Exhibition Area (Room 701 and the Mezzanine Area):

Break	Item	Time
AM Break	Tea / Coffee with Snack items	Refer to <a href="#">Programme</a>
Lunch	Bento Box Lunch	
PM Break	Fruits, water, Tea and Coffee	

## ROOM CAPACITIES

We make every effort to ensure the room size is appropriate for the session based on the information provided to us by delegates when they registered for the Congress.

We regret we cannot guarantee availability in any particular session, although we do our best to avoid disappointment. We apologise in advance if you are not able to attend a session because a room is full. With this in mind, we encourage you to arrive promptly at your chosen session to ensure you have a seat.

## OPENING CEREMONY

<b>Venue</b>	: Stephen Riady Auditorium, Level 7, NTUC Centre @ One Marina Boulevard
<b>Day/ Date/ Time</b>	: Saturday, 10 December 2022, 9:00 am – 9:15 am
<b>Dress Code</b>	: Business Professional

*Open to all registered participants, including sponsors and exhibitors*

## WIFI

WiFi is available at the NTUC Centre @ One Marina Boulevard

INTERNET SSID: NTUC Public

SSID Password: iloventuc

## SOCIAL MEDIA

Join the conversation using the hashtag #EbpomAsia2022

You can post to social media. Link your account in the settings on the App and then click on the social media item icon.

## CERTIFICATE OF ATTENDANCE

Within one month after the Congress, you will receive an email with a link for you to download your certificate of attendance.

## CME ACCREDITATION

EBPOM-Asia 2022 is recognised by the Singapore Medical Council as a Continuing Medical Education programme (CME) and by the Singapore Nursing Board as a Continuing Professional Education (CPE). All fully and conditionally registered Doctors and Nurses in Singapore can sign up for their CME / CNE Points, respectively.

To sign-up for CME / CNE points on each day of participation, you are required to manually sign in and out at the Registration Collection Counter as follows:

### 10 Dec 2022

Morning Session : By 1:30pm

Afternoon Session: By 6:00pm

### 11 Dec 2022

Morning Session : By 12:15pm

Afternoon Session: By 4:45pm

# GENERAL CONGRESS INFORMATION

## LANGUAGE

The official language of the congress is English. There will be no simultaneous interpretation.

## PHOTOGRAPHY

Please note that there will be general photo-taking and recording during the Congress event programme, which may be used for publicity and/or public education purposes. If you do not wish to be included in any shots or footage, please advise the photographer and the videographer.

## ACCOMMODATION

If you have any queries with your accommodation (booked through Conference Secretariat & Housing Bureau), kindly proceed to the Secretariat Room located at Room 702.

## LOST AND FOUND

For information on any lost and found property, please check with the Registration Counter.

## MESSAGE / HELP DESK

For information on any lost and found property, please proceed to the information counter located at Registration. You may leave and/or pick up your message there.

## MOBILE PHONES

Delegates are requested to turn their mobile phones or devices to silent when entering sessions.

## SELF-PARK CAR PARKING

Parking is available at NTUC Centre @ One Marina Boulevard and at buildings located nearby the Centre.

Click [here](#) for parking prices and locations.

## SMOKING

The NTUC Centre @ One Marina Boulevard is a non-smoking venue. There are designated smoking areas outside the building.

## INSURANCE

The Organisers are unable to accept any responsibility for damage or loss of personal property during the congress. All participants must purchase their own travel insurance that covers medical bills and personal belongings.

## LATEST INFORMATION ON SAFE TRAVEL ARRANGEMENTS

For the latest information on Safe Travel arrangements for arrival, transit or departure, click on this link:

<https://safetravel.ica.gov.sg/>

or

Travelling to Singapore: Checklists and Entry Requirements <https://safetravel.ica.gov.sg/arriving/overview#checklist>

## CURRENCY

The Singapore dollar (SGD) is the official currency of Singapore. An online converter is available at [www.xe.com](http://www.xe.com)

# GENERAL CONGRESS INFORMATION

## VAT/TAX REFUNDS ON DEPARTURE

As a tourist in Singapore, if you purchase more than SGD 100 (including GST) at participating shops, you may claim a refund on your purchases of 7% Goods and Services Tax (GST).

You are entitled to up to 3 same-day receipts/invoices from shops bearing the same GST registration number to meet this minimum purchase amount of SGD 100. To know whether a shop is participating in the Tourist Refund Scheme (TRS), look for a "Tax-Free" shopping logo or sign displayed at the shop. You can also check with the retailer whether your purchases are eligible for a GST refund.

Original tax invoices, foreign passport, plus all the items on which a refund is claimed, must be presented at the VAT Refund Administration Office or an appointed RSA Customs and Excise Official from the airport on departure.

## DISCLAIMER

The information and content provided in this e-Programme cum Abstract Book are intended purely as a guideline and service for participants and visitors to EBPOM-ASIA 2022. The information may change at any time and without notice. The organisers and the Congress Management Company accept no responsibility or liability whatsoever related to this publication.

# SCIENTIFIC INFORMATION

## SPEAKERS' PREVIEW ROOM

Room 703, Level 7, NTUC Centre @ One Marina Boulevard

**Registration of Speakers and Chairpersons will be at the Speakers' Preview Room.**

### **Speakers and Oral Presenters:**

- Please proceed to the speakers' Preview Room to collect your Congress Badge the day before your scheduled presentation.
- Please ensure that your presentations are uploaded in the speakers' preview room **at least 4-hours before the start of your session.**
- If your PowerPoint presentation contains a video, you must submit a copy of that video in MP4 format to the Speakers' Preview Room.
- All PowerPoint presentations or videos must be in the 16:9 ratio format
- Changes to your slides can be made in the Speakers' Preview Room at the following times:

Operating Hours:

Day	Date	Time
Friday	9 December 2022	2:00 pm – 6:30 pm
Saturday	10 December 2022	7:00 am – 6:00 pm
Sunday	11 December 2022	7:00 am – 1:30 pm

# SCIENTIFIC INFORMATION

- Speakers should report to their presentation room at least 30 minutes before the start of the session to meet the session chairpersons, and familiarise themselves with the audio-visual equipment and venue layout.
- A preview monitor will be provided and placed on the floor in front of the stage. A wireless remote laser pointer and slide progressor will enable you to either advance or return to your previous slide(s). The forward and return keys will be indicated on the remote.
- No PPT footnotes will be visible during your presentation from the preview monitor.
- Speakers are required to strictly adhere to the allocated presentation time allowance.
- PLEASE NOTE: Session chairs will adhere to the allocated presentation time allowance strictly allocated.
- All speakers must declare their interests on the second slide of their presentation.
- If you have no declarations of interest, please state 'declaration of interests – none'.

## **Session Chairpersons:**

- Proceed to the Speakers' Preview Room to collect the bios of the presenting speakers in your session **at least 1 hour before the start of your session.**
- Be at the venue of your session at least 30 minutes before the session starts. The room manager will introduce the presenting speakers to you.

## **ORAL PRESENTATION**

Each presenter is allowed a maximum of 8 minutes for oral presentation followed by 2 minutes for questions & answers. All presenters should familiarise themselves with the date, time and venue of their sessions and report to their presentation room at least 30 minutes before the start of the session.

Please refer to Page 14 for more details.

## **POSTER DISPLAY**

Posters will be displayed at the Level 8 Foyer, NTUC Centre @ One Marina Boulevard.

Please refer to page 23 for more details.



# CONGRESS FLOORPLAN

## LEVEL 7



- Rm 701, Mezzanine Floor: Exhibition, Tea and Lunch Area
- 703 Speakers Preview Room
- Registration Counter
- 702 Congress Secretariat Room
- Aud Auditorium (Track A)

## LEVEL 8



- 801 Rm 801 (Track B)
- Aud Auditorium (Track A)
- PD Level 8 Foyer: Poster Display/Area



## LEVEL 9



- 903 Rm 903 (Track C)

# PROGRAMME AT A GLANCE

## Day 1: 10 December 2022

TIME	PROGRAMME		
0730 - 1700	Registration		
0900 - 0915	Opening Ceremony		
0915 - 1000	<b>Plenary 1 (Auditorium)</b> Moderator: A/Prof Edwin SEET <b>Picking Up the Pieces - Now is the Time for Perioperative Care</b> Prof Ramani MOONESINGHE <i>University of College London, United Kingdom</i>		
1000 - 1030	Tea Break		
1030 - 1200	<b>Track A (Auditorium)</b>  <b>Symposium 1: Contemporary Perioperative Concepts (I)</b>  Moderators: Dr Desmond, HO / Dr Vanessa BEAVIS  <b>Perioperative Anaemia - What When How? or Where Are We Now?</b> Prof Toby RICHARDS <i>University of Western Australia, Australia</i>  <b>Intraoperative Hypotension - We Must Address Volume, Flow and Pressure</b> Prof Monty MYTHEN <i>University College London, EBPO International, United Kingdom</i>  <b>Drinking, Eating, Mobilising (DrEaMing) After Surgery and Why This is the New Enhanced Recovery</b> Prof Ramani MOONESINGHE <i>University College London, United Kingdom</i>  <b>Supported by:</b>  	<b>TRACK B (Rm 801)</b>  <b>Symposium 2: Cardiac Anaesthesia Symposium</b>  Moderators: A/Prof Lian Kah, TI / Prof Nian Chih, HWANG  <b>Welcome and Introduction</b> A/Prof Lian Kah, TI & Prof Nian Chih, HWANG <i>Singapore General Hospital, Singapore</i>  <b>The Nuts and Bolts of Cardiac ERAS (Virtual)</b> A/Prof Michael GRANT <i>The Johns Hopkins University School of Medicine, USA</i>  <b>Blocks for Cardiac Surgery</b> Dr Xin Fang, LEONG <i>Singapore General Hospital, Singapore</i>  <b>Should We Be Doing Blocks in Cardiac Surgery? (Virtual)</b> A/Prof Michael GRANT <i>The Johns Hopkins University School of Medicine, USA</i>  <b>Anaesthesia For Minimally Invasive Cardiac Surgery</b> A/Prof Lian Kah, TI <i>National University Hospital, Singapore</i>  <b>Panel Discussion</b> A/Prof Michael GRANT A/Prof Lian Kah, TI Prof Nian Chih, HWANG	<b>TRACK C (Rm 903)</b>  <b>Symposium 3: Postoperative Cognitive Dysfunction &amp; Delirium</b>  Moderators: Dr Geraldine CHEONG / Dr Selva NATESAN  <b>Dementia and Cataract Surgery in the Older Patient</b> Prof Chandra KUMAR <i>University of Newcastle, United Kingdom</i>  <b>Neurocognitive Considerations in Our Geriatric Surgery Services in KTPH</b> Dr Priscilla NG <i>Khoo Teck Puat Hospital, Singapore</i>  <b>Delirium in ICU</b> Dr Jiayan, WEE <i>Tan Tock Seng Hospital, Singapore</i>  <b>Perioperative Cognitive Trajectory</b> Prof David SCOTT <i>University of Melbourne, Australia</i>
	1200 - 1330	<b>Symposium 6: Sarcopenia</b>  Moderators: Dr Jia Xin, CHAI / Dr Finn M. RADTKE  <b>Sarcopenia and Surgery Pt 1 (Elective)</b> Dr Frederick KOH <i>Sengkang General Hospital, Singapore</i>  <b>Sarcopenia and Cancer</b> Prof Hanoch KASHTAN <i>The Israeli Society of Geriatric Surgery</i>  <b>Sarcopenia and Surgery Pt 2 (Emergency)</b> Dr Daniel LEE <i>Khoo Teck Puat Hospital, Singapore</i>  <b>Perioperative Nutritional Support for Sarcopenic Patients</b> Ms Hui Bing, LEE <i>Sengkang General Hospital, Singapore</i> <b>Supported by:</b>  	<b>Symposium 4: Innovation and Surgery</b>  Moderator: Dr Pramit KHETRAPAL  <b>3Es' in Use of Technology in Care for Patients and Carers</b> APN Yu Jing, ONG <i>Khoo Teck Puat Hospital, Singapore</i>  <b>Telemedicine for Perioperative Care</b> Dr Wan Yen, LIM <i>Sengkang General Hospital, Singapore</i>  <b>Use of Holomedicine in Surgery</b> Dr Yu Jia, GAO <i>National University Hospital, Singapore</i>  <b>Medtech Innovation: Experiences &amp; Perspectives from a Surgeon-Innovator</b> Dr Rena DHARMAWAN <i>National Cancer Centre Singapore, Singapore</i>

# PROGRAMME AT A GLANCE

## Day 1: 10 December 2022

TIME	PROGRAMME		
	TRACK C (Auditorium)	TRACK B (Rm 801)	Track A (Rm 903)
1330 - 1445	<p><b>Lunch Break</b></p>	<p><b>Lunch: Panel Discussion</b> Moderator: Dr Daniel LEE <b>(A collaboration with SingSPEN)</b></p> <p>Dr Kwang Yeong, HOW <i>Tan Tock Seng Hospital, Singapore</i></p> <p>Dr Doris NG, <i>Tan Tock Seng Hospital, Singapore</i></p> <p>Ms Emma J OSLAND <i>Royal Brisbane and Women's Hospital, Australia</i></p> <p>Dr Lisa COOPER <i>Rabin Medical Center, Australia</i></p>	<p><b>Lunch Workshop: (Rm 901-902)</b> <b>Stoma Management for the Elderly Stoma Nurses from Singapore</b> APN Yu Jing, ONG, ANC Lynn TAN</p>
1445 - 1615	<p><b>Symposium 8: Advances in Emergency Surgery</b></p>	<p><b>Symposium 7: Education in Perioperative Care</b></p>	<p><b>Symposium 9: Geriatric Mindsets for Surgical Disciplines</b></p>
	<p>Moderators: Dr Prमित KHETRAPAL / Dr Sunder BALASUBRAMANIAM</p> <p><b>A Decade of Emergency General Surgical Care in Australia and New Zealand - What Have We Learned</b> Dr Li HSEE <i>Auckland City Hospital, New Zealand</i></p> <p><b>Emergency Laparotomy- Time to Change System</b> A/Prof Philip IAU <i>Ng Teng Fong General Hospital Singapore</i></p> <p><b>Emergency Surgery- Journey of Continuous Improvement</b> Dr Jerry GOO <i>Khoong Teck Puat Hospital Singapore</i></p> <p><b>Current Status and Future of Acute Care Surgery in Singapore</b> Dr Sachin MATHUR <i>Singapore General Hospital, Singapore</i></p>	<p>Moderators: Dr Geraldine CHEONG / A/Prof Ross KERRIDGE</p> <p><b>Training our Perioperative Workforce</b> Prof David WALKER <i>University College London EBPOM International, United Kingdom</i></p> <p><b>Applying Education Theories in Perioperative Training - The SGH Experience</b> Dr May MOK <i>Singapore General Hospital, Singapore</i></p> <p><b>Surgical Education Using Pedagogy and Technology</b> Dr Clement CHIA <i>Khoong Teck Puat Hospital, Singapore</i></p> <p><b>Perioperative Medicine Qualification in ANZ</b> Dr Joel SYMONS <i>Monash University, EBPOM International, Australia</i></p>	<p>Moderators: Dr Matthew Zhixuan, CHEN / Dr Ming LOH</p> <p><b>Breast Surgery in Older Adults</b> Prof Kwok Leung, CHEUNG <i>University of Nottingham, United Kingdom</i></p> <p><b>Prehabilitation - from Evidence to Implementation</b> Prof Sandy JACK <i>University of Southampton EBPOM International, United Kingdom</i></p> <p><b>The Role of Frailty and Resilience in Surgery</b> Dr Janani THILLAINADESAN <i>The Concord Hospital, Australia</i></p> <p><b>Adopting Interdisciplinary Approach in Our Geriatric Surgical Service: A Person-Centred Care Model</b> Dr Christine CHAU <i>Changi General Hospital, Singapore</i></p>
1615 - 1630	<b>Tea Break</b>		
1630 - 1800	<p><b>Symposium 11: Perioperative Period and the Brain</b></p>	<p><b>Symposium 10: Trainee's Forum: How To Truly Enjoy Residency Training?</b></p>	<p><b>Symposium 12: Airway Management (SSA)</b></p>
	<p>Moderator: Dr Qingyan, CHEN</p> <p><b>Hyperacute Stroke Therapy - A Neurologist Perspective</b> Dr Christopher SEET <i>National Neuroscience Institute, Singapore</i></p> <p><b>Perioperative Brain Health - Introduction to Safe Brain Initiative</b> Dr Finn M. RADTKE <i>Nykøbing F. Hospital, University of Southern Denmark, Denmark</i></p> <p><b>Supported by:</b></p> <p><b>Medtronic</b> Engineering the extraordinary</p> <p><b>Patient Selection and Perioperative Considerations in CEA vs CAS</b> Dr Vincent NG <i>National Neuroscience Institute, Singapore</i></p>	<p>Moderators: Dr Yingke, HE / Dr Shi Hao, CHEW</p> <p><b>Surviving Residency-balancing Work and Family Commitments</b> Dr Malcolm MAK <i>Tan Tock Seng Hospital, Singapore</i></p> <p><b>How to Handle Difficult Times During Training? (burnouts, adverse events and high command seniors etc)</b> Prof Biau Chi, ONG <i>Sengkang General Hospital, Singapore</i></p> <p><b>Debate</b> <b>Pre-Operative Assessment is Better Conducted in the Surgical Rather than Anaesthesia Clinic</b></p> <p>(for more info, refer to next page)</p>	<p>Moderator: A/Prof Edwin SEET</p> <p><b>Help! There's A Tumour In The Airway!</b> Dr Deborah KHOO <i>National University Hospital, Singapore</i></p> <p><b>Airway Guidelines - So Many, Which to Use?</b> Dr Jinbin ZHANG <i>Tan Tock Seng Hospital, Singapore</i></p> <p><b>The Dreaded Last Resort!</b> Dr Ted WONG <i>Singapore General Hospital, Singapore</i></p>
	<b>End of Day</b>		

# PROGRAMME AT A GLANCE

## Day 1: 10 December 2022

### Debate

#### Pre-Operative Assessment is Better Conducted in the Surgical Rather than Anaesthesia Clinic

Moderator: Dr David MATHEW

Khoo Teck Puat Hospital, Singapore

Proposition Team	Opposition Team
Dr Carolyn Balakrishnan National University Hospital	Dr Shen Leong, OH Tan Tock Seng Hospital
Dr KE Yuhe Singapore General Hospital	Dr Reuban D'CRUZ National University Hospital
Dr Si Ying, PANG Tan Tock Seng Hospital	Dr Madeline CHEE Singapore General Hospital

## Day 2: 11 December 2022

TIME	PROGRAMME		
0730 - 1200	Registration		
0900 - 0945	<b>Plenary 2</b> Dr Matthew Zhixuan, CHEN <b>Biological Assessment of Older Surgical Patients</b> Prof Andrea B MAIER National University of Singapore, Singapore		
0945 - 1030	<b>Plenary 3</b> Moderator: A/Prof Kok Yang, TAN <b>Tracking Surgical Quality and Benchmarking</b> Prof Arthur RICHARDSON Westmead Hospital, Australia		
1030 - 1045	Tea Break		
1045 - 1215	<b>TRACK A (Auditorium)</b>  <b>Symposium 15: Contemporary Perioperative Concepts (II) (SSA)</b>  Moderators: Dr Jessica Sixuan, TENG / Dr Finn M RADTKE  <b>Postoperative Acute Kidney Injury is Mostly Iatrogenic</b> Prof Monty MYTHEN University College London, EBPOM Interna- tional, United Kingdom  <b>Assessing Risk in Emergency Laparotomy</b> Dr Dave MURRAY James Cook University Hospital, EBPOM International, United Kingdom  <b>Oxygen Therapy in Perioperative Care</b> Prof Mike GROCOTT University of Southampton, EBPOM International, United Kingdom  <b>Digitalisation of a Preassessment Pathway</b> Dr Melanie TAN University College London Hospitals NHS Foundation Trust, United Kingdom	<b>TRACK B (Rm 801)</b>  <b>Symposium 13: Geriatric Oncology</b>  Moderator: Dr Matthew Zhixuan, CHEN  <b>Geriatric Oncology in Singapore</b> A/Prof Ravindran KANESVARAN National Cancer Centre, Singapore  <b>MILES/Prehab Programme</b> A/Prof Alfred KOW National University Hospital, Singapore  <b>Frailty Assessment and Intervention in Older Patients with Cancer</b> Dr Matthew Zhixuan, CHEN National University Hospital, Singapore  <b>Risk Assessment for Cancer Treatment Related Toxicities in Older Adults</b> Dr Angela PANG OncoCare Cancer Centre, Singapore	<b>TRACK C (Rm 903)</b>  <b>Symposium 14: Caring Perioperative Journey</b>  Moderators: A/Prof Kok Yang, TAN /Dr Jia Xin, CHAI  <b>The Caring Perioperative Journey</b> A/Prof Kok Yang, TAN Khoo Teck Puat Hospital, Singapore  <b>Heightening Care and Trust in Patients</b> Mr João Pärtel ARAÚJO Humanitude, Portugal  <b>Caring for the Challenging Patient</b> APN Jessie TAN Khoo Teck Puat Hospital, Singapore  <b>I Thought I Knew</b> Prof Christopher CHENG Sengkang General Hospital, Singapore
	1215 - 1330	<b>Lunch Symposium: Perioperative Medicine in the Digital Age</b> Moderator: Dr Pramit KHETRAPAL  Prof Ramani MOONESINGHE University of College London, United Kingdom  Dr Samantha WARNAKULASURIYA University of College London Hospitals NHS Foundation Trust, United Kingdom  Ms Dorothea KOH Bot MD, Singapore	Lunch Break

# PROGRAMME AT A GLANCE

## Day 2: 11 December 2022

TIME	PROGRAMME		
	TRACK A (Auditorium)	TRACK B (Rm 801)	TRACK C (Rm 903)
1330 - 1500	<p><b>Symposium 17: Perioperative Care of Acute Surgical Patients</b></p>	<p><b>Symposium 16: Engaging the Patient</b></p>	<p><b>Symposium 18: Transdisciplinary Perioperative Care</b></p>
	<p>Moderators: Prof Hanoch KASHTAN / Dr Jerry GOO</p> <p><b>Advances in Critical Care of Multi-trauma Patients - The Critical First 24-72hr</b> Dr Vui Kian, HO <i>Singapore General Hospital, Singapore</i></p> <p><b>The National Emergency Laparotomy Audit (NELA): 10 Years of Improving Emergency Laparotomy Care</b> Dr Dave MURRAY <i>James Cook University Hospital, EBPOM International, United Kingdom</i></p> <p><b>Advances in the Critical Care of Acute Severe Pancreatitis Patients</b> Dr Sui An, LIE <i>Singapore General Hospital, Singapore</i></p> <p><b>Panel Discussion: Emergency Laparotomy in Geriatric Patients</b> Dr Li HSEE, Dr Vui Kian HO, Dr Jerry GOO, Dr Grace LIM, Dr Dave MURRAY</p>	<p>Moderators: Dr Sujani A WIJERATNE / Dr Finn M RADTKE</p> <p><b>PROMs, PREMs and Value-Driven Care</b> Dr Eng Kok, LIM <i>Singapore General Hospital, Singapore</i></p> <p><b>Shared Decision Making</b> Dr Esther Peiyong, HO <i>Tan Tock Seng Hospital, Singapore</i></p> <p><b>The Patient's Perspective</b> Prof Bernd FROESSLER <i>Adelaide Medical School, Australia</i></p> <p><b>Ethics Behind the Consenting Process</b> Prof Han Yee, NEO <i>Tan Tock Seng Hospital, Singapore</i></p>	<p>Moderators: Dr Priscilla NG / Dr Lisa COOPER</p> <p><b>Surgical Nutrition</b> Ms Emma J OSLAND <i>Royal Brisbane and Women's Hospital, Australia</i></p> <p><b>The Role of Rehabilitation Medicine in a Cancer Prehabilitation Framework</b> Dr Kah Meng, KWOK <i>Changi General Hospital, Singapore</i></p> <p><b>Optimising Nursing Care in Elderly Surgical Patients</b> Ms Jennifer Yuan, LI <i>Tan Tock Seng Hospital, Singapore</i></p> <p><b>Integrating Perioperative Pharmacists to Improve Patient Care</b> Ms Thuy BUI <i>Alfred Health, Australia</i></p>
1500 - 1515	<b>Tea Break</b>		
1515 - 1645	<p><b>Oral Presentations</b></p>	<p><b>Symposium 19: Perioperative and Chronic Pain Management</b></p>	<p><b>Symposium 20: Anaesthesia Trainee Track: Beyond Exams and Future Career Choices</b></p>
	<p>Details in Next page</p>	<p>Moderator: Dr Priscilla NG</p> <p><b>Optimising Pain in Total Knee Replacement for Early Discharge</b> Dr Alvin Chin Kwong, TAN <i>Khoo Teck Puat Hospital, Singapore</i></p> <p><b>Prevention of Chronic Pain and the Importance of Perioperative Interventions</b> Dr Sow Nam, YEO <i>The Pain Specialists, Singapore</i></p> <p><b>Hip Fracture Surgery: Should I Put My Patient to Sleep or Do A Spinal?</b> Dr Prit Anand SINGH <i>Changi General Hospital, Singapore</i></p> <p><b>Management of Chronic Postoperative Pain in the Elderly</b> Dr Chee Seng, YOONG <i>Singapore Paincare Center, Singapore</i></p>	<p>Moderators: Dr Yingke, HE / Dr Sing Ying, PANG</p> <p><b>Career as Clinician vs Clinician Scientist, What are the Considerations and Options?</b> Dr Diana CHAN <i>Singapore General Hospital, Singapore</i></p> <p><b>Considerations in Choosing Different Subspecialties</b> Dr Hilda HU <i>Khoo Teck Puat Hospital, Singapore</i></p> <p><b>Life as Anaesthetists Outside Clinical Work</b> Dr Joanna WONG <i>Homerton University Hospitals NHS Trust, United Kingdom</i></p> <p><b>Q&amp;A</b> Dr Diana CHAN Dr Hilda HU</p>
1645 - 1655	<b>Closing</b>		

# ORAL PRESENTATION LISTINGS

Venue : Track A (Auditorium)  
 Date : Sunday, 11 December 2022  
 Time : 3:15 pm – 4:45 pm  
 Moderator : A/Prof Sofia CHEW

Abstract No	Presenting Author	Country	Abstract Title
<b>Geriatric Medicine</b>			
15423	Elhassan ELABBAS	Australia	Clinical Frailty Scale And Functional Outcome In Older Patients After Elective Colorectal Cancer Surgery
<b>Perioperative Medicine</b>			
15428	Cheryl SAW	Singapore	High STOP-BANG scores and its Association with Difficult Intubation – A Systematic Review and Meta-analysis
15433	Louis CONNELL	Australia	Geriatric In Reach Service Improves Acute Surgical Unit Outcomes; Retrospective Comparative Study Pre And Post Introduction Of A Geriatric In Reach Service
15436	Sohan Lal SOLANKI	India	High Risk Joint Clinic (HRJC) for Assessment and Optimization for High-Risk Major Gastro-intestinal Cancer Surgeries: Improving Outcomes After Surgery
15437	Muhammad Ikhwan MUSTAPHA	Malaysia	Prevalence And Factors Associated With Augmented Renal Clearance After Surgery
<b>Emergency Surgery</b>			
15440	Jia Ling ONG	Singapore	Comparing the Use of Skeletal Muscle Mass Index vs NELA Score in Predicting Poor Outcome for Emergency Laparotomy Cases in Singapore
<b>General Surgery</b>			
15445	Uyen Giao VO	Australia	A Snapshot Of Preoperative Anaemia Investigations And Management In Australasia
<b>Perioperative Medicine</b>			
15446	Uyen Giao VO	Australia	Postoperative Anaemia Is Associated With Hospital Readmission And Increased Frailty Following Discharge

## **Clinical Frailty Scale and Functional Outcome in Older Patients after Elective Colorectal Cancer Surgery**

Elhassan Elabbas\*<sup>1</sup> ; Anita Sharma<sup>1</sup> ; Khin Thu<sup>1</sup> ; Melissa Alim ; Azriel Tan  
<sup>1</sup>*Geriatric Medicine / Nepean Hospital / Australia*

### **Introduction**

There is a high incidence of colorectal cancer in the geriatric population, and a significant proportion undergoes bowel cancer-related surgery. Frailty, a risk for poor health outcomes, is equally prevalent and complicates the surgical risk assessment. However, frailty is not routinely assessed in current clinical practice in Australia. To evaluate the clinical significance of preoperative frailty and to identify vulnerable patients who would benefit from multi-component frailty intervention, we assessed the role of the preoperative clinical frailty scale (CFS) and postoperative functional outcomes in geriatric patients undergoing elective colorectal cancer surgery. The key outcomes were post-acute care admission and the ability to manage stoma independently. The relationship between CFS and length of stay, 30-day re-admission, 30-day mortality, and postoperative complications were examined as secondary outcomes.

### **Method**

This retrospective observational cohort study included colorectal cancer patients  $\geq 65$  who underwent elective colorectal surgery from 2016 to 2020 at Nepean Hospital; 227 eligible participants were identified using ICD 10 coding from medical records. CFS and Barthel Index (BI) were calculated retrospectively, and the group was divided according to the CFS into non-frail 116 (CFS1-3) and frail 111 (CFS 4-9).

Statistical analysis was performed using Stata software version 17. Frailty and discharge destination was explored using logistic regression. Barthel scores were compared using Wilcoxon rank-sum test. The chi-square or Fisher's exact tests assessed most of the secondary outcomes. Length of stay (LOS) was assessed using a Kaplan Meier and log-rank test. Multivariate logistic regression was used to assess frailty and potential predictors.

### **Result**

The frail group had significant postoperative functional decline as demonstrated by discharge to supported care ( $p < 0.0005$ ) (Table1), BI change ( $p < 0.0005$ ), and inability to self-manage stoma ( $p = 0.004$ ). Frailty is a predictor of discharge to supported care ( $p < 0.0005$ ) independent of age, comorbidities, and cognitive impairment. Charlson score ( $p = 0.016$ ) and cognitive impairment ( $p = 0.037$ ) were also significant predictors of discharge to supported care, while age was not predictive ( $p = 0.144$ ).

The frail group had an increased LOS (11 vs 5 days,  $p < 0.0005$ ), more postoperative complications ( $p < 0.0005$ ) and higher 30-days re-admission rates ( $p < 0.0005$ ). However, the 30-day mortality was not significantly different ( $p = 0.238$ ). (Table 1)

### **Conclusion**

Frailty is significantly associated with postoperative functional decline and increased incidence of postoperative adverse outcomes. The study highlights the potential utility of CFS in preoperative frailty assessment.

## High STOP-BANG scores and its Association with Difficult Intubation – A Systematic Review and Meta-analysis

Cheryl Saw\*<sup>1</sup> ; Alyssa Chiew<sup>1</sup> ; Edwin Seet<sup>1</sup> ; Chandra Mohan Kumar<sup>2</sup>  
<sup>1</sup>Anaesthesia/ Khoo Teck Puat Hospital/ Singapore,  
<sup>2</sup>Anaesthesia/ Newcastle University Medical School/ Malaysia

### **Introduction**

Obstructive sleep apnoea (OSA) is commonly undiagnosed preoperatively, putting patients at risk of unanticipated difficult airways and adverse outcomes. The STOP-Bang tool may be used to risk stratify patients with suspected OSA. This study aims to evaluate the evidence of association in adult patients with high STOP-Bang scores and difficult intubation (DI) undergoing elective surgery.

### **Method**

A literature search of existing studies from 1 Jan 1980 to 1 Dec 2021 from MEDLINE, Embase and PubMed using MESH keywords including “OSA”, “obstructive sleep apnea”, “STOP-Bang”, “difficult intubation” and “difficult airway” looking at the primary outcome of incidence of difficult intubation.

We evaluated the association between high STOP-Bang scores (defined as 3 or more) and DI in adult patients undergoing elective non-cardiac surgery. This data was represented in a quantitative Forest plot and the odds ratio of DI was calculated for patients with STOP-Bang scores  $\geq 3$  or  $< 3$ .

### **Result**

A total of nine studies with 2914 patients (8 prospective observational and 1 cross-sectional study) were found. Overall, DI was 3.97-fold higher in patients with STOP-Bang scores  $\geq 3$  (OR 3.97;95%CI 2.58-6.09). All studies reported a significantly increased incidence of DI in high risk OSA patients as compared to low risk OSA patients. Challenges encountered in intubating OSA patients included difficult insertion of the laryngoscope blade and Cormack-Lehane grade  $\geq 3$ .

### **Conclusion**

This is the first systematic review and meta-analysis looking at the association between high STOP-Bang scores and difficult intubation. The STOP-Bang may be considered as a composite airway risk score which acts as a superior predictor of difficult airway compared to single airway predictors in isolation. Based on the meta-analysis high STOP-Bang scores are associated with an increased risk of DI by nearly 4-fold. Adequate preparations should be made for these vulnerable patients to avoid adverse events.

*Keywords: Obstructive sleep apnoea; STOP-Bang; Difficult intubation*



## **Geriatric in reach service improves acute surgical unit outcomes; Retrospective comparative study pre and post introduction of a geriatric in reach service**

Louis Connell<sup>\*1</sup> ; Panchi Kumarasinghe<sup>1</sup> ; Amanada Foster<sup>1</sup> ; Anand Trivedi<sup>1</sup>  
<sup>1</sup>Acute General Surgery/ Fiona Stanley Hospital/ Australia

### **Introduction**

Australia's ageing population presents a challenge to acute surgical units with high volumes of surgical emergencies in older adults. To improve care for older adult surgical inpatients in an Acute Surgical Unit we initiated a Geriatric Medicine in reach service.

### **Method**

Geriatric Medicine co-management model for older adults, the Older Adult Surgical Inpatient Service (OASIS), was trialled in acute general surgery. OASIS is a consultant Geriatrician lead service, integrated into existing surgical junior doctor and allied health resources within the Acute Surgical Unit. To assess the impact of this service we retrospectively reviewed all patients over age 65 admitted to the acute surgical unit for a 12 month period before OASIS and 12 months with the OASIS service. Primary outcomes were length of stay, mortality rate and emergency readmission rate. Secondary outcomes were return to home versus care placement and non surgical hospital acquired complications. Subgroups analysed were patients who underwent any procedural intervention, operative intervention and patients who underwent emergency laparotomy.

### **Result**

OASIS was associated with a decreased 30 day emergency readmission rate, decreased 30 day mortality rate with the acute inpatient length of stay maintained. Across all patients the 30 day emergency readmission rate dropped from 21.0% to 16.4% (difference 4.6%,  $P = 0.007$ ). This decrease was greater amongst the patients with (procedural) intervention 27.7% to 17.9% (difference 9.8%,  $P < 0.0001$ ). operative patients 23.9% to 14.5% (difference 9.8%,  $P = 0.0025$ ) and emergency laparotomy patients 26.7% to 18.5% (difference 8.2%,  $P = 0.1161$ ), 30 day mortality decreased amongst the operative subgroup 6.2% vs 5.1% (difference 1.1%,  $P = 0.604$ ) and the emergency laparotomy subgroup 12.6% vs 11.1% (difference 1.5%,  $P = 0.452$ ). Median length of stay was equal between cohorts.

### **Conclusion**

The addition of a specialist Geriatrician to our multidisciplinary acute surgical unit has led to a significant reduction in 30 day emergency readmissions post discharge, reduced 30 day mortality, with average acute length of stay being maintained.

*Keywords: general surgery; geriatrics; perioperative medicine*

## **High Risk Joint Clinic (HRJC) for assessment and optimization for high risk major gastro-intestinal cancer surgeries: Improving outcomes after surgery**

SOHAN LAL SOLANKI<sup>1</sup> ; Pallavi Desai<sup>1</sup> ; Vandana Agarwal<sup>1</sup> ; Reshma Ambulkar<sup>1</sup> ; Malini Joshi<sup>1</sup>

<sup>1</sup>Department of Anaesthesiology, Critical Care and Pain/ Tata Memorial Hospital, Homi Bhabha National Institute/ India

### **Introduction**

Gastro-intestinal cancer surgeries carry high perioperative risks with high-risk populations. Literature is scarce on preoperative interventions in major surgery to improve cardiorespiratory reserve, prehabilitation and thus lessen surgical risk. Preoperative optimisation can affect postoperative outcomes including severity of postoperative complication and length of hospital stay.

### **Method**

All adult patients of either sex undergoing high risk gastrointestinal oncological surgery with a preoperative ASA class 1-4 were included in this study from Sept 2015 to Dec 2020. The primary aim of this study was to determine the postoperative complications (Clavien Dindo classification) and the secondary aim of this study was to know how many patients were denied surgery (fitness not given) and 30 days' mortality.

### **Result**

In this study of 745 patients that were assessed and optimized, 722 patients were given fitness. 23 patients were denied fitness and offered alternate treatment. Total 480 patients underwent high risk surgery. Among 480 patients, 9 (1.87%) patient did not have any postoperative complications (Clavien Dindo grade 0), 358 (74.58%) had minor complications (Clavien Dindo grade 1 & 2) and 113 (23.55%) had major complications (Clavien Dindo grade 3, 4 & 5). The median hospital stay was 11 days. All cause 30-day mortality among patients operated after assessment and optimization in HRJC was 2.2%. We compared these data with our historical patients (pre-HRJC period) and found a decrease in major complications of pancreatic cancers (57% vs 31.5%) and slight decrease in complications of liver cancers (29.3% vs 27.4%).

### **Conclusion**

High Risk Joint Clinic for patients with multiple or uncontrolled systemic diseases, frail patients and complex surgical procedures improves the outcomes after surgery and can be incorporated in the daily anaesthetic practice.

## Prevalence and Factors Associated with Augmented Renal Clearance After Surgery

Muhammad Ikhwan Mustapha<sup>\*1</sup> ; Mohd Basri Mat Nor<sup>2</sup> ; Ahmad Faidzal Othman<sup>1</sup> ;  
Azrina Md Ralib<sup>2</sup> ; Jamalludin AB Rahman<sup>3</sup> ; Faisal Elagili<sup>1</sup>  
<sup>1</sup>Surgery/ International Islamic University Malaysia/ Malaysia,  
<sup>2</sup>Anaesthesiology and Critical Care/ International Islamic University Malaysia/ Malaysia,  
<sup>3</sup>Community Medicine/ International Islamic University Malaysia/ Malaysia

### **Introduction**

Augmented Renal Clearance (ARC) has been described mainly in critically ill patients which may place patients at risk of therapeutic failure. We investigated the prevalence of ARC following surgery, determine the risk factors and the outcome.

### **Method**

This is a single centre, prospective study of patients who underwent surgery under general or regional anaesthesia between September 2021 to February 2022. Serum Creatinine, urine Creatinine and 4-hour urine volume were measured within 24 hours following surgery. The significant risk factors for ARC were evaluated by using multiple logistic regression model. ARC was defined as measured Creatinine Clearance  $>130\text{ml}/\text{min}/1.73\text{m}^2$ .

### **Result**

A total of 75 patients were included with a mean age of  $57 \pm 14$  years old and 59% were female. ARC occurred in 20 (27%) patients within 24 hours following surgery. The mean age for ARC group was  $47.7 \pm 13.3$  as compared to  $60.9 \pm 13.6$  years old in the No ARC group. On multiple logistic regression analysis, only younger age was found to be an independent predictor for ARC ( $p < 0.001$ ) (OR 0.9, 95% CI 0.9-1.0). 85% of patients in the ARC cohort were not nursed in the ICU postoperatively ( $p=0.04$ ). Although patients in the ARC cohort required longer hospital stay ( $24.7 \pm 36.5$  vs.  $12.7 \pm 14.4$  days), the figure was not statistically significant ( $p=0.197$ ).

### **Conclusion**

Significant proportion of ARC were identified among patients underwent surgery whom did not require ICU admission postoperatively. This represents an important finding as ARC is a key predictor for subtherapeutic drug concentrations.

*Keywords: Augmented Renal Clearance; ARC; Surgery; Postoperative*

## Comparing the use of skeletal muscle mass index vs NELA score in predicting poor outcome for emergency laparotomy cases in Singapore

Jia Ling Ong<sup>\*1</sup> ; Daniel Lee<sup>1</sup> ; Woan Wui Lim<sup>1</sup>  
<sup>1</sup>General Surgery/ Khoo Teck Puat Hospital/ Singapore

### **Introduction**

Emergency laparotomy (EL) is known to be associated with high mortality and morbidity. This is contributed by poor patient factors and disease factors. The National Emergency Laparotomy Audit (NELA) risk calculation tool provides an estimate of the risk of death. On the other hand, Skeletal Muscle Mass Index (SMMI) can identify patients at risk of sarcopenia and thus have lower reserves to undergo and recover from EL. A risk assessment tool for EL is important to identify high risk patients thus allowing for allocation of limited healthcare resources and management of patient outcomes. This study aims to compare NELA and SMMI in terms of their accuracy in predicting poor outcomes for EL cases in Singapore.

### **Method**

Physiological and operative data from the EL database was retrieved from Khoo Teck Puat Hospital, Singapore from 2016 to 2019. Patients with NELA score  $\geq 5\%$  are deemed to have high mortality risk. Patients who are sarcopenic (SMMI  $<22.09$  for females and  $<33.4$  for males respectively) were deemed to have high mortality risk. A retrospective analysis was done to compare mortality rates in 1 year for those with high NELA score and those who are sarcopenic.

### **Result**

289 patients were included for analysis. 16.96% of patients had mortality in 1 year. 16.96% of patients were considered sarcopenic. Out of those patients who were sarcopenic, 71.4% of them were also considered high risk based on NELA score. Sarcopenic patients were associated with higher morbidity such as post operative complications and longer length of hospital stay. Sarcopenia is more specific in predicting 1 year mortality compared to high NELA score but it is less sensitive.

### **Conclusion**

SMMI can be used as a screening tool to risk stratify and predict poor outcomes in patients who undergo emergency laparotomy in Singapore.

*Keywords: Emergency, Laparotomy, Sarcopenia, Mortality*

## A Snapshot of preoperative anaemia investigations and management in Australasia

Uyen Vo\*<sup>1</sup> ; POSTVenTT Collaboratives<sup>1</sup>  
<sup>1</sup>Vascular Surgery/ Sir Charles Gairdner Hospital/ Australia

### **Introduction**

Preoperative anaemia affects a high proportion of patients undergoing major abdominal surgery and is associated with poor outcomes. The Patient Blood Management guidelines recommend that preoperative anaemia should be identified, evaluated, and managed to minimise need for red blood cell transfusion. Preoperative anaemia affects a high proportion of patients undergoing major abdominal surgery and is associated with poor outcomes. The Patient Blood Management guidelines recommend that preoperative anaemia should be identified, evaluated, and managed to minimise need for red blood cell transfusion.

### **Method**

A prospective, multicentre, observational study was undertaken in 56 hospital in Australasia. Adult patients undergoing major abdominal surgery during two 2-week periods in July 2021 were included. Major abdominal surgery was defined as any operation with an incision into the abdominal cavity (open, laparoscopic, or robotic surgery) and anticipated duration of more than one hour.

### **Result**

Anaemia was investigated in 2461 of 2730 patients prior to surgery (90.2%). Of those, 689 (28.0%) was found anaemic, but only 243 had iron studies undertaken (35.3%). Of those with iron deficiency anaemia, only 128 patients received intravenous iron (35.0%). In patients with anaemia managed according to the guidelines, the proportions who received pRBC transfusions during (2.0% vs. 4.5%) or after surgery (4.1% vs. 11%), or experienced major complications (5.9% vs. 9.0%). were smaller and the median length of hospital stay shorter (3 [IQR, 1–7] vs. 4 [IQR, 1–9] days) than those for whom anaemia was not fully investigated and managed.

### **Conclusion**

Anaemia is common in patients undergoing major abdominal surgery and associated with poorer outcomes. Preoperative use of intravenous iron has been widely discussed but remains uncommon in Australia and New Zealand.

*Keywords: anaemia, abdominal surgery, transfusion, iron*

## **Postoperative anaemia is associated with hospital readmission and increased frailty following discharge**

Uyen Giao Vo\*<sup>1</sup> ; POSTVenTT Collaboratives<sup>1</sup>  
<sup>1</sup>Vascular Surgery/ Sir Charles Gairdner Hospital/ Australia

### **Introduction**

Perioperative anaemia is common and is associated with poor postoperative outcomes. The aim of this study was to investigate the association between postoperative anaemia and readmission within 30 days of discharge after major abdominal surgery.

### **Method**

A prospective, multicentre, observational study was undertaken in 101 hospitals. Consecutive patients undergoing elective or emergency abdominal surgery were eligible for inclusion, with follow up to 30 days after hospital discharge. The primary outcome was readmission to hospital within 30 days. Univariate and adjusted analyses were conducted to examine the association of anaemia with readmission.

### **Result**

A total of 4787 patients were included. At discharge, 61.7% had anaemia, and this was associated with a higher rate of readmission within 30 days (8.7% vs. 5.3%,  $p < 0.001$ ). Anaemic patients were more likely to have an increase in their Clinical Frailty Scale from preoperative to 30-day follow up (20.3% vs. 12.8%,  $p < 0.001$ ). Postoperative anaemia was independently associated with hospital readmission (adjusted odds ratio [aOR] 1.36, 95% confidence interval [CI] 1.05-1.76,  $p = 0.02$ ), and with increased frailty (aOR 1.60, 95% CI 1.33-1.92,  $p < 0.001$ ).

### **Conclusion**

Postoperative anaemia is common after major abdominal surgery and is associated with poorer clinical and functional outcomes. Further trials are needed to investigate whether treatment of postoperative anaemia may reduce hospital readmissions.

*Keywords: anaemia, readmission, frailty, surgery*

# POSTERS ON DISPLAY

Venue : Level 8 Foyer, NTUC Centre @ One Marina Boulevard  
 Date/ Time : 10 December 2022 / 8:30 am – 6:00 pm  
 11 December 2022 / 8:30 am – 4:45 pm

Abstract No	Presenting Author	Country	Abstract Title
<b>Anesthesiology</b>			
15427	Syarifah Noor Nazihah SAYED MASRI	Malaysia	The Effect of Goal Directed Fluid Therapy In Renal Transplant On Post-Operative Outcome: A Retrospective Study
15429	Yuhe KE	Singapore	Preoperative Hba1C $\geq$ 6.1% And $\geq$ 8.1% Are Not Independently Associated with Increased Postoperative Complications - A Prospective Observational Trial
15432	Joy Jing Xian CHIA	Singapore	Disruption Of Gas Delivery Due to Contaminated Medical Air
15442	Priya DHARSHINI M	Singapore	Laparoscopic Adhesiolysis and change of Peritoneal Dialysis Catheter under Spinal Anaesthesia: A Case Report
15443	Rashi SARDANA	United Kingdom	Use of rainbow trays to prevent wrong sided block - extended SBYB project
15448	Bhakti DESHMUKH	India	Predicting Clinical Entry Point for Thoracic Epidural Catheter Insertion During Paramedian Approach: A Prospective Observational Study
<b>General Surgery</b>			
15418	Kheng Tian LIM	Singapore	Geriatric Surgery Service in Upper Gastrointestinal Surgery (GSS in UGIS)
15420	Sarah CHAN	Singapore	A Transdisciplinary Geriatric Surgery Service: Essential Practices Amidst A Pandemic for Elderly Patients with Colorectal Cancer
<b>Geriatric Medicine</b>			
15414	Li Ting KU	Singapore	Utilising Community Resources to Improve Outcomes for Hip Fracture patients in Tan Tock Seng Hospital, Singapore
15430	Aurelne THIAN	Australia	Older Adults Presenting with Acute Surgical Pathology to A Tertiary Hospital
15431	PK LOH	Australia	Dynapenia In Post Operative Rehabilitation of Fractured Neck of Femur
15444	Lisa COOPER	Israel	Multi-Disciplinary Geriatric Assessment Prior To Major Abdominal Surgery in Older Adults
15449	Lisa REDGRAVE	Australia	Geriatric Neuro Surg: Providing the Care Frailer Patients Deserve (A Survey Of Staff Opinions Regarding A Shared Care Neurosurgical-Geriatric Service)
<b>Pain</b>			
15439	Reshma AMBULKAR	India	Transverse abdominal plane block versus thoracic epidural analgesia in Colorectal Surgery: A Prospective Randomized Control Trial (ABATE study)
<b>Perioperative Medicine</b>			
14749	Edwin SEET	Singapore	Risk factors for Postoperative Non-Invasive Ventilation – Post-hoc Analysis of the Postoperative Vascular Complications in Unrecognized Obstructive Sleep Apnea (POSA) Study
14750	Edwin SEET	Singapore	Association Between Nocturnal Hypoxemia And Chronic Kidney Disease In Type 2 Diabetes Mellitus
15422	Annemarie Chrysantia MELATI	Indonesia	Hip Fracture Surgery among Elderly Patients: The Aftermaths of Surgical Delay
15434	Adam BEEBEEJAUN	United Kingdom	Preoptimisation In Prehabilitation: Hypertension
15438	Muhammad Ikhwan MUSTAPHA	Malaysia	Role Of Cystatin C In Predicting Acute Kidney Injury After Surgery
15447	Lisa REDGRAVE	Australia	PREPARED Care is Better Care: PRe-operative assessment of the Elderly Patient in a Geriatrician Led Out-Patient Clinic
15450	Deborah DOUGLAS	United Kingdom	DrEaMing in a Digital World

## **The Effect of Goal Directed Fluid Therapy in Renal Transplant on Post-Operative Outcome: A Retrospective Study**

Syarifah Noor Nazihah Sayed Masri\*<sup>1</sup> ; Nur Izzati Azmi<sup>2</sup> ; Azlina Masdar<sup>1</sup> ; Azrin Mohd Azidin<sup>2</sup> ;  
Slti Nidzwani Mohd Mahdi<sup>1</sup> ; Azarinah Izaham<sup>1</sup>

<sup>1</sup>Department of Anaesthesiology & Intensive Care/ Universiti Kebangsaan Malaysia Medical Centre/ Malaysia,

<sup>2</sup>Department of Anaesthesiology & Intensive Care/ Hospital Kuala Lumpur/ Malaysia

### **Introduction**

Optimal fluid therapy reduces the incidence of delayed graft function following renal transplant surgery. Maintaining a good cardiac output and tissue perfusion by ensuring adequate intravascular volume is the most important measure intraoperatively. We retrospectively compared the effects of intraoperative conventional fluid therapy (CFT) using central venous pressure (CVP) guidance versus goal-directed fluid therapy (GDT) using stroke volume variation (SVV) guidance via pulse contour analysis using Flotrac™ / EV1000 on the incidence of delayed graft function (DGF) and other post operative outcomes ( metabolic acidosis, cardiorespiratory complications, ventilator dependency, ICU & hospital stay ) in renal transplant surgery

### **Method**

A hundred and seventy nine patients who underwent renal transplant surgery at the single tertiary hospital centre between January 2014 and December 2019 were retrospectively analysed. Based on the management of intraoperative fluids, patients were subcategorised into Conventional Fluid Therapy (CFT) group or Goal Directed Therapy (GDT) groups. Patient in CFT group were manage based on target central venous pressure of 8-12 mmHg and MAP of >80 mmHg while GDT group patient were manage by targeting SVV of 10% within preoperative baseline and MAP of >80mmHg as guided by Flotrac™ / EV1000 sensor. We evaluated preoperative characteristics and intraoperative parameters to determine their association with postoperative outcomes.

### **Result**

The GDT group showed a significant reduction in the incidence of postoperative DGF (p = 0.007), metabolic acidosis (p <0.001), cardiorespiratory complications (p = 0.011), ventilator dependency (p = 0.013), and length of ICU stay (p <0.001) and hospital stay (p <0.001). Lower intraoperative fluid volume was observed (p <0.001) with a higher vasopressor requirement (p = 0.043) in the GDT group. A higher number of sustained graft functions after 28 days was also observed in the GDT group (p = 0.002). There were significant correlations between lower intraoperative fluid and crystalloid requirements and a reduction in postoperative ventilator dependency and hospital stay.

### **Conclusion**

Intraoperative goal-directed fluid therapy with SVV-guidance reduced the incidence of DGF, metabolic acidosis, cardiorespiratory complications, ventilator dependency, and shortened ICU and hospital stays in renal transplant surgery.

*Keywords: renal transplant; goal directed therapy; delayed graph function*



## **Preoperative HbA1C $\geq$ 6.1% and $\geq$ 8.1% are not independently associated with increased postoperative complications - A prospective observational trial**

Yuhe Ke<sup>\*1</sup>

*<sup>1</sup>Department of anaesthesia and perioperative medicine/ SGH/ Singapore*

### **Introduction**

The prevalence of Diabetes Mellitus (DM) in patients presenting for elective, non-cardiac surgery was found to be as high as 20% in Singapore [1]. The disease has varying complications and severity, and can be measured either via laboratory value such as HbA1C or based on presence of microvascular and macrovascular end-organ damage. It is unclear, though, when an elective surgery should be postponed to optimize glucose control further. There is currently no consensus for the best cut off value for preoperative HbA1C for elective surgery with various guidelines suggesting cut-offs between 7 to 8.5%.

The aim of the study was to find the association of HbA1C  $\geq$  6.1% and HbA1C  $\geq$  8.1% with postoperative complications in patients going for elective non-cardiac surgery.

### **Method**

We conducted a prospective, observational single-center study in adult patients. HbA1c screening was performed. Patient demographics and comorbidities were recorded.

Comprehensive Complication Index (CCI)[2] was used to calculate composite surgical outcomes, a cut-off of 20 was used as significant morbidity. Total days out of hospital (DaOH) within the first 30 days from date of surgery and any postoperative complications within 30 days that fulfills the Clavien Dindo Complications (CDC) Grade 3 and above were collected. Regression analyses were performed to find the association with postoperative outcomes.

### **Result**

A total of 888 patients were recruited. A total of 185 (20.8%) patients had HbA1C  $\geq$  6.1%, of which 32 (3.7%) had HbA1c  $\geq$  8.1%. Patients with HbA1C  $\geq$  6.1% had more DaOH < 20 days (11.8% vs 5.1%)(OR 1.05, 95% CI 1.02-1.08, p=0.001) and postoperative median glucose >10mmol/dL (OR1.58, 95% CI 1.29 - 1.93, p<0.005). It was not associated with an increase in any complications (p=0.80), CCI score >20 (p=0.32) and CDC Grade 3 to 5 complications (p=0.82). HbA1C cut-off of both 6.1% and 8.1% was not associated with an elevated risk of any complications, CCI score, CDC Grade and DaOH on multivariate analysis (p>0.05) after adjusting for age-adjusted Charlson comorbidity index, operation risk, ASA score and anemia.

### **Conclusion**

In this prospective study, we did not find any significant association of postoperative morbidity and complications with HbA1C cut-offs of  $\geq$  6.1% and  $\geq$  8.1% after adjusting for factors including patient comorbidities and operation risk.

*Keywords: perioperative; diabetes mellitus; postoperative complications*

## Disruption of gas delivery due to contaminated medical air

Joy Chia Jing Xian\*<sup>1</sup> ; Meh Meh Goh<sup>1</sup> ; Meng Huat Goh<sup>1</sup> ; Kian Hian Tan<sup>1</sup>  
<sup>1</sup>Anaesthesiology/ Singapore General Hospital/ Singapore

### **Introduction**

The anaesthesia machine and gas supply system play an integral role in the delivery of anaesthesia. Since the introduction of nitrous oxide anaesthetic over 100 years ago, these systems have become increasingly complex and efficient. It is important for the anaesthetist to have an understanding of these systems, as problems with any component can compromise patient safety. We present a case in which the contamination medical air led to the disruption of several anaesthesia machines' proportional mixer valves.

### **Method**

The incident occurred in our centre's operating theatres. During daily routine pre-operative checks, 7 anaesthetic machines were found to be faulty. The machines affected were the models GE Aisys, GE Aespire, and GE Avance. The cause of failure was attributed to a failed proportional mixer valve.

Two days later, our centre's intensive care unit encountered mass failure of ventilators. The ventilators' water condensate traps were found to be exhausted, and water was present within the ventilators downstream from the traps. Further investigation of the intensive care unit's medical gas supply revealed water flowing from the medical air outlet.

Urgent checks of the operating theatres led to water being purged from multiple medical air outlets. During this period, another critical incident occurred during a gynaecology list. The patient had been listed for a midline laparotomy, total hysterectomy, bilateral salpingo-oophorectomy, and debulking surgery. The anaesthetic machine in use, a GE Aisys CS2, had passed routine pre-operative checks.

Surgery was completed after 10 hours and 18 minutes. In anticipation of surgery completion, sevoflurane was discontinued. At this time, the surgical team requested for more time to dress the laparotomy wound. The anaesthetic team attempted to switch the sevoflurane back on, however, gas flows were unable to be adjusted. Alternate oxygen flow supplies were turned on, and the patient was maintained on a propofol infusion. At the end of surgery, patient was extubated uneventfully. After this incident, water was purged from the operating theatre's medical gas outlet.

Investigation of the source of water traced the fault to a defective air compressor, which was condemned and replaced.

### **Conclusion**

We highlight this incident to bring awareness of the anaesthetist's role in ensuring the safety of medical gases. Although storage and supply of these gases may take place 'out of sight, out of mind', it is important for the anaesthetist to have an understanding of these processes, and the possible problems that may arise.

## Laparoscopic Adhesiolysis and change of Peritoneal Dialysis Catheter under Spinal Anaesthesia: A Case Report

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### **Introduction**

Patients with Chronic Obstructive Pulmonary Disease (COPD) are at increased risk of perioperative respiratory complications following surgery under General Anaesthesia (GA). We present a case of an elderly patient with significant co-morbidities, including GOLD Grade 3, Group D COPD, who underwent laparoscopic adhesiolysis, omentopexy and change of peritoneal dialysis (PD) catheter with suture fixation under spinal anaesthesia.

### **Method**

A 72-year-old gentleman presented for elective laparoscopic change of PD catheter with adhesiolysis and omentopexy. The catheter had been changed under sedation via peritoneoscopy previously, but was blocked shortly after, necessitating a laparoscopic procedure. His co-morbidities included End Stage Renal Failure, hypertension, poorly controlled Diabetes Mellitus, and GOLD Grade 3 COPD with multiple previous exacerbations requiring admission to the ICU for non-invasive ventilation or intubation with mechanical ventilation. His respiratory physician recommended long term oxygen therapy and smoking cessation, both of which the patient refused.

Pre-operative investigations showed pre-bronchodilator FEV1 30%, FVC 41%, FEV1/FVC ratio 64% with bronchodilator reversibility (37%), and chronic CO<sub>2</sub> retention. He was reviewed by Anaesthesia and Respiratory Medicine preoperatively and counselled regarding the significantly increased risk of perioperative respiratory complications with GA.

On the day of surgery, he presented with longstanding productive cough, but no evidence of acute exacerbation or infective symptoms. He was still actively smoking and had omitted his steroid and beta-agonist inhalers. After discussion with the patient and Urologist, a spinal was decided on as the preferred anaesthetic option. 2.6ml of Hyperbaric Bupivacaine 0.5% was administered at the L3/4 level, attaining a sensory block height reaching T8. The surgery was performed uneventfully by a senior Urologist, with the operating pneumoperitoneum pressure set at a maximum of 10mmHg and use of smaller (5mm) laparoscopic ports.

### **Conclusion**

GA with controlled ventilation is the conventional and generally accepted choice of anaesthesia for laparoscopic procedures. It provides optimal operating conditions while allowing for management of the physiological effects of pneumoperitoneum. However, central neuraxial blockade has been described to be an appropriate alternative, especially for patients in whom GA poses significant risks. This procedure was deemed to be amenable to spinal anaesthesia given the anticipated surgical duration (approximately 2hours), no need for Trendelenburg positioning intraoperatively, ability to operate with lower intraperitoneal pressures, a lower minimal block height requirement of T8, and a co-operative patient. Thorough pre-operative discussion and clear communication in the peri-operative period between the surgeon and anaesthetist, as well as the patient, is vital for a successful outcome.

*Keywords: Chronic obstructive pulmonary disease; laparoscopic; peritoneal dialysis catheter; spinal anaesthesia*

## Use of rainbow trays to prevent wrong sided block - extended SBYB project

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### **Introduction**

The Safe Anaesthesia Liaison Group (SALG) and the Regional Anaesthesia UK (RA-UK) have published a new national Standardised Operating Procedure (SOP) to prevent wrong side block. The updated procedure, Prep, Stop, Block, enhances the message of 'Stop Before You Block' – the 'stop' moment should occur just before needle insertion.

'Stop Before You Block' was initially a campaign devised by SALG and RA-UK in 2011, which had significant success but was not being interpreted consistently across different healthcare settings. Thus, some Trusts came to use warning stickers (which may become displaced); some to mark the limb to be blocked, others as a warning not to block that side. These local variations can be particularly confusing for rotating clinicians (trainees and locums), and also make difficult mapping an adverse event against a consistent framework.

We would like to utilize this by the use of rainbow trays marked Prep Stop Block as a quality improvement project to promote the correct use of SBYB and prevent the NEVER event.

### **Method**

All cases where peripheral nerve block was given by the anaesthetist was included,

In an attempt to increase the awareness of SBYB, as well as a move towards standardising how to perform this, we used these rainbow trays in accordance with SALG and RA-UK guidelines.

Additionally, laminated posters were displayed in all theatres within the trust, starting at NDDH.

Total number of Questionnaires collected – 40 Pre-introduction  
40 Post-introduction

Questionnaires were given to the ODPs to assess the compliance and usefulness of the rainbow trays.

Standards Monitored

1. Compliance of the use of rainbow trays
2. Comparability of awareness with SBYB 2018 guidelines
3. Comparison of timing of performing SBYB with the use of rainbow trays

### **Result**

36 out of 40 cases - rainbow trays were used.

In 25 out of the 40 cases, these trays led to awareness among the anaesthetist to perform SBYB just before needle insertion.

### **Conclusion**

Use of SBYB trays has been the best intervention to increase awareness about performing Stop Before You Block at the correct time.

*Keywords: nerve injection; patient safety; regional anaesthesia; wrong side block*

## **Predicting clinical entry point for thoracic epidural catheter insertion during paramedian approach: a prospective observational study**

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### **Introduction**

Thoracic epidural insertion has high failure rates in the mid-thoracic region due to steep angulation of oblique bending of spinous processes. The preferred skin puncture point for epidural needle insertion in the paramedian sagittal plane with respect to the superior/ inferior tip of spinous process or inter-spinous cleft in the mid-thoracic region (T5-8) is not standard in literature. The primary objective of this prospective observational study was to find the skin puncture point which had the best success rate for a successful epidural catheterisation. Secondary objectives were to study the number of attempts and passes required to locate epidural space, incidence of failed epidural blocks and its relationship with patient characteristics, demographics.

### **Method**

After informed consent, 155 patients planned for general anesthesia with epidural analgesia in the mid thoracic region, were included in this observational study after registration of clinical trial registry. Patient demographics, the details of epidural attempts with respect to anatomical landmarks, distance from the midline, number of passes in each attempt were noted. Epidural catheterisation was considered successful after demonstrating band of sensory blockade of dermatomes.

### **Result**

Among the recruited 155 patients, successful epidural placement was achieved in the first attempt in 76 patients. The first attempt success rate was 49% (n= 76). Incidence of wrongly placed catheters (band negative epidurals in post-operative period) was 12.9 % (n= 20). In 2.6% patients (n= 4) the epidural procedure was abandoned. The overall success rate for epidural catheter insertion in the mid thoracic space was 84.5% (n=131). For analysing the correlation between entry point and success of epidural catheter placement, all the attempts were considered including the unsuccessful attempts(n=248). The mean value was 1.68<sub>-</sub>+0.93. The success rate was not statistically significant at any particular entry point using anatomical landmarks (p= 0.708, evaluated by chi- square test). The distance from midline for maximum attempts was <1cm (n=183). We looked at age, sex, BMI and quality of anatomical landmark on epidural outcome. The failed procedures were significantly more p=0.007 in older adults (56 above). Effect of quality of anatomical landmarks, gender and BMI on epidural outcome was not statistically significant.

### **Conclusion**

There is no single clinical puncture point with respect to superior or inferior tip of spinous process for inserting epidural in mid-thoracic segments using a para- median approach.

*Keywords: Thoracic epidural; clinical entry point; paramedian*

## Geriatric Surgery Service in Upper Gastrointestinal Surgery (GSS in UGIS)

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### **Introduction**

Geriatric Surgery Service (GSS) is a trans-disciplinary team that cares for elderly patients with frailty conditions who needs major gastrointestinal surgery. The care process starts from diagnosis, through surgery and all the way beyond the hospital to the community. The measurable outcomes include reduction in loss of function and shorten hospitalisation. The objective is to highlight the process and outcome of GSS in upper gastrointestinal surgery (GSS in UGIS).

### **Method**

Consecutive cases of GSS in UGIS underwent assessment, prehabilitation, follow by surgery and rehabilitation in the period of 2020-2021 during COVID-19 pandemic. Data collected for analysis included the patients' demographic, clinical frailty scale (CFS), rehabilitation disposition, Clavien-Dindo grade  $\geq 3$  complications, length of stay (LOS), readmission and discharge disposition.

### **Result**

There was a total of 18 GSS in UGIS cases over the 2-year period. The median CFS was 3 (2020) and 5 (2021). The median age is 77 years. The median LOS is 8.5 (2020) and 7 (2021) days. About 2/3 were in the frail category. More than 65% cases had prehabilitation exercise either at home or in the outpatient clinic. Clavien-Dindo grade  $\geq 3$  complications were 20% (2020) and 16.6% (2021). There was no mortality. There was only 1 readmission.

### **Conclusion**

GSS in UGIS cares for elderly patients with frailty conditions who need surgery through prehabilitation, perioperative optimization and rehabilitation. GSS helps reduce post-operative complications, mortality, readmission, and functional decline beyond the hospital to the community. Three case scenarios from start to finish learning experience will be shared.

*Keywords: Frailty; Geriatric surgery; Prehabilitation; Rehabilitation; Upper gastrointestinal surgery;*

## **A Transdisciplinary Geriatric Surgery Service: Essential Practices Amidst A Pandemic for Elderly Patients with Colorectal Cancer**

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<sup>2</sup>*Geriatric Surgery Service/ Khoo Teck Puat Hospital/ Singapore*

### **Introduction**

The Geriatric Surgical Service (GSS) aims to provide start-to-finish care for geriatric surgical patients, with an emphasis on post-operative functional recovery. In contrast to segmented interdisciplinary referrals common in conventional care-delivery models, patients are holistically cared for by a dedicated collaborative transdisciplinary team.

This study describes aspects of transdisciplinarity in the GSS at Khoo Teck Puat Hospital which contributed to consistent patient outcomes despite challenges imposed by the COVID-19 pandemic in caring for elderly patients undergoing surgery.

### **Method**

56 patients aged  $\geq 70$  years old who underwent major colorectal resection under GSS in 2020-2021 were included in this study. Perioperative data were collected prospectively, and descriptive analysis was performed on patients' outcomes. Success and failure was analysed using the cumulative summation (CUSUM) curve, with failure defined as: (1) perioperative mortality, (2) unplanned prolonged hospital stay, or (3) failure to achieve functional recovery within 6 weeks after surgery.

### **Result**

73.2% (41/56) of patients were ASA Class 3 and above, with a mean POSSUM predicted mortality of 12.0% and morbidity of 46.4%. All underwent preoperative geriatric assessments and 83.9% (47/56) underwent prehabilitation.

A sustained downward slope of the CUSUM curve demonstrated a trend of successive desirable outcomes consistent with pre-pandemic times. The observed 30-day mortality was 1.79% (1/56) and mean hospital stay for elective cases was 12.3 days. 82.1% (46/56) were discharged home and 17.9% (10/56) were discharged to step-down facilities. The mean 6 weeks post-operative Barthel's Index was 91.4.

### **Conclusion**

A transdisciplinary approach is effective in engendering resilience to stressors in the healthcare system. While conventional multidisciplinary care often involves various disciplines working separately and is hence susceptible to crisis, enhanced communication across disciplines through the transdisciplinary model allows for holistic care that transcends resource limitations.

*Keywords: Surgery; Geriatrics; COVID-19; Pandemic; Geriatric surgery*

## Utilising Community Resources to Improve Outcomes for Hip Fracture patients in Tan Tock Seng Hospital, Singapore

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### Introduction

Utilising Community Resources to Improve Outcomes for Hip Fracture patients in Tan Tock Seng Hospital, Singapore

### Objectives

Hip Fracture results in loss of physical function, increased dependence and reduced quality of life.

The objective of the Hip Fracture Bundle Plus Scheme (HFBPS) was to reduce healthcare utilisation, increase participation at Day Rehabilitation Centres (DRCs) and improve functional outcomes by providing financial support to increase their accessibility to community rehabilitation therapy at DRCs.

### Method

All eligible hip fracture patients were referred to the HFBPS, which is a collaboration between Tan Tock Seng Hospital (TTSH) and community partners to make therapy sessions at DRCs more accessible and affordable through financial support from Central Health Enabling Fund (CHEF) to encourage outpatient rehabilitation.

### Result

89 patients had successfully completed their therapy at the DRCs (as of Mar 2022). All enrolled patients experienced significant improvements in their functional outcomes, with an average of 12% improvement in their MBI scores at the end of 16 therapy sessions. Furthermore, more patients (15.7% vs 6.7%) could be discharged directly home from TTSH to continue rehabilitation at the DRCs.

#### Results of Programme Evaluation

SN	Indicator	Baseline	Actual
Key Performance Indicators		From 2011-2016 Hospital-owned programme	Programme Duration (Jul 20 – Mar 22)
1	Average MBI score improvement of DRC referred cases (at point of acute hospital discharge to 6 months post fracture)	N.A.	37.6
2	Percent of DRC initiated	23.8%	9.3%
3	Percent of DRC completion	N.A.	85.6%
Monitoring Indicators		From CY2019	Programme Duration (Jul 20 – Mar 22)
1	Reduction in average length of stay for acute hospital and community hospital	10.7 days for acute hospital	11.0 days for acute hospital
		29.4 days for community hospital	34.2 days for community hospital
2	Percent of patients discharged home directly	6.7%	15.7%

### Conclusion

Programme effectiveness was demonstrated by improved patient functional outcomes and reduction in avoidable healthcare utilisation.



## Older adults presenting with acute surgical pathology to a tertiary hospital

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### **Introduction**

We provide a description of older adults admitted to a tertiary hospital Acute Surgical Unit (ASU) who received proactive geriatric medicine input in a novel shared care model.

### **Method**

The Older Adult Surgical Inpatient Service (OASIS), consisting of a Geriatrician (weekday mornings) working with existing surgical junior doctors, nursing, and allied health staff, was established to provide proactive, collaborative management of geriatric syndromes and medical comorbidities in older adults (over 65 years) admitted to ASU. We prospectively audited all OASIS patients for the 12-month period from initiation in May 2021. Subspecialty surgical patients were excluded.

### **Result**

OASIS reviewed 836 patients with a median age of 78.5. Prior to admission, 90% were community dwelling and 37% used walking aids. Clinical Frailty Scale (CFS) was prospectively assessed: 40% were not frail (CFS 1-3), 37% were vulnerable or mildly frail (CFS 4-5) and 23% were severely frail (CFS 6-9).

The prevalent comorbidities were hypertension, ischaemic heart disease, diabetes mellitus and congestive cardiac failure. 25% (n= 208) had atrial fibrillation and 64% (n=132) of those with atrial fibrillation were on direct oral anticoagulant.

The primary surgical presentations were bowel obstruction (small and large) in 21% (n=182), per rectal bleeding in 19% (n=170) and disorders of the biliary tree in 19% (n=166).

61% (n=511) were managed non-operatively. 22% (n=185) were managed operatively. 17% (n=140) were managed with procedurally, most commonly endoscopic procedures.

64% (n=523) of patients were reviewed by OASIS within 24 hours of admission. Predominant OASIS interventions on initial review included medication rationalization, goals of care discussion, anticoagulation/antiplatelet management, and perioperative risk assessment.

### **Conclusion**

OASIS was successfully integrated into a tertiary ASU and provided proactive, co-management of geriatric syndromes and medical comorbidities in older adults with acute surgical issues. We provide a descriptive analysis of the demographics, frailty, surgical presentations, and management of 836 older adults.

*Keywords: surgery; geriatric; olderadult; generalsurgery; acutesurgery;*

## **Dynapenia in Post operative rehabilitation of fractured neck of femur**

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### **Introduction**

Investigate the association between post op care, post operative rehabilitation of fractured of femur repair and dynapenia in a peripheral hospital restorative unit where older people are provided with rehabilitation. Admission to the restorative is by transfer from acute geriatric medicine wards and acute internal medical or surgical units in a tertiary hospital.

### **Method**

Retrospective study 31 older patients recruited in 30 days as a snapshot into the activity of the restorative unit where rehabilitation is provided for referred fractured neck of femur patients. Dynapenia was defined by hand-grip strength of <20kg for woman and < 30kg for men. Fractured neck of femur repair was defined by presence of a diagnosis for fractured neck of femur in electronic discharge letters. Analysis was conducted with chi square and students T test for continuous variables. Outcome measures were associations of dynapenia and fractured neck of femur repair.

### **Result**

28/31 restorative unit patients had dynapenia. 5/31 had fractured neck of femur. Of those with fractured neck of femurs 4/5 (80%) had dynapenia. There were 26/31 without a diagnosis of fractured neck of femur. Of these 23/26 (88%) had dynapenia.

### **Conclusion**

Dynapenia is a modifiable risk factor which carry equal risk for the development of frailty, falls and fractured neck of femur in older people. 80% of the post operative fractured neck of femur patients had dynapenia. There was almost the same percentage (88%) with dynapenia in those who had not fractured their neck of femur. The patients who presented with fractured neck of femurs were equally likely to have dynapenia on a restorative unit compared to other diagnoses receiving rehabilitation on the older persons rehabilitation ward or restorative unit.

*Keywords: Dynapenia; Fractured neck of femur; post-operative; rehabilitation; restorative; geriatric;*

## Multi-disciplinary geriatric assessment prior to major abdominal surgery in older adults

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### **Introduction**

To describe our experience of Geriatric Assessment (GA)-driven interventions in older adults undergoing major surgery

### **Method**

A retrospective analysis of consecutive patients presenting to a Geriatric-Surgery clinic in a large academic center between August 2020 and May 2022. Patients were referred by surgeons or oncologists prior to treatment and were evaluated by a multi-disciplinary team. Data included geriatric-specific variables as functional status measured by activities of daily living (ADL), hand grip and frailty level measured by G8 score and clinical frailty score (CFS). GA-interventions included recommendations to alter original treatment plan, better preparation for surgery (nutrition and physical therapy), delirium risk assessment, changes in medications and need for additional social support

### **Result**

Overall 194 patients were included. Median age was 82 (range 64-100), 56% were male. Diagnoses included 29% colorectal, 26% gastro-esophageal, 14% hepatobiliary-pancreatic cancers and 31% non-malignant diseases. Mean hand-grip strength was 29±19 kg. Median G8 score was 12 (range 3-16), median CFS was 4 (IQR=3-6) and 38% were frail (CFS>4). Almost half of the patients had limitations in their ADL (45%).

Overall, 57% of patients were at moderate to high risk for geriatric-specific post-operative complications (delirium and functional decline). In 57% of patients, a recommendation to alter the original treatment plan was given and only 40% were found to be fit for surgery. Better preparation for surgery was recommended in 23% of patients. Medications were changed in 55% of patients and in 50% there was a recommendation for additional social support.

Overall, in 65 patients (33%) there was a modification to the treatment plan after GA

### **Conclusion**

Patients referred to the geriatric-surgery clinic had varying degrees of frailty, and many were found to be at risk for geriatric-specific complications. Preoperative GA-driven interventions may improve fitness for surgery in older adults. Further studies are needed to evaluate the impact of these interventions on post-operative outcomes

*Keywords: geriatric assessment, older adults, major surgery, preoperative geriatric interventions*

## **Geriatric Neuro Surg: Providing the care frailer patients deserve (A survey of staff opinions regarding a Shared Care Neurosurgical-Geriatric Service)**

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### **Introduction**

- The surgical population is ageing and patients wait listed for surgery are increasingly complex with multiple comorbidities.
- Patients requiring neurosurgery are no exception.
- The Neurosurgery Department at Sir Charles Gairdner Hospital, in Perth WA provides a tertiary service for the state of Western Australia.
- Most common pathology in our older population include brain tumours, intracranial haemorrhage/haematomas and spinal cord pathology.
- This busy department consists of 9 consultants, 11 Registrars and 6 RMO doctors. Two wards with 45 neurosurgical beds (including a 9 bed HDU), fully staffed with surgically trained nurses, a full allied health team, a clinical nurse consultant and staff development nurse on each ward.
- Between July 2021 and June 2022 n = 1454 patients were treated in the dept in total, of which 34% were >65 yrs. (n=491) 62% of these patients were emergency cases and 35% were elective.

### **Our Service**

- A shared care neurosurgical-geriatric service consists of a Consultant Geriatrician and a geriatric registrar.
- Daily ward rounds (Consultant led x 3 wky, Registrar led x2 weekly). Registrar: ward based Monday to Friday. Average 15-20 in-patients.
- All patients >65 yrs receive shared care and regular geriatric review that focuses on the CGA from admission to discharge.

### **Method**

- RMO survey : 2 weeks prior to service start date and 2 months post establishment.
- Nursing staff and allied health survey : 2 weeks prior to service start date and 6 months post establishment.
- 5 point Likert scale responses were used
- Questions related to : level of understanding of our role, perceived quality of care given to older adults, discharge processes, suggestions for improvement

### **Result**

- 26 responses from nursing (14), allied health (7) and 6 junior surgical doctors
- Key Improvements : perceived quality of care of frailer patients, discharge planning, goals of care.
- Comments : "I think the pilot model of care has been a huge success". ..."The best change to the ward in years" ..."invaluable".. Considerably improved level of care given to our elderly patients " ..."Enormously beneficial to length of in patient stays"

### **Conclusion**

This innovative shared care neurogeriatric service is considered a highly valued addition to the neurosurgery department with globally positive feedback from all ward staff. Specifically, quality of care of elderly patients was perceived to be significantly improved in addition to the discharge process. Clinical data is currently being collected evaluating length of stay and other measures of surgical outcome to correlate with these findings.

## **Transverse abdominal plane block versus thoracic epidural analgesia in Colorectal Surgery: A Prospective Randomized Control Trial (ABATE study)**

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### **Introduction**

#### **Objective**

Enhanced Recovery after Surgery (ERAS) protocol in colorectal surgery is being adapted with the aim of decreasing length of hospital stay (LOS) and morbidity(1) . Multimodal analgesia is one of the important intervention of the ERAS pathway to achieve the objective. Both thoracic epidural and transversus abdominis plane (TAP) block with systemic medications form components of multimodal analgesia techniques. We aimed to compare Thoracic Epidural Analgesia to Ultrasound Guided TAP block in the perioperative pain management of patients undergoing colorectal surgeries at a tertiary care cancer centre.

#### **Method:**

- Institutional Ethics Committee approval
- Registered with Clinical trial registry of India (CTRI/2020/07/026742)
- Informed Consent
- Inclusion Criteria: Adult patients undergoing elective open anterior resection or hemicolectomy.
- Randomisation

40 patients undergoing elective open anterior resection or hemicolectomy. were randomised to either the epidural group (Group I) or ultrasound-guided TAP block (Group II). Group I - Awake Thoracic Epidural. Intraoperative and postoperative continuous epidural infusion (0.1% Bupivacaine +2mcg/cc fentanyl 5 to 7ml/hour for 72 hours) with systemic medications.

Group II - Bilateral USG guided TAP block with catheters postinduction with bolus of 20 ml of 0.25% levobupivacaine followed by continuous infusion of 0.25% at 4-5ml/hr during surgery. Bolus of 20 ml of 0.25% levobupivacaine 8 hourly for 72 hours with systemic medications. Rescue analgesic with IV fentanyl PCA.

Both groups - Routine GA plus Systemic medications. Systemic medications perioperative period - IV Diclofenac 1 mg/kg and IV Paracetamol 1gm/ 15mg/kg (body weight <50kg). IV Ondansetron 0.1mg/kg as required.

Sample size calculation: Average opioid consumption in the epidural group is around 720-1008mcg(mean:864mcg) in 72hrs. Setting a 10% difference in opioid consumption as clinically relevant, total of 16 patients in each group required.

#### **Results:**

In the TAP block group, there was reduced intravenous fentanyl-equivalent consumption during the 0-72h with 495mcg (255,750) versus 760mcg(750,760) in epidural group.(p=0.01). No difference was found for secondary outcomes - pain scores at rest, incidence of PONV requiring intervention, return of bowel function. Pain scores on movement was lower in the epidural group 2(2,2)vs TAP group 2(2,3) (p= 0.008).

#### **Conclusion:**

Multimodal analgesia as part of an ERAS protocol with TAP block lead to effective postoperative analgesia while reducing opiate use as compared to epidural analgesia. However, the analgesia provided by the epidural is superior to that provided by TAP for pain on movement.

#### **Reference**

1. Cavallaro P, Bordeianou L. Implementation of an ERAS Pathway in Colorectal Surgery. Clin Colon Rectal Surg. 2019 Mar;32:102-108.

**Keywords:** Analgesia, Thoracic Epidural, Transversus abdominis plane, ERAS

## **Risk factors for Postoperative Non-Invasive Ventilation – Post-hoc Analysis of the Post-operative Vascular Complications in Unrecognized Obstructive Sleep Apnea (POSA) Study**

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### **Introduction**

Oxygen is commonly administered after major surgery. Non-Invasive Ventilation (NIV) such as bilevel positive airway pressure or continuous positive airway pressure is employed in subgroup of post-surgical patient with respiratory failure. We investigate the characteristics of surgical patients from the POSA cohort requiring postoperative NIV.

### **Method**

This is a post-hoc analysis of a prospective observational cohort study (POSA database). Patients  $\geq 45$  years undergoing major noncardiac surgery were recruited if they had  $\geq 1$  cardiovascular risk factors. The primary outcome was NIV use on postoperative night one. Multivariable logistic regression analysis determined characteristic of surgical patients who required NIV in comparison to those requiring conventional oxygen therapy (nasal cannula, simple mask).

### **Result**

On postoperative night 1, 1,207 patients with informed consent were studied, of which 311(25.8%) patients received usual care, 827(68.5%) received conventional oxygen therapy, and 69(5.7%) patients received postoperative NIV. Univariate analysis showed that surgery type, renal impairment, Epworth Sleepiness Scale (ESS), higher preoperative apnea-hypopnea index, and lowest SpO<sub>2</sub> were associated with postoperative NIV. Adjusting for covariates of neck circumference and gender, the multivariable logistic regression model showed that vascular surgery [adjusted odd ratio (aOR): 7.60 (4.34-13.3)], renal impairment [aOR: 3.01 (1.33-6.83)], and an ESS  $\geq 10$  [aOR: 3.29 (1.77-6.11)] were independently associated with postoperative NIV use.

### **Conclusion**

Clinicians should be vigilant of the possible need for postoperative NIV in patients presenting for vascular surgery, with pre-existing renal impairment, or higher ESS score.

*Keywords: Non-invasive ventilation; continuous positive airway pressure; obstructive sleep apnea; Epworth Sleepiness Scale; oxygen therapy*

## Association between nocturnal hypoxemia and chronic kidney disease in type 2 diabetes mellitus

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### Introduction

Chronic Kidney Disease (CKD) is a common complication of Type 2 diabetes. Nocturnal hypoxia is postulated to have a role in CKD through oxidative stress, triggering of sympathetic nervous and renin-angiotensin systems. Furthermore, pathological pathways support a bidirectional relationship between CKD and obstructive sleep apnoea. We investigate the association between moderate-severe hypoxia during sleep [defined an oxygen desaturation index (ODI)  $\geq 15$ /hour] and presence of CKD.

### Method

After ethics approval and informed consent, adult type 2 diabetes patients were enrolled into this prospective observational study. Demographic, medical history, medication, lifestyle and laboratory data were collected. Patient underwent continuous nocturnal oximetry using type 4 sleep testing device to determine ODI during sleep hours. CKD criteria was based on KDIGO guidelines. Sample size of at least 20 patients was calculated (difference in prevalence of ODI  $\geq 15$ /hour 60% between patients with and without CKD, 80% power, 5% significance level). Modified poisson regression examined association between ODI, SpO<sub>2</sub> < 90% duration and CKD.

### Result

Twenty-three patients were recruited, aged 59.6 $\pm$ 9.7 with 12 females and 11 males. Fourteen (61%) of the patients met CKD criteria and 7(30.4%) patients had ODI  $\geq 15$ /hour. Univariate analysis showed Indian race and BMI to be associated with CKD with relative risk (RR) 2.17(95%CI 1.19-3.95, p=0.012) and 1.07(95%CI 1.02- 1.12, p=0.005) respectively. Adjusting for covariates (age/gender/diabetes duration/HbA1c/systolic blood pressure/renin angiotensin receptor antagonist use), ODI [RR 1.03(95%CI 1.00-1.05, adjusted p=0.042)] and percentage of sleep duration with SpO<sub>2</sub> < 90% [RR 1.06(95%CI 1.00-1.13, adjusted p=0.038)] were independently associated with CKD.

### Conclusion

In addition to diabetes, nocturnal hypoxia may be a contributing factor to the development of CKD in susceptible patients.

*Keywords: Chronic kidney disease, Obstructive sleep apnoea, Nocturnal hypoxemia*

## Hip Fracture Surgery among Elderly Patients: The Aftermaths of Surgical Delay

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### **Introduction**

Hip fractures among elderly are associated with high rate of morbidity and mortality as well as significant quality of life impairment. Current guidelines indicate that surgery should be performed within 24 hours of injury with earlier surgery is associated with improved functional outcomes, lower incidence of perioperative complications and mortality. However, during clinical practice surgical delay is often unavoidable due to various reasons. This study aimed to assess the clinical effect of surgical delay on perioperative outcomes among elderly patients with hip fractures in Indonesia.

### **Method**

This was a retrospective observational study conducted in single hospital in Indonesia between June 2020 and July 2022. Elderly was defined as those who aged 60 years and older. Surgical delay was defined as those who had surgery more than 24 hours from injury. Patient demographic, clinical profiles and outcomes were collected based on the electronic medical record.

### **Result**

A total of 20 elderly patients with mean age  $77.7 \pm 9.12$  years old were admitted during study period. Majority of patients were female in the oldest old criteria ( $\geq 80$  years old) with hypertension as the most common underlying medical condition. More than half of patients had surgical delay longer than 24 hours with mean time to surgery was  $3.1 \pm 2.73$  days. Those with surgical delay had lower preoperative hemoglobin and albumin level ( $12.17 \pm 2.68$  vs  $10.79 \pm 1.56$  and  $3.97 \pm 0.30$  vs  $3.58 \pm 0.47$ ). Preoperative clinical frailty score and ASA physical status were also significantly higher among patients with surgical delay. Postoperative complications were more frequent in those with surgical delay with 2 cases of hospital readmission and 1 mortality in less than 6 months. Those with surgical delay had significantly longer length of stay in comparison with those with no delay ( $9.36 \pm 4.54$  vs  $3.44 \pm 1.01$ ).

### **Conclusion**

There was a significant portion of elderly patients with hip fracture having a surgical delay in our institution. Postoperative complications and longer hospital stay were more profound among these group of patients.

*Keywords: geriatric anesthesia, hip fracture, surgical delay, outcomes*



## **Preoptimisation in Prehabilitation: Hypertension**

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### **Introduction**

Prehabilitation has developed to improve patients' perioperative functional status, but as yet not engaged with medical optimisation. 1/3 of people in the UK have hypertension with 50% undiagnosed or poorly controlled. (1) The majority of evidence relates to severe hypertension treatment pre-operatively, but even moderate hypertension can increase myocardial ischaemia risk perioperatively. (2)

University College London Hospitals (UCLH) Prehabilitation team aims to optimise all hypertensive patients referred to the service.

### **Method**

We collaborated with the existing UCLH remote hypertension management service. Patients with a systolic blood pressure (SBP) above 160mmHg or diastolic blood pressure (DBP) above 100mmHg were included. The only direct patient contact in UCLH prehabilitation is during CPET these patients formed the initial roll out.

Screening blood tests included renal, liver function, full blood count and urinary anti-hypertensive assay. Patients were registered with the 'MyCare' app, linking directly to EPIC medical records system. They were supplied with a home BP cuff and written instructions.

BP readings were taken 3 times daily for 3-5 days and the results reviewed at the next Prehabilitation MDT. Meeting the agreed criteria (SBP above 140mmHg, DBP above 90mmHg) triggered a referral to the hypertension clinic for ongoing management.

### **Result**

Launching in August 2022, four patients have been recruited into the programme. One patient was diagnosed with 'white coat' hypertension and was discharged with advice.

Two known hypertensive patients were identified to have poor BP control. One was non-compliant with medication; identified through the urine assay). The second patients' medications had not been fully optimised in primary care.

The fourth patient was diagnosed with hypertension through the programme. All of the hypertensive patients had their medications optimised or started prior to surgery through remote consultation.

### **Conclusion**

We have demonstrated a programme which can optimise hypertension prior to surgery effectively through electronic remote monitoring and secondary care expertise. This model can be applied to other chronic conditions including diabetes and anaemia.

*Keywords: prehabilitation; preoptimisation; hypertension; remote-monitoring; digital-health*

## Role of Cystatin C in Predicting Acute Kidney Injury After Surgery

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### **Introduction**

Surgery is a known risk factor for acute kidney injury (AKI) which causes considerable implications on mortality and morbidity. We investigated the incidence of AKI following surgery and determine the diagnostic capability of Cystatin C (CysC) in diagnosing and predicting AKI.

### **Method**

This is a single centre, prospective study of patients who underwent surgery under general or regional anaesthesia between September 2021 to February 2022. Serum Creatinine and plasma CysC were measured at three intervals (admission, within 24 hours and 72 hours following surgery). Area under receiver operating characteristic curve (AUROC) analysis was used to derive the CysC cut-off value to diagnose and predict AKI. AKI was defined based on creatinine criteria of the Kidney Disease: Improving Global Outcome (KDIGO) criteria.

### **Result**

A total of 100 patients included with mean age of  $58 \pm 14$  years old and 51% were male. AKI occurred in 20 (20%) patients, mainly stage 1 (55%), followed by stage 2 (30%) and stage 3 (15%). On AUROC analysis, CysC has the highest AUC at 0.93 (Sensitivity 87.7%, Specificity 86.7%) with a cut-off value at 1.67mg/dL for AKI on day three after surgery. Post operative day one CysC predicts day three AKI at a cut-off value of 1.595mg/dL [AUC=0.86, (Sensitivity 87.5%, Specificity 79.5%)].

### **Conclusion**

Cystatin C is a strong predictor for AKI as early as 1 day following surgery with a cut-off value at 1.595mg/dL. Early recognition of patients at risk to develop AKI may prompt surgeons to be vigilant in managing at-risk patients postoperatively.

*Keywords: Acute Kidney Injury; AKI, Cystatin C; Surgery; Postoperative*

## **PREPared Care is Better Care: PRE-operative assessment of the Elderly Patient in a Geriatrician Led Out-Patient Clinic**

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### **Introduction**

- Our ageing population is living longer due to medical advances. More are also undergoing surgery due to improved techniques and changing attitudes and expectations regarding "later life". 1
- Patients over 65 now represent over one third of all elective surgical patient admissions in Australia.2
- A geriatrician's input in an older patients' peri-operative journey has shown proven benefits across surgical specialties. 3
- In Australia and New Zealand, a recent survey found only 12 of 67 hospitals provided a proactive geriatric service for older surgical patients. Only 3 provided both pre-operative and in-patient care.
- At Sir Charles Gairdner Hospital, WA, we provide proactive in-patient care of patients over >65 yrs across vascular, orthopaedic and neurosurgical wards.
- We have recently started a geriatrician led pre-operative clinic for higher risk patients to further optimise patient care.
- This study aims at assessing the benefit and quality of this service by reviewing the clinic letters and interventions triggered.

### **Method**

- Letters of the last 40 patients seen in our perioperative clinic were reviewed.
- Data relating to key aspects of the Comprehensive Geriatric Assessment was extrapolated.
- Surgical risk calculations and documented frailty scores were also noted.
- Interventions and recommendations made from clinic were summarised.

### **Result**

- Average age of patient : 78 yrs.
- Over one third of patients had polypharmacy (>5 medications).
- Over one third of patients had documented cognitive decline.
- Average 6 significant co-morbidities per patient.
- 92% of patients were recorded as having impaired mobility.
- Surgical risk calculations were included in over two thirds of the clinic letters.
- Frailty scores were documented in over half the clinic letters (mean Edmonton FS 6.7).
- Additional interventions and imaging were arranged in over 50 % of cases as a result of the consultation.
- Discussions with other specialties and GP's took place in over 30% of clinic visits.
- Surgery was postponed in one case.

### **Conclusion**

- Our pre op clinic serves frail, multi morbid, higher risk patients who represent a cohort of the population increasingly being considered for surgical procedures.
- Comprehensive geriatric assessment and pre-optimization of these patients has already been proven to be hugely beneficial for all concerned.
- Pre-operative assessment provides GPs and surgical teams with specialist advice on geriatric syndromes and provides a forum for multi-specialty pre-operative planning in high risk patients.
- Many of these patients have complex needs and we are keen to expand our service to include a designated peri-operative allied health team.

## DrEaMing in a Digital World

Deborah Douglas\*<sup>1</sup>; Faye-Louise Hickey<sup>1</sup>; Ruth McDonald<sup>2</sup>; Pete Odor<sup>1</sup>; Melanie Tan<sup>1</sup>  
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<sup>2</sup>Gynaecology and Breast, Women's Health / University College London Hospital/ United Kingdom

### **Introduction**

Drinking, Eating and Mobilizing (DrEaMing) are quality metrics delivered as a bundle of care for post-operative surgical patients. It has its origins in Enhanced Recovery After Surgery (ERAS), and is often referred to as ERAS 'Lite'. Adoption and consistent practice are associated with (i) reduced length of stay (ii) reduced complications and an (iii) improved patient experience.

After implementation of our Electronic Healthcare Records System in April 2011, our aim was to transform our post-operative documentation in patients undergoing major surgery into a reportable format that could be extracted and demonstrate compliance.

### **Method**

A digital subsection of the ERAS pathway (DrEaMing) for patients undergoing major surgery was developed based on the previous paper-based pathways. These pathways were reviewed and improved upon by a multidisciplinary team to include updated recommendations shown to improve patient outcomes.

The digital build of a flowsheet was introduced to frontline users (Ward nurses and Health Care Assistants) workflow space to facilitate the capture of real-time DrEaMing activity. The digital workflow went live on our pilot surgical ward and was supported with a programme of virtual study days and on-site supervision providing education and training with an opportunity to obtain feedback. Recommendations were used to optimise the digital workflow and flowsheet.

We prospectively looked at the data captured over a two-year period from November 2020 to October 2022. Data collected included demographics, ASA score, surgical specialty, Day one PACU intravenous fluid management, established oral diet and mobilization for each patient.

### **Result**

N= 2193. Mean age 65 yrs. Overall compliance with DrEaMing worksheet documentation on Day 1 post operatively improved from 27% to 58%. Compliance for IVF administration documentation increased from 0% to 36%, free fluid compliance from 43% to 77%, eating from 43% to 77% and mobilization from 0% to 41%. Adherence to  $\geq 3$  DrEaMing standards on day 1 after surgery was 36%. 8% of patients stopped IVF, 52% commenced fluid, 52% commenced diet, 33% were mobilized.

### **Conclusion**

We demonstrated an increase in worksheet documentation compliance over the 24-month period by frontline users. This was associated positively with interventions such as education and training suggesting that implementation without consistent support and subsequent changes will not lead to an improvement and are key to project success. Adherence to DrEaMing standards were low however it is likely that this is attributable to poor documentation. Data feedback is important to engage clinicians and encourage adoption. This should be considered in digital transformation.

*Keywords: Enhanced Recovery, Perioperative Medicine, Digital Transformation*

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