Agenda

30 April 2022

11:00 pm - 8:00 am
CARDIOTHORACIC TRAINEES COURSE - CATERING AND SPONSOR DISPLAY

Workshop - Cardiothoracic Surgery - Mezzanine Level Meeting Room M2

11:00 pm - 10:00 am
CARDIOTHORACIC TRAINEES COURSE - LECTURE ROOM

Workshop - Cardiothoracic Surgery - Mezzanine Level Meeting Room M3

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01 May 2022

11:00 pm - 8:00 am
CARDIOTHORACIC TRAINEES COURSE - CATERING AND SPONSOR DISPLAY

Workshop - Cardiothoracic Surgery - Mezzanine Level Meeting Room M2

11:00 pm - 9:00 am
CARDIOTHORACIC TRAINEES COURSE - LECTURE ROOM

Workshop - Cardiothoracic Surgery - Mezzanine Level Meeting Room M3

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02 May 2022

11:00 pm - 8:00 am
CARDIOTHORACIC TRAINEES COURSE - CATERING AND SPONSOR DISPLAY

Workshop - Cardiothoracic Surgery - Mezzanine Level Meeting Room M2

11:00 pm - 8:30 am
CARDIOTHORACIC TRAINEES COURSE - LECTURE ROOM

Workshop - Cardiothoracic Surgery - Mezzanine Level Meeting Room M3

11:00 pm - 12:20 am
PACIFIC BREAKFAST MEETING

Breakfast Session - Global Health - Plaza Level Meeting Room P1

02 May 2022

12:00 am - 8:30 am
TRAINEES' DAY - HPB & BARIATRIC SURGERY

Workshop - General Surgery - Sky Level Meeting Room S1

02 May 2022

12:15 am - 8:30 am
ENDOCRINE SURGERY ULTRASOUND WORKSHOP (TICKETED EVENT)

Workshop - Endocrine Surgery - Plaza Level Meeting Room P2

Course Director: Dr Edwina Moore (Melbourne) This workshop introduces the role and utility of point of care ultrasound in endocrine surgery. Course attendees will participate in a series of didactic introductory lectures, followed by small group, hands-on activities, mentored by expert endocrine surgeons with experience in clinical ultrasound.

12:15 am
Discussion

02 May 2022

12:30 am - 1:00 am
KEYNOTE LECTURE - MR GEORGE FRASER (SUNSHINE COAST, AU)

Keynote Lecture - Global Health - Plaza Level Meeting Room P1

12:30 am
2050 Strategy for the Blue Pacific Continent
Mr George Fraser

12:30 am - 2:00 am
ORGAN DONATION AND PRESERVATION

Scientific Session - Transplantation Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

12:30 am
Recent advances in kidney preservation and the use of perfusion to predict viability of kidney
Professor Ina Jochmans

1:00 am
Novel additives in preservation fluid for kidneys
Professor Alp Sener

1:30 am
Targets for hepatic resuscitation: Ex-vivo perfusion as a translational platform
Dr Katharine Irvine, Dr Katharine Irvine

1:50 am
Liver Splitting During Normothermic Machine Perfusion: Development of a Novel Method to Combine the

Advantages of Both Ex-Vivo and In-Situ Techniques
Dr Ngee-Soon Lau
Purpose: Split liver transplantation addresses donor shortages by permitting the transplant of two recipients using a single donor liver. Liver splitting can be performed in an ice-bath using the ex-vivo technique, or during the procurement operation using the in-situ technique. Normothermic machine perfusion could allow these livers to be split ex-vivo while being continuously perfused which combines the advantages of both the traditional ex-vivo (convenience) and in-situ techniques (shorter cold ischaemic time). Methods: Human livers declined for transplantation were perfused using a red-cell based perfusate under normothermic conditions (36°C) using a modified commercial liver perfusion machine. We developed a six-step method for the splitting of whole livers into a left lateral segment graft and an extended right graft. Both partial livers were then perfused on separate machines and individually assessed using biochemical markers of liver function. Results: Using our novel method, 10 whole livers were perfused and successfully split during normothermic perfusion resulting in 20 partial grafts. Apart from a single partial graft which failed due to a technical error, all grafts survived for 24 hours after splitting. Stable liver function was demonstrated by lactate clearance, bile production and synthesis of coagulation factors in both grafts. Conclusion: Liver splitting during normothermic machine perfusion has the potential to revolutionise split liver transplantation. We describe a novel technique that reliably achieves 2 viable grafts from a single donor liver. This raises the potential for semi-elective day time liver transplantation and sophisticated graft assessment prior to implant.

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02 May 2022

1:00 am - 2:00 am
RACS GLOBAL HEALTH SECTION

Scientific Session - Global Health - Plaza Level Meeting Room P1

1:00 am
RACS Global Health; a membership perspective
Professor Owen Ung

1:08 am
Transitioning Traditional Programs to the New RACS Global Health Program Structure'
Ms Robyn Whitney, Ms Philippa Nicholson

1:27 am
25 years of providing uro-gynaecological assistance to Africa and South East Asia; a personal perspective
Dr Hannah Krause
GLOBAL WOMEN'S HEALTH As a young doctor in 1995 I travelled to Ethiopia as a self-funded medical volunteer to work in a regional hospital for 6 months, then spent 4 weeks at the Addis Ababa Fistula hospital. Those experiences inspired my commitment to assisting with global health care. Women's health statistics reflect inequity in access to health care globally. The lifetime risk of maternal death is defined as the possibility that a 15-year-old female will eventually die from a maternal cause. In high-income countries, the risk is 1 in 5400, whereas in low-income countries, it is as high as 1 in 45. Lack of access to obstetric care during pregnancy and childbirth also results in serious morbidities including obstetric fistula. Prolonged obstructed labour causing pressure necrosis most commonly causes obstetric fistula, with over 90% of infants stillborn. Each year 50,000 – 100,000 women worldwide develop obstetric fistula. Much is needed in limited resource regions to improve health care. In my experience, there are 4 main areas to focus on: 1. Strengthen the current services 2. Establish services that are unavailable 3. Teach/ skills transfer to allow continuation of services 4. Sustainable provision of resources Over the last 25 years I have made numerous trips to limited resource regions providing medical care for women with obstetric fistula/ pelvic floor pathologies. It is important for us all to contribute to sustainable positive change in global health care, and in doing so, ensure future improvements globally in accessibility to comprehensive and quality health care.

1:40 am
Outreach volunteering: Why would I?
A/Prof Nicole Williams

1:55 am
Discussion

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02 May 2022

1:30 am - 5:00 am
INSTITUTE FOR COLLABORATIVE RACE RESEARCH (ICRR) SITE VISIT (TICKETED EVENT)

Workshop - Indigenous Health

Venue: Institute for Collaborative Race Research (ICRR), 14 Lockhart St Woolloongabba 4102

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02 May 2022

2:30 am - 4:00 am
RECIPIENT ASSESSMENT AND OUTCOMES

Scientific Session - Transplantation Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

2:30 am
Immunosuppression, rejection and the impact of virtual cross match
Associate Professor Ross Francis

3:00 am
Assessment of frailty in potential transplant recipients
Dr Natasha Reid

3:30 am
Implications of frailty in liver transplant recipients
Associate Professor Graeme Macdonald, Professor Graeme Macdonald

3:50 am
Selective Ureteric stenting in renal transplantation
Dr Santosh Olakkengil
Introduction The Royal Adelaide Hospital Renal Transplant unit started selective ureteric stent (SUS) insertion and assessed the rates of urinary tract infections (UTI), major ureteric complication (MUC), BK virus, Cytomegalovirus (CMV) in patients with transplant ureteric stent versus those with no stent. Objectives To audit SUS in our renal transplant patients. Methods A retrospective audit of our patients since June 2017 who had SUS insertion by a predetermined criteria. Total, 321 patients underwent SUS insertion. 23 patients did not fulfil inclusion criteria. The remaining 298 patients underwent selective stenting with 192 patients stented and 106 patients not stented. Both groups underwent 6 months follow up for MUC and UTI, 255 patients completed 12 months follow up for BK and CMV. Results 14 out of 192 stented patients had MUC (7.3%) compared to 10 out of 106 non-stented patients (9.4%) who then had stents and included in the stented group assessment for UTI. UTI developed in 69 of 202 stented patients (34.2%) and 29 of 96 non-stented patients (30.2%). Out of 255 patients completing 12 months follow up, 172 were stented and 83 were not stented. CMV viraemia was detected in 43 of 172 stented patients (25%) and 16 of 83 non-stented patients (19.3%) whilst BK was detected in 20 of 172 stented patients (11.6%) and 9 of 83 non-stented patients (10.8%). Conclusion No significant difference in UTI, MUC, BK virus infection between the stented and the non-stented groups. However, there is a 5.7% difference in CMV infection between the two groups.

2:30 am - 4:00 am
SAFE AND AFFORABLE SURGERY

Scientific Session - Global Health - Plaza Level Meeting Room P1

2:30 am
Global Health: What is safe and affordable surgery?
Professor David Watters
The Lancet Commission on Global Surgery (LCoGS) aims to promote “Universal access to safe, affordable and timely surgery and anaesthesia.” Six metrics were chosen to monitor progress, measuring access, workforce, surgical volume, perioperative mortality rates (POMR), and financial risk. Safe surgery must include the principle of “above all doing no harm.” The procedures depend on a trained perioperative

workforce of surgeons, anaesthetists, nurses and other allied health. Trained providers of anaesthesia or surgery may not necessarily be doctors, a good example in our region being PNG's anaesthesia scientific officers. Safe surgery cannot be provided without preoperative assessment and optimisation, informed consent and shared decision making that includes assessing risks and goals of management. It also requires adherence to standards of sterility and infection control, and use of WHO's surgical safety checklist. Preparedness for a procedure includes protocols for crises such as a difficult airway, anaphylaxis, blood loss. Postoperatively one must respond promptly to deterioration and manage complications, communicate effectively with primary care, and provide discharge information to patients and carers. Affordable surgery depends upon a health system that provides emergency and essential surgery without impoverishing (living below poverty line) and/or catastrophic (>10% of household income) out-of-pocket expenditure (OOP). Even where there are no direct medical OOP costs, the direct non-medical costs of transportation may cause catastrophic and/or impoverishing expenditure. Impoverishing expenditure may be a less realistic measure of financial risk, given that in many LMICs, a high proportion of the population already live on or below the poverty line (US$2/day).

2:50 am
Anaesthesia to allow Safe and Affordable surgery
Dr Arthur Vartis
Safe anaesthesia underpins the delivery of essential surgical care in low and middle income countries. It correlates directly with patient outcomes and surgical volumes. Today the lowest 30% per capita income countries receive only 2% of the total volume of global surgical procedures. This highlights the extent of unmet surgical care worldwide. The challenges in providing essential and affordable surgery and safe anaesthesia in countries beset by chronic shortages of trained health care workers, poor governance, inadequate infrastructure and inadequate supply consumables are significant. These are often reflected in the limited capacity of health institutions to reliably deliver key bellwether procedures. In 2015 the Governing Assembly of the World Health Organisation formally adopted the Global Surgery Initiative. This was a significant development and culmination of 10 years of lobbying to bring surgery in low income counties to the same status as the millennial goals. For the first time it recognised the delivery of emergency and essential surgery underpinned by the provision of safe anaesthesia as a vital component of global health care. This talk focuses on the delivery of anaesthesia in the Micronesian archipelago located in the North West pacific. This is a region which faces the most significant resource challenges in the Pacific. Over a twenty year period of engagement with the region I will touch on the real world challenges facing this region in the delivery of safe anaesthesia.

3:10 am
Progress in the Western Pacific with respect to Safe and Affordable surgery
Dr Liz McLeod

3:30 am
Essential Surgical Supplies: A step in the process of establishing capacity for Safe and Affordable Surgery and Anaesthesia in the Western Pacific Region
Mr Graham Hextell, Mr Graham Hextell
The provision of safe and affordable surgery and anaesthesia continues to gain recognition as an essential element of any functioning healthcare system. Previous work from multiple agencies has raised the profile of global surgery in recent years, however this project extends beyond addressing access to surgery and workforce capabilities. Under the supervision of the WHO Regional Office of the Western Pacific, country consultations were conducted in order to develop a structured compilation of Essential Surgical Supplies. This presentation will outline the overall project of determining Essential Surgical Supplies, describe the processes utilised in engaging key clinical health leaders across the region, and discuss the opportunities that remain where procurement can be utilised in advocating for best clinical practice.

3:50 am
Discussion

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02 May 2022

4:00 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR ALP SENER (LONDON, CANADA)

Keynote Lecture - Transplantation Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

4:00 am
Robot assisted laparoscopic donor surgery

Professor Alp Sener

4:00 am - 4:30 am
THE ROWAN NICKS LECTURE

Keynote Lecture - Global Health - Plaza Level Meeting Room P1

4:00 am
Experience as a leader in a teaching hospital after completing the Rowans Nick Scholarship in 2007
Dr Dahril

02 May 2022

4:30 am - 7:30 am
SAVING MYSELF FROM MYSELF... DECISION MAKING IN THE RAW! (TICKETED EVENT)

Workshop - Quality & Safety in Surgical Practice - Boulevard Level Meeting Room B1

Venue: Brisbane Convention and Exhibition Centre Cost: $25.00 incl. GST Minimum: 25 Maximum: 25 An intensive workshop looking at clinical decision making and non-surgical skills. The workshop is available for both surgeons and trainees. The workshop is co-sponsored by the Queensland Audit of Surgical Mortality. For further details regarding the workshop, please contact Dr John North, Clinical Director of QASM & NTASM at: john.north@surgeons.org or Jenny Allen, Project Manager of QASM &NTASM at: jenny.allen@surgeons.org

02 May 2022

5:30 am - 7:30 am
AWAY FROM THE "COAL FACE"

Scientific Session - Surgical Education, Global Health - Plaza Level Meeting Room P1

5:30 am
Remote assistance to the orthopaedic surgeons of Fiji
Mr Martin McBain
Orthopaedic Outreach has provided in-person training, mentoring, and support via team visits throughout the Asia Pacific region for many years. During this time, strong relationships and personal bonds have grown between the members of the Outreach teams and their hosts. The COVID pandemic forced us to rethink our model of care due to the inability to travel, and provide in-person support. We transitioned to weekly virtual Zoom meetings that discuss urgent, and current cases on the ward, between the Australian and Fijian surgeons and registrars. This format has allowed us to continue the strong intra personal relationships, as well as providing expert advice and mentoring between Fijian and Australian surgeons. I would like to share with you some of the stories of this on-line journey and the implications of virtual surgical outreach looking forward.

5:50 am
The Pacific Islands Orthopaedic Association training program; the effect of COVID-19
Dr Des Soares
The Pacific Islands Orthopaedic Association(PIOA) runs a modular training program with twice yearly 3 weeks modules held in Pacific Island countries. In 2018 we began using Zoom for our final year trainees preparing for their exit exam which was held in PNG in 2019. With the onset of COVID and the ban on travel we pivoted to a fully online program with lectures each week on a Sunday afternoon. We hope to restart modules in 2022 when governments allow. Student outcomes and satisfaction with online learning were assessed at the end of 2021. Improvements in 2022 include getting students to present edited video of clinical episodes for discussion.

6:10 am

Mentoring a Fellowship Examination in a South East Asian neighbour country
Dr Paul Pincus
I was offered the opportunity to assist in the Fellowship Examination for the Indonesian Orthopedic Association while I was on the Australian Court of Examiners. I will discuss the details of the Indonesian Training program and their exam process. I will describe how we as Australian examiners have attempted to influence process with variable success. I will describe how much I have enjoyed the opportunity to Mentor this exam.

6:30 am
A Paediatric Advanced Life Support Course; Transitioning from Delivery "Hands On" in Country to a Local Faculty Delivery Monitored Externally; Considerations around Long-Term Success
Mr Bruce Lister

6:50 am
Is a Microsurgery Course practical in resource limited setting?
Associate Professor Graham Gumley
In developed countries the thought of a microsurgical operation conjures up impressions of expensive and sophisticated equipment, fine and specialised instrumentation, resource intensive training, complex surgical interactions, free tissue transfer or revascularisation/replantation. Development of technical Microsurgical skills, however, can be readily achieved using available and less expensive loupe magnification, a simple set of microsurgical instruments and readily available simulation materials. The skills developed often find ready application for nerve and vessel repair in resource limited settings where trauma is frequent. In addition, the skills developed in fine tissue handling and gentle technique often lead to improved surgical performance at a more macro level. When microsurgical skills are not available there is little incentive to plan for the purchase of an operating microscope and instrumentation. As more affordable options become available those with microsurgical expertise will look to find ways to source the equipment required leading to improved surgical performance and patient outcomes. Personal experience with developing microsurgical training in three resource limited settings may illustrate a practical and effective approach using relatively inexpensive materials and a standardised technique.

7:10 am
Discussion

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR ENRICO BENEDETTI (CHICAGO, USA)

Keynote Lecture - Transplantation Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

5:30 am
Robotic kidney and pancreas transplantation
Professor Enrico Benedetti

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02 May 2022

6:00 am - 7:30 am
EXTENDED CRITERIA DONORS AND RECIPIENTS

Scientific Session - Transplantation Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

6:00 am
Management of obesity in transplant candidates
Dr Chung-Kwun Won

6:30 am
Transplantation in the COVID era
Assoc Prof Helen Opdam

7:00 am
Management of COVID-19 in transplant recipients

A/Prof Geoffrey Playford

7:20 am
Real-time assessment of the biliary tree before liver transplantation: The first use of cholangioscopy during ex-vivo machine perfusion
Dr Mark Ly
Introduction: Biliary strictures are the leading cause of re-transplantation and result from ischaemic injury to the biliary tree during organ procurement. Ex-vivo assessment of biliary injury can help determine whether a graft is unsuitable for transplantation. Cholangioscopy enables real-time assessment of the biliary tree but has never been performed ex-vivo. This was the first study to assess the biliary tree using cholangioscopy during ex-vivo machine perfusion Methods: Human livers unsuitable for transplantation were perfused ex-vivo for up to 6 days at normothermia (36 C). Long-term machine perfusion was achieved using a modified commercial system including dialysis, nutritional and hormonal support. Cholangioscopy was performed during ex-vivo machine perfusion. Cholangioscopic findings were correlated with bile and histological parameters of biliary injury. Results: Cholangioscopy and systematic assessment of the biliary tree was performed on eight grafts. Prior to reperfusion, debris was present in all grafts on cholangioscopy consistent with histological epithelial sloughing. Signs of reperfusion injury were seen in six grafts within the first 24 hours of perfusion and consistent with histology. Evidence of reperfusion injury on cholangioscopy improved in five grafts by 72 hours perfusion. Conclusion: This was the first study to perform cholangioscopy during ex-vivo machine perfusion. We characterised the cholangioscopic appearance of the bile duct up to 6 days of reperfusion. Injury visualised during cholangioscopy were consistent with histology. Cholangioscopy can be used as a novel-method for real-time ex-vivo assessment of the biliary tree.

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02 May 2022

6:30 am - 8:30 am
ANZTBCRS TRAINING BOARD MEETING

Business Meeting - Colorectal Surgery - Great Hall Merivales Boardroom 1

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02 May 2022

7:30 am - 8:00 am
TRANSPLANTATION SURGERY SECTION ANNUAL BUSINESS MEETING

Business Meeting - Transplantation Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

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02 May 2022

9:00 am - 10:30 am
CONVOCATION AND SYME ORATION (TICKETED EVENT)

Convocation - *Cross Discipline* - Great Hall Q1 (Use Door 6), Great Hall Q2 (Use Door 8)

9:00 am
The glass ceiling: is it really made of glass?
Associate Professor Julie Mundy

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03 May 2022

10:30 am - 11:30 am

10:30 pm - 11:30 pm
MASTERCLASS (MC03): WELLNESS (TICKETED EVENT)

Masterclass - Colorectal Surgery

Two activities have been organised for the session. Delegate have the option of choosing to do either yoga or kayaking. Numbers are limited for the activities and participants can select their preference when registering online. Kayaking on the Brisbane River Minimum 6 Maximum 40 Begin your day with unparalleled views of the city, from your very own kayak. Join us for a paddle along the Brisbane River, taking in all the best sights and giving your muscles a gentle work out. What to bring: We recommend travelling light (we have lockers available for valuables), but it is best to bring a towel and change of clothes, as you may get wet! Comfortable clothes are recommended. Yoga beside the Brisbane River Minimum 8 Maximum 20 Start the day in the right way with an amazing yoga session, on the edge of the Brisbane River. This is a great opportunity to move your body, and take in the stunning scenery. What to bring: Comfortable exercise clothing and water bottle. We will provide the mats. Important Information Due to the limited time slot, we will need a strict start time of 6:30am for both activities – don't be late, or you may miss out!

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03 May 2022

11:00 pm - 12:00 am
ACADEMIC SURGERY COMMITTEE MEETING

Business Meeting - *Cross Discipline* - Great Hall Merivales Boardroom 1

11:00 pm - 12:20 am
MASTERCLASS (MC01): THE DIFFICULT ONCOPLASTIC CASE - THE GOOD, THE BAD AND THE DISASTER (TICKETED EVENT)

Masterclass - Breast Surgery - Mezzanine Level Meeting Room M2

11:00 pm
Licap flaps- when, how and what can go wrong
Dr Alexander Brown

11:00 pm - 12:20 am
MASTERCLASS (MC02): RAT AND HEMI STERNOTOMY AVR (TICKETED EVENT)

Masterclass - Cardiothoracic Surgery - Mezzanine Level Meeting Room M3

11:00 pm - 12:20 am
MASTERCLASS (MC04): HAND TRAUMA WITH THE MASTERS (TICKETED EVENT)

Masterclass - Hand Surgery - Mezzanine Level Meeting Room M9

11:00 pm
Panel Discussion
Dr Tamer Adel Mettyas, Professor Randy Bindra, Dr Shireen Senewiratne, Dr Tony Berger

11:00 pm - 12:20 am
MASTERCLASS (MC06): AJCC STAGING FOR MELANOMA. A RUNDOWN OF THE 8TH EDITION AND HOW TO USE IT IN THE CLINIC (TICKETED EVENT)

Masterclass - Rural Surgery, General Surgery, Surgical Oncology - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

11:00 pm
Current melanoma staging and a practical application of the resource
Professor Jeffrey Gershenwald

11:00 pm - 12:20 am
MASTERCLASS (MC21): THE COMPLEX ABDOMINAL AND INCISIONAL HERNIAS - AN INNOVATIVE TREATMENT

Masterclass - General Surgery - Mezzanine Level Meeting Room M4

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03 May 2022

11:20 pm - 12:20 am
RESEARCH PAPERS

Scientific Session - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

11:20 pm
The Reverse Dermal Fat Graft: A New Technique in Head and Neck Surgery
Dr Isobel Yeap
Purpose: The autologous dermal fat graft in often used in parotidectomy surgery to reduce the risk of Frey's syndrome and assist in preserving facial contour symmetry. We describe a new technique of the reverse dermal fat graft. The graft is harvested in the described manner of a dermal fat graft, but the graft is reversed at inset: the graft's dermis is positioned deep and its fat surface is positioned superficially. The reasoning behind this is that, post ablative head and neck surgery, the skin overlying the defect is often of tenuous vascularity. The main criticism of the use of traditional dermal fat grafts is the risk of fat liquefaction, which occurs in the immediate post-operative period due to ischemic necrosis of the graft. This can lead to seromas, wound breakdown and contour deformities. Method: We describe a case series of six patients who underwent reverse dermal fat graft in our unit this year. 3/6 patients had reverse dermal fat graft under wounds that were primarily closed, 2/6 had grafts under keystones flaps and 1/6 had a graft under a supraclavicular artery perforator flap. Results: There were no signs of fat liquification in any of the six patients, indicating that the reverse dermal fat graft remained viable. None of the patients reported symptoms of Frey's syndrome at follow-up. We find that the graft remains soft, even after radiotherapy. Conclusion: We recommend the reverse dermal fat graft for use in head and neck surgery as a means of filling dead spaces, ameliorating contour deformities and preventing Frey's syndrome. It is particularly useful in cases where with tenuous vascularity of the overlying skin.

11:30 pm
Head And Neck Free Flap Reconstruction In The Elderly; Informing Patient Choices
Dr Caitlyn Withers
Head and neck surgery with free flap reconstruction is a complex procedure that has high demands on patients physically, physiologically and psychologically. Elderly patients undergoing this type of surgery have comparable short term outcomes when compared to younger age groups.Quality of life factors are important to elderly patients when deciding to proceed with surgery. These comprise of reducing inpatient stay, maintaining independence and prompt return to baseline function. There is paucity of data regarding post-operative quality of life in the elderly. We present a retrospective cohort study examining patients undergoing head and neck cancer resection and free flap reconstruction at a single institution over a 5-year period. This included 215 patients with a median age of 64 years, and 41 patients over the age of 75 years. Demographic data, length of stay and discharge destination were reviewed for each patient and compared between age bracket subgroups. This data can be applied clinically to provide more individualised information to elderly patients on factors important to them such as length of hospital stay and likelihood of requiring greater living support on discharge. Further research into functional quality of life outcomes such as independence in activities of daily living and mobility following head and neck reconstruction would be of value to assist surgeons in providing patient-centred care.

11:40 pm

Reconstructive free flap surgery of the head and neck. A 12 year local health district analysis.

Dr Raed Albasoumi

Affiliations:1Illawarra Shoalhaven Local Health District, Wollongong Hospital, Wollongong, New South Wales, 2500, Australia. 2Illawarra Health and Medical Research Institute, Wollongong, New South Wales, 2522, Australia. 3Faculty of Science, Medicine and Health, University of Wollongong, Wollongong, New South Wales, 2522, Australia. 4Sydney Head and Neck Cancer Institute, Chris O'Brien Lifehouse, 119-143 Missenden Road, Camperdown, New South Wales, 2050, Australia. Purpose:To detail the patient load following the establishment of a microvascular reconstructive service in a regional teaching hospital. Methodology:A retrospective review of data from head and neck patients who had undergone free flap reconstruction in a regional health district in NSW, Australia was conducted. Outcomes obtained were age, sex, smoking status, alcohol status, TNM stage, type of operation, flap type, duration of operation, length of stay, return to theatre, in hospital death, number of flaps, pre-operative radiotherapy and osteoradionecrosis as reason for surgery. Results:218 were conducted in the teaching hospital (Male = 157, Female = 61). On average they were 66 years of age(SD = 12.5) at the time of surgery and stayed in hospital for approximately 14 days post-operatively (range 4-265 days). The majority had a radial forearm(33%) or anterolateral thigh(27%) free flap for an intra-oral cancer(44%) and 53% were still alive at the time of analysis. Average yearly case numbers were 23 case. Conclusion:The establishment of a microvascular reconstructive head and neck service allowed for a substantial case load to be managed safely. Regional subspecialty services such as these provide a sophisticated care delivery capability closer to home for patients.

11:50 pm

Artificial intelligence for otoscopy: Exploring the optimal approach to autonomously identify ear disease using 3 otoscopy databases

Dr Al-rahim Habib

Purpose To develop an artificial intelligence (AI)-based computer vision algorithm to differentiate normal and abnormal otoscopic images. Methods Otoscopic images were collected from 3 sources: a) Özel Van Akdamar Hospital (Van, Turkey), b) University of Chile's Hospital (Santiago, Chile), and c) Nationwide Children's Hospital (Columbus, Ohio, USA). The ground-truth label was established by otolaryngologists. Diagnostic categories consisted of normal or abnormal. Deep and transfer learning-based methods were developed to classify the images. Various pre-trained convolutional neural networks (CNNs) and techniques such as data augmentation, hyperparameter tuning, cross-validation were explored. Primary outcomes: accuracy, sensitivity, specificity. Results 1757 otoscopic images (891 normal and 866 abnormal images) were included and split into training (70%), validation (15%) and test groups (15%). Three pre-trained CNNs were used to construct classification models (ResNet-50, ResNet-152, and Inception-V4). The ResNet-50 architecture yielded 91.7% accuracy (91.5% sensitivity, 92% specificity) and outperformed ResNet-152 (90.9% accuracy, 87.5% sensitivity, 94.2% specificity) and Inception-V4 (90.3% accuracy, 93.7% sensitivity, 86.8% specificity) to differentiate normal versus abnormal otoscopy images. Conclusion Early detection of ear disease is important to minimise the risk of hearing loss, antibiotic use, delayed speech and language development, and adverse impacts on academic and employment opportunities. AI-based computer vision models can differentiate between normal or abnormal ears and may support clinical decision-making in primary care settings.

12:00 am

The Facial Artery Cheek Subunit (FACS) and Extended Facial Artery Cheek Subunit (EFACS) Technique-Cadaveric Feasibility Study

Dr Justin Yousef

Background: The Facial Artery Cheek Subunit (FACS) and Extended Facial Artery Cheek Subunit (EFACS) flaps are novel islanded perforator flaps designed to reconstruct multiple subunits with locally matched tissue and to address facial nerve paresis in Head and Neck Cancer. We describe our technique. Methods: A facial artery perforator flap is marked within facial creases and at the junctions between cosmetic subunits. The incision continues superolateral to the orbital rim to minimise risk of ectropion. Skin incisions are made followed by selective release of the facial retaining ligaments (FRLs) to facilitate movement of the flap. Blunt dissection is performed in the subcutaneous plane with sharp division of FRLs under tension to avoid damage to facial and trigeminal nerve branches. Following selective division of FRLs, the primary defect can be closed. Attention is now turned to addressing the sequalae of facial nerve palsy with periosteal anchoring of the flap to avoid ectropion as well as other adjuncts as necessary (lid loading, slings or tarsorrhaphy). Conclusions: Free tissue transfer may not be the optimal option in high-risk patients with head and neck malignancy [1]. The FACS and EFACS flaps are versatile techniques that may be used to address cheek, neck, periauricular, perioral and perinasal reconstruction as well as the sequalae of facial nerve palsy. They are especially useful in high-risk patients because of their low complication rate, cost-effectiveness, and reduction of scar burden. 1. Suh, J.D., et al., Analysis of Outcome and Complications in 400 Cases of Microvascular Head and Neck Reconstruction. Archives of Otolaryngology–Head & Neck Surgery, 2004. 130(8): p. 962-966.

03 May 2022

11:30 pm - 12:25 am
AMICI RESEARCH INTEREST GROUP MEETING

Business Meeting - Colorectal Surgery - Plaza Level Meeting Room P1

11:30 pm
Reintroduce the AMICI concept
Dr Stephen Bell

11:35 pm
Update on RoLaCaRT (ARLS)

11:45 pm
Summaries on the two published papers acknowledging AMICI
Associate Professor David Clark

11:55 pm
Kono S RCT
Associate Professor David Clark

12:05 am
NASA TLX trial
Dr Stephen Bell

12:10 am
An overview of research plans for robotics and AI in colorectal surgery

12:20 am
Discussion

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03 May 2022

12:30 am - 2:00 am
OPENING PLENARY SESSION: SUSTAINABILITY IN EDUCATION

Plenary Session - *Cross Discipline* - Great Hall Q4 (Use Door 5)

12:30 am
Welcome to Country

12:35 am
The Conveners' Welcome
Professor Christopher Pyke, Professor Deborah Bailey

12:40 am
The President's Welcome
Dr Sally Langley

12:45 am
Colleges of Medicine of South Africa: Delivering and modernising specialist examinations through COVID-19
Professor Johannes Fagan

1:10 am
Sustaining proficiency: the journey
Dr Graham Beaumont

1:35 am
Technical skills teaching in lockdown and in usual times
Professor Oscar Traynor

03 May 2022

2:30 am - 4:00 am
BENIGN PROCTOLOGY

Scientific Session - General Surgery, Colorectal Surgery - Great Hall Q4 (Use Door 5)

2:30 am
The anal fistula and factors influencing decision making
Dr Elizabeth Murphy

2:42 am
Crohn's perianal disease - when the biologics don't work
Prof Tim Eglinton

2:54 am
Options for the symptomatic anorectal stricture
Doctor Jonathan Yong

3:06 am
Rectovaginal fistula - does anything work?
Associate Professor David Clark
Rectovaginal fistulas can present disabling symptoms for the patient and often require complex surgical solutions. Patient expectations need to be aligned realistically with observed outcomes and treatment needs to be precisely tailored to the individual’s circumstances. Inflammatory bowel disease must be medically controlled, and sepsis addressed. Occult or overt sphincter injuries are often found with gynaecological or obstetric aetiologies. Well vascularized flaps may be required for interposition between attenuated or diseased tissues. Defunctioning the repair or defunctioning for diminishing sepsis in advance of definitive treatment should be considered. This presentation will cover the assessment and decision-making strategies in this complex condition.

3:18 am
Sphincter-preserving options in anal fissure
Dr Carolyn Vasey

3:30 am
Biofeedback - what is it and when should I refer?
Ms Kate Hooper
A literature review into what biofeedback is and which functional bowel conditions respond to biofeedback. Then a clinician’s insight and advice regarding how to make your referral count and when it is appropriate to refer a patient.

3:42 am
Discussion

2:30 am - 4:30 am
CLIMATE CHANGE AND SURGERY

Scientific Session - Trainees Association, Younger Fellows - Plaza Level Meeting Room P5

2:30 am
Climate Change and Australia's Health Care System Report
Dr Ken Loi

3:00 am
What is the Health and Surgical Contribution to Climate Change?
Associate Professor Andrew MacCormick

3:20 am
How will climate change impact on the delivery of surgical care?

Professor Kingsley Faulkner

3:40 am
How is RACS responding?
Professor David Fletcher

4:10 am
Panel Discussion and Questions from the Audience

2:30 am - 3:30 am
CRANIOSYNOSTOSIS

Scientific Session - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

2:30 am
Genetic testing in craniosynostosis: A decade of experience with coronal and multisutural disease
Dr Jade Lau Young
Purpose Craniosynostosis (CS) is the premature fusion of cranial sutures. Advances in the molecular genetics of CS has improved access to genetic screening and identified a growing proportion of non-syndromic patients with underlying pathogenic mutations. The purpose of this retrospective cohort study was to quantify the burden of coronal and multisutural CS in this region. We aimed to ascertain the value and feasibility of introducing routine genetic testing in all new patients diagnosed with CS. Methods All referrals to the Middlemore Hospital regional craniofacial service were screened from 2010-2021. Patients diagnosed with unicoronal, bicoronal or multisutural CS were included. Data were collected by reviewing online clinical records. Results Of the sixty-five patients identified in this cohort, 71% (n=46) were female and the median age at clinical diagnosis was six months. Unicoronal disease was the most common variant and present in 54% (n=35) of patients. This was followed by multisutural CS in 29% (n=19) and bicoronal CS in 17% (n=11). In total 39% (n=26) of patients underwent genetic testing. We were unable to retrieve complete data for a subgroup of patients from regional New Zealand that comprised 9% (n=6) of this cohort. Of those tested, 52% (n=13) were found to have an underlying genetic mutation. Conclusion Although testing rates were low, genetic testing was high yield in this cohort and was abnormal in more than half of patients that were assessed. Testing itself was heterogenous and varied from karyotyping to CS-specific screening panels. Routine testing of all new CS patients is now feasible with the increased availability, decreased cost and improved accuracy of modern genetic screening in New Zealand.

2:40 am
The Cho Angle: a Novel Screening Tool in the Diagnosis of Non-Syndromic Sagittal Craniosynostosis
Liana Cheung
Purpose This study assesses the reliability of a novel photogrammetric measurement to diagnose sagittal craniosynostosis (SS) from control and false positive cases (SNS). Methods From 2014 to 2020, preoperative photographs of 3 patient cohorts were measured for cranial vertex-nasion-opisthocranion (VNO) angle on lateral views in neutral head positioning: 1) clinically suspected and radiographically confirmed sagittal craniosynostosis, 2) clinically suspected and radiographically confirmed non-craniosynostosis, and 3) control group without comorbidities affecting cranial morphology. Clinical VNO angles were compared to patient-matched VNOs measured on CTs. Sensitivity and specificity were compared to frontal bossing (FB), occipital bulleting (OCB) and cranial index (CI). Results The average VNO angle measured on clinical photographs was 53.9°±3.5° for the SS group, 42.4°±2.9° for the SNS group, and 41.9°±3.0° for controls ($p<0.001$). Pearson correlations revealed no significant association between age at imaging and VNO angle. Receiver operating characteristic (ROC) analysis yielded a cut-off of 50° to determine SS versus SNS or controls. Diagnostic sensitivity (96.6%) and specificity (99.2%) of VNO angle alone yielded superior outcomes to FB (65.8%; 90.9%), OCB (52.5%, 81.8%), CI (84.1%; 83.0%) or any combination of the above. Three-rater analysis of VNO angle yielded an average intraclass correlation coefficient of 0.742 ($p=0.004$). Conclusions Measurement of the VNO angle is a promising screening tool to diagnose sagittal craniosynostosis. This method relies on the relationship between the anterior displacement of the cranial vertex and occipital bulleting to approach the diagnostic accuracy of CT imaging.

2:50 am
Efficacy of Radiation Safety Improvements in Craniosynostosis Patients
Liana Cheung
Purpose Technology and techniques in radiation safety have significantly improved over the recent decade. This study examines the efficacy of dose-reduction strategies for craniosynostosis-specific diagnostic head CTs, and contextualises this radiation dose using known metrics including environmental and occupational exposure. Methods Two-year timeframes (2007-2008 and 2018-2019) before and after the implementation of a new institutional low-dose CT protocol were selected. Effective radiation doses of pre-operative CT scans

for craniosynostosis patients were retrospectively analyzed. Institutional data were compared to published data in craniofacial literature as well as environmental, occupational, and recreational sources of radiation. Results Effective diagnostic CT radiation dose was 6.85 (SD 1.35) mSv with our historical pediatric low-dose protocol (n=53) which decreased to 1.84 (SD 0.45) mSv with the implementation of our new craniosynostosis-specific low-dose protocol (n=384) (p<0.0001). This constituted significant dose reductions across all age cohorts below 30 months of age (p<0.0001). New scanner technology (336%), scan length optimization (14%), and craniosynostosis-specific protocol (22%) all significantly contributed to dose reduction (all p<0.0001) for a total reduction of 372%. Reported institutional mean effective dose compares favorably with current craniofacial literature and is equivalent to 12.9 months of background radiation in Australia or 2.2 days of radiation experienced by astronauts. Discussion Given significant improvements in available radiation safety technology over the last decade, we advocate for routine quality and safety reviews across all hospitals, but especially in paediatric tertiary centres.

3:00 am
Teach Yourself Craniosynostosis: Transcranial procedures on Youtube
Dr Andrew May

3:10 am
3D Photography for the Assessment of Paediatric Patients Undergoing Cranial Vault Surgery – A Prospective, Non-Randomised, Single Centre Study
Dr Tavis Read
Purpose The measurement of paediatric craniofacial differences is clinically important and facilitates the assessment of phenotype severity, growth-related changes and operative outcomes. The objective of this study was to evaluate the accuracy of 3D digital surface imaging for determining morphometric values versus conventional CT. The treatment effects of total cranial vault remodelling (TCVR) were also assessed. Method Paediatric patients with craniosynostoses underwent cranial vault surgery at a single institution and the data were prospectively recorded. Standardised 3D imaging (Vectra XT 3D Imaging System) was employed and corresponding CT scans were identified. Patients were managed in accordance with an institutional protocol. The primary outcome measure was the cranial index (CI). Age and gender matched normative anthropomentric values were also used to assess treatment-related changes. Results Between May 2020 and December 2021 fifty-two patients were treated consecutively at the Queensland Children's Hospital. Thirty-six of these patients fulfilled eligibility criteria and were suitable for comparative analysis. Both imaging techniques produced similar morphometric values in terms of cranial width, length and index. The mean CI was 78.2 (SD, 12.5) for CT and 77.9 (SD, 12.2) for 3D imaging (p = 0.33). A sub-group of twelve patients underwent TCVR and completed required peri-operative 3D imaging. The mean pre-operative CI was 68.1 (SD, 3.2) and post-operatively this increased to 75.9 (SD, 3.8); these changes were highly significant (p < 0.001). Conclusion 3D photography was validated as a safe, convenient and accurate method for measuring skull morphometry and quantifying treatment-related changes after TCVR.

2:30 am - 4:00 am
FRAILTY IN CARDIAC SURGERY

Scientific Session - Cardiothoracic Surgery - Plaza Level Meeting Room P3

2:30 am
Welcome
Dr Fiona Doig

2:35 am
Frailty in cardiac surgery: Mechanisms and Measurements
Professor Ruth Hubbard

2:55 am
Prehabilitation for cardiac surgery: Current evidence and future perspectives
Usha Gurunathan

3:15 am
Frailty in cardiac surgery: interim results from the FOCUS study
Dr Felicity McIvor

3:30 am
Concluding remarks and Discussion
Associate Professor Shipra Arya

3:40 am

Cardiac Surgery for Patients with COVID-19 – A Systematic Review and Meta-Analysis
Aashray Gupta
Purpose The COVID-19 pandemic has had significant impact on global surgery. In particular, deleterious effects of SARS-CoV-2 infection on the heart and cardiovascular system have been described. To inform clinical decision-making for high-risk surgical patients, we performed a systematic review and meta-analysis aiming to characterise the outcomes of COVID-19 positive patients undergoing cardiac surgery. Methodology Study protocol was registered with PROSPERO and was in accordance with PRISMA 2020 and MOOSE guidelines. PubMed, Ovid MEDLINE, Embase and Web of Science were searched between 1 January 2019 to 25 March 2021 for studies reporting outcomes on COVID-19 positive patients undergoing cardiac surgery. Study screening, data extraction, and risk of bias assessment were conducted in duplicate and meta-analysis using a random-effects model where at least two studies had sufficient data for that variable. Results Searches identified 2476 articles, from which 23 articles were included. The total sample from the included studies comprised 39 COVID-19 positive patients who underwent Cardiac Surgery. A majority of procedures were Coronary Artery Bypass Grafting followed by Aortic Valve Replacement as the next most common. Early results and analysis confirm poor outcomes in COVID-19 patients who underwent cardiac surgery. Conclusion This Systematic review and meta-analysis investigated studies of limited quality which characterised outcomes after cardiac surgery in COVID-19 positive patients. Our study demonstrates that these patients have poor outcomes. Issues to be explored are the effect of COVID-19 on decision-making in cardiac surgery, and effects of COVID-19 on the cardiovascular system at a cellular level.

3:50 am
Flail Chest Injury – Changing Management and Outcomes
Dr Jacqueline Nguyen Khuong
Purpose: Flail chest injuries make up 15% of all blunt thoracic trauma presentations. Management historically focused on optimising analgesia to reduce splinting and respiratory complications. Regional anaesthesia and surgical stabilisation of rib fractures (SSRF) are more recent advances in the management of rib fractures. The purpose of this study was to assess trends in management of flail chest injuries over time and to determine impact on patient outcomes. Method: A retrospective review of data from a prospectively collated database of trauma patients admitted to a level 1 trauma service in Victoria was conducted. All patients admitted to the hospital between July 2008 and June 2020 with an Abbreviated Injury Scale (AIS) code for flail chest injury were included. Results: Our study included 720 patients with a mean age of 59.5 ± 17.3 years-old. From 2008 to 2020, length of ICU stay decreased by 9 hours each year. Regional anaesthesia use increased by 2.5% per year (0% in 2009 to 36% in 2020) ($p<0.001$) and opiate infusions decreased by 2% per year (0% in 2009 to 36% in 2020) ($p<0.001$). SSRF increased by 2% per year (2.9% in 2009 to 22.3% in 2020) ($p=0.006$). Use of invasive ventilation decreased by 3% per year (70% in 2008 to 27% in 2020) ($p<0.001$) and invasive ventilation time also decreased by 8 hours per year ($p=0.007$). There were no significant changes in rates of pneumonia, sepsis or mortality over time. Conclusion: Over the past decade we have seen increasing rates of regional anaesthesia and surgical rib fixation in the management of flail chest. This has resulted in lower requirements for, and duration of invasive mechanical ventilation and ICU stay but has not impacted mortality in this patient cohort.

2:30 am - 3:00 am
KEYNOTE LECTURE - ASSOCIATE PROFESSOR SIMONE STRASSER (SYDNEY)

Keynote Lecture - HPB Surgery - Great Hall Q3 (Use Door 9)

2:30 am
Advances in Immunotherapy for Hepatocellular carcinoma
Associate Professor Simone Strasser

2:30 am - 3:00 am
KEYNOTE LECTURE - DR DANIEL DE VIANA (BRISBANE, AU)

Keynote Lecture - Breast Surgery - Great Hall Q2 (Use Door 8)

2:30 am
Challenges from the frontline - A sustainable breast oncology and reconstruction practice
Dr Daniel de Viana

2:30 am - 4:00 am
MY FAVOURITE BARIATRIC OPERATION

Scientific Session - Bariatric Surgery - Great Hall Q1 (Use Door 6)

2:30 am
Why I like the gastric sleeve
Dr John Jorgensen

2:45 am
Why I like the roux en y gastric bypass
Dr Ahmad Aly

3:00 am
Why I like the one anastamosis gastric bypass
Dr Craig Taylor

3:15 am
Why I like the SADI
Dr Jason Free
The SADI procedure was proposed in 2007 as a simpler procedure than standard duodenal switch, with better weight loss compared to sleeve gastrectomy. It incorporates a sleeve gastrectomy and single anastomosis duodeno-ileostomy. Since it's inception there have been several variations, mostly relating to different lengths of small bowel bypass. Current evidence demonstrates it has a lower complication rate than standard Roux-en-Y Gastric bypass in terms of internal hernias, anastomotic complications, as well as less glucose fluctuations and dumping syndrome. I present my experience & observations of this procedure over a 7-year period. During this time, I have made changes to my surgical technique relating to dissection, anastomosis, and a shorter standardised biliopancreatic limb to what I believe is a safer version of the originally described procedure.

3:30 am
Discussion

2:30 am - 4:00 am
OTOLOGY

Scientific Session - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

2:30 am
Surgical care of the hearing impaired: Prevalence, prognosis and problems of managing severe hearing loss in surgical patients
Dr Kristy Fraser-kirk

2:50 am
Hearing implants for the beginner: A crash course in implantable hearing devices
Dr Andrew Chang

3:10 am
First, do no harm: Safe surgery for the implanted patient
Dr Brent McMonagle, Dr Brent McMonagle

3:30 am
Frontiers: The cutting edge of hearing and balance (hearing preservation implantation, vestibular implants, completely implantable devices)
Dr Tristan Allsopp

3:50 am
Discussion

2:30 am - 3:50 am
PROGRESSING TOWARDS THE FUTURE

Scientific Session - Senior Surgeons Program - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

2:30 am
Survivorship Essentials
Professor Jeff Dunn

3:00 am
Questions and discussion

3:10 am
The evolving specialty of palliative care
Dr Michael Bolton, Dr Michael Bolton

3:40 am
Questions and discussion

2:30 am - 4:00 am
RESEARCH PAPERS

Scientific Session - Global Health - Plaza Level Meeting Room P4

2:30 am
Mortality from gastrointestinal congenital anomalies at 264 hospitals in 74 low-income, middle-income, and high-income countries: a multicentre, international, prospective cohort study
Dr Helena Franco
Many gastrointestinal congenital anomalies are fatal without timely access to neonatal surgical care, but few studies have been done on these conditions in low-income and middle-income countries. A multicentre, international prospective cohort study was performed on patients presenting to hospital for the first time with oesophageal atresia, congenital diaphragmatic hernia, intestinal atresia, gastroschisis, exomphalos, anorectal malformation, and Hirschsprung's disease. Recruitment was of consecutive patients for a minimum of 1 month between October, 2018, and April, 2019. Patients were followed up for 30 days after primary intervention, or 30 days after admission if they did not receive an intervention. The primary outcome was all-cause, in-hospital mortality for all conditions combined and each condition individually, stratified by country income status. We did a complete case analysis. We included 3849 patients with 3975 study conditions from 264 hospitals in 74 countries. Mortality among all patients was 37 (39·8%) of 93 in low-income countries, 583 (20·4%) of 2860 in middle-income countries, and 50 (5·6%) of 896 in high-income countries ($p<0·0001$). Gastroschisis had the greatest difference in mortality between country income strata. Factors significantly associated with higher mortality for all patients combined included country income status, sepsis at presentation, higher American Society of Anesthesiologists score at primary intervention, surgical safety checklist not used, and ventilation or parenteral nutrition unavailable when needed. Improving access to quality neonatal surgical care in LMICs will be vital to achieve Sustainable Development Goal 3.2 of ending preventable deaths in neonates and children younger than 5 years by 2030.

2:42 am
Teaching Internationally by ZOOM in Response to Covid 19
Dr Robert Claxton
This presentation documents the experience of a semi-retired Sydney surgeon recruited to fill a Covid caused gap in the clinical teaching programme of one of a north-east African country's provincial universities. The way in which the syllabus was quickly put together is documented and communication problems are noted. The method of examining the students is discussed as well as an analysis of the results. A multiple choice examination was devised and supervised and marked locally. All of the cohort of 20 students passed with a wide range of marks. Possible ways in which this could be better done considered as well as ways to involve more Fellows if and when similar opportunities arise.

2:54 am
Medical Student Perceptions and Experiences of Global Surgery in Australia and New Zealand
Dr Davina Daudu
Purpose: 'Global surgery' is an emerging field dedicated to the equitable provision of safe, timely, and affordable surgery. Despite its importance, medical schools rarely educate students on global surgery. As there is no literature on global surgery education in Australia and New Zealand to guide its inclusion in medical school curricula, this study aimed to understand medical student perceptions and experiences of global surgery across the two countries. Methodology: A cross-sectional online survey was used to gather data on student demographics, perceptions of global health, level of surgical education, and global surgery experience. The survey was distributed online through a variety of methods to reach the target population of medical students enrolled in an Australian or New Zealand medical school. Results: A total of 206 medical students participated in the survey, with 170 included in the final analysis. Overall, participants had poor global surgery knowledge, with 70% indicating that they knew "Nothing" or "Very Little" about global

surgery. Only 24% of participants had been exposed to global surgery through their medical school curricula, however, 60% had been exposed through extracurricular activities. Despite low levels of knowledge and exposure, 94% of participants want to learn more about the role of surgery in global health. Conclusion: To address low levels of global surgery knowledge and meet the demands of interested students, medical schools across Australia and New Zealand should include global surgery within their global health curricula.

3:06 am
The Suva Evidence-Based Guidelines for Quality Safe, Surgical, Obstetric, Trauma, and Anesthesia Care in Low- and Middle- Income Countries (LMICs)
Dr James Jin
Purpose: Morbidity and mortality in surgical, obstetric, trauma and anaesthesia (SOTA) care systems in low- and middle-income countries (LMICs) remain high. This study aimed to develop evidence-based guidelines on best practice recommendations to improve mortality and infection outcomes in SOTA systems in LMICs. Method: The World Health Organization (WHO) handbook for guideline development was utilized. Systematic reviews were conducted on studies which measured the effectiveness of a quality improvement intervention on surgical, obstetric and trauma mortality, and infection rates in LMICs. The GRADE approach was used to assess the quality of evidence. The current guidelines were proposed by the G4 Alliance and International Society of Surgery International Standards and Guidelines for Quality Safe Surgery and Anesthesia (ISG-QSSA) Working Group. Results: Three systematic reviews screened 44,129 articles, yielding 107 studies which were included in a qualitative synthesis, and 69 studies were included in a meta-analysis to produce a pooled estimated effect size of reduction in mortality and infection across nine interventions. The final 11 recommendations included: three targeting surgical infection and mortality, four targeting trauma mortality, and four recommendations targeting the improvement of maternal and perinatal mortality. Conclusion: These best practice recommendations aim to improve mortality and morbidity in LMIC SOTA systems by providing a list of effective, evidence-based and achievable quality improvement processes that can serve as a guide to policymakers, government stakeholders and hospital administrators currently undergoing surgical scale-up on the path to improving the safety, quality, and accessibility of surgical care in LMICs.

3:18 am
Orthopedic Practice in Mimika, Papua: Challenges, Struggles, Joys, and Lessons Learning Before and During Pandemic
Mr Yohannes Toban Layuk Allo
West Papua is the western half of the New Guinea Island and comprises the two eastern-most Indonesian Provinces (Province Papua & Province Papua Barat). Despite of the enormous natural resources and wealth, both provinces remain part of the country’s least-developed areas where access to proper health-care is still lacking to many of Papuan people, especially those living in remote area. In 2020, coronavirus pandemic added another great burden to already poorly equipped health facilities. With around 5.5 millions of people, there are only 15 orthopedic surgeons serving in Papuan part of Indonesia, in which 10 of them are located in Jayapura City (capital of Province Papua). Contrary to that, Mimika Regency, another most populated administrative division regencyserving as a home not only for seven native local tribes, but also for migrants from other part of Indonesia,has only one orthopedic surgeon available for the area itself and its neighboring regencies in central part of Papua. We face challenges in treating various orthopedic cases where we learn how cultural beliefs, complexity and plurality in society, economic gap, political conflicts, human education and development, all play roles in shaping people perception towards health measures and service. We embrace those valuable experiences, and despite of the struggles and extra burden from the pandemic, we found joys in learning how to adapt, communicate, promote, educate, and to contribute more toprovide better care in orthopedic service in Papua.

2:30 am - 4:00 am
RESEARCH PAPERS

Scientific Session - Hand Surgery - Mezzanine Level Meeting Room M9

2:30 am
SLIL – potential for proprioception related to chronicity of injury
Dr Oliver Miles
Purpose: The scapho-lunate interosseous ligament (SLIL) is an important stabiliser of the proximal carpal row and also has roles in proprioception. This study aims to clarify the presence of, and any change in the mechanoreceptor populations of the injured SLIL. Methods: Patients undergoing wrist procedures for complete SLIL ruptures had their ruptured SLIL remnants harvested, and underwent fixation in formalin. Immunohistochemical staining with nerve specific labels for p75, S-100 and PGP9.5 was then performed. Mechanoreceptors were counted and their distribution within the injured SLIL noted. Results: 15 ligaments were collected. 11 out of 15 SLILs contained at least 1 mechanoreceptor, for a total of 66 mechanoreceptors. Mechanoreceptors were present in 82% of SLILs harvested within 1 year of injury, whilst only 50% of SLILs older than 1 year from injury contained mechanoreceptors. The dorsal subunit contained 100% of

mechanoreceptors in specimens harvested after 1 year, compared to only 20% for those harvested prior to 1 year. 54% of the mechanoreceptors in the under 1 year cohort were within the volar subunit. There was no change in mechanoreceptor type with time. Conclusion: Our study suggests a possible time related change to mechanoreceptor populations and distribution related to time from injury, most prominently a decline in the volar subunit. This may suggest changes to potential to proprioception in the residual SLIL.

2:45 am
Collagen and vasculature profile during the proliferative and remodelling phase in injured wrist ligaments.
Dr Oliver Miles
Purpose: The scapho-lunate interosseous ligament (SLIL) is an important stabiliser of the proximal carpal row. This study aims to identify the changes in collagen and vessel density following SLIL injury. Methods: Patients undergoing wrist procedures for complete SLIL ruptures had their ruptured SLIL remnants harvested, and underwent fixation in formalin. Immunohistochemical staining for collagen I, collagen III and CD31 was then performed. Collagen density was calculated for 9 representative sections per ligament. Vascular density was also calculated Results: 15 ligaments were collected, with mean collagen I and III being 45.6% and 35% respectively throughout all samples. Collagen I levels held stable for the first 2 years following injury. Collagen III declined significantly at 3 months following injury, with levels of 47% and 30.6% before and after 3 months respectively. This change was most prominent in the volar subunit. Collagen I:III ratio reflected the change in collagen III, varying at 3 months from 1.11 to 1.51. Vessel density was 1.3% for all specimens, but 1.8% in specimens harvest before 3 months. Vessel density was highest in the volar subunit of these early specimens. Conclusion: Our study suggests time related change in collagen I and collagen III, indicating an initial collagen III dominance in the initial 3 months and eventual replacement with collagen I. This change was most evident in the volar subregion. Both collagen profile and vessel density suggest that the volar subunit has the highest potential for healing.

3:00 am
A custom-made test for functional grip strength analysis
Dr Ricky Tenille Bilbao
Background Hand grip strength tests are commonly used to assess upper limb conditions and injuries. Grip strength has been used to demonstrate response to treatment, functional capacity of workers and sports people and has even been accepted as a measure of frailty in the elderly. We propose a custom made test for functional grip strength analysis that can be performed in the surgeons office setting, utilising 3D printed cylinders of variable sizes. Aim To design a new test for grip strength utilising readily available materials that can be reproduced in the surgeons office setting. To validate this test for grip strength by performing inter and intra-rater reliability testing, compare this test to the widely used Jamar Dynamometer. Method A convenience cohort of healthy subjects were invited to participate. The demographic data recorded included age, sex and hand dominance. The Jamar dynamometer was selected as a comparison measurement due to accessibility and widespread use. Three cylinders sized 30mm, 24mm and 16mm were printed with PLA filament on a Flashforge inventor 3D printer. Results Ten males and ten females were included in the pilot study. Age range 27-65 years. All three cylinders were significantly correlated with the Jamar dynamometer. The 30mm cylinder Pearson correlation test 0.69 (P value 0.001)) with confidence level 99.9%, the 24mm cylinder Pearson correlation test 0.69 (P value 0.001) with confidence level 99.9% and the 16mm cylinder Pearson correlation test 0.52 (P value 0.019) confidence level 95%. Conclusion This simple test of grip strength utilising cylinders of variable sizes can provide useful information on hand grip strength.

3:15 am
Atraumatic aneurysms of the distal radial artery – the role of extensor pollicis longus
Dr Daniel Lake
Purpose To highlight the role of the extensor pollicis longus (EPL) tendon in the formation of distal radial artery aneurysms. Method Aneurysms of the distal radial artery are rare, with a reported prevalence of 2.9% among the upper limb vessels(1). At the wrist, the radial artery is protected by skin, subcutaneous tissue, and superficial fascia alone, and is particularly susceptible to blunt and penetrating trauma. The artery travels deep to the EPL tendon at the snuffbox and is subject to repetitive compressive or frictional forces. To date, there are only two published case reports exploring this proposed mechanism. We present a series of 10 patients presenting between 2006 and 2021 with symptomatic atraumatic aneurysms of the radial artery, to further elucidate the pathogenic role of the EPL tendon. Results The cohort had a mean age of 43.6 years and consisted predominantly of males (7:3 M:F) presenting with ischaemic injury to the index finger or thumb (7 cases). Dynamic pre-operative angiographic imaging was performed in all patients. Imaging demonstrated altered flow via the radial artery the thumb was placed in opposition with the little finger – suggesting a degree of compression. Operative exploration demonstrated an aneurysmal segment of artery deep to the tendon in all except one case. Conclusion This case series adds to existing literature and supports the hypothesis that compressive forces imparted by the EPL tendon play a contributory role in development of radial artery aneurysms. This mechanism should be considered in the pre-operative evaluation, and during vessel reconstruction. References 1. Ho PK, Weiland AJ, McClinton MA, Wilgis EF. Aneurysms of the upper extremity. J Hand Surg Am. 1987;12(1):39-46.

3:30 am
Virtual Surgical Planning in Hand Surgery

Dr Brandon Leggett

2:30 am - 4:00 am
THYROID CANCER

Scientific Session - Endocrine Surgery - Plaza Level Meeting Room P2

This scientific session will provide up to date insights into the science and management of thyroid cancer.

2:30 am
The never ending tumour board; MDT for all?
A/Professor Anita Skandarajah

2:50 am
Super extended thyroidectomy; necessary evil or just plain evil?
Dr Laura Wang

3:10 am
New Treatment Paradigms in Medullary Thyroid Cancer
A/Professor Anthony Glover

3:30 am
Nuclear Imaging of Thyroid Cancer
A/Professor David Pattison
By rationally targeting the selective iodine metabolism of differentiated thyroid cancer, radioactive iodine (RAI) became the first molecularly-targeted oncology treatment and has played an important role in the treatment of thyroid malignancy since the 1940s. This talk will provide an overview of recent developments in molecular imaging of thyroid cancer, including the role of I-124 PET/CT to (i) provide risk stratification for RAI therapy decision making, (ii) dosimetry for the treatment of advanced thyroid cancer, and (iii) define radioactive iodine refractory disease (RAIRD), and (iv) define suitability / response to re-differentiation therapy of RAIR (eg Australian led I-FIRST multicentre trial). Indications for FDG PET/CT will also be discussed, including (i) high risk disease with Tg > 10 & negative imaging, (ii) initial staging of poorly differentiated & oncocytic / Hurthle cell carcinoma, (iii) initial staging and prognostication of patients with metastatic disease, and (iv) selected use for response assessment following systemic or local therapy

3:50 am
Discussion

2:30 am - 4:00 am
UPPER GI ONCOLOGY: AN UPADATE

Scientific Session - Upper GI Surgery - Plaza Level Meeting Room P1

2:30 am
Updates in surgical oncology
Professor Mike Griffin

2:50 am
Outcome measurement for gastric cancer surgery
Professor Han-Kwang Yang

3:10 am
Role of CPEX as a risk assessment tool
Dr Michael Hii

3:30 am
Updates in Esophagogastric Cancer
Dr Yelena Janjigian

3:50 am
Discussion

2:30 am - 4:00 am

UPPER LIMB TRAUMA

Scientific Session - Trauma Surgery, Orthopaedic Surgery - Mezzanine Level Meeting Room M2

2:30 am
Use of elbow replacement in trauma
Dr Andrew Mayo

2:45 am
Trauma in the tropics
Associate Professor Chris Morrey

3:00 am
Upper limb arthroplasty for pathological fractures
Martin Lowe

3:15 am
Advances in shoulder arthroplasty in trauma
Mr Mark Ross

3:30 am
Discussion

2:30 am - 4:00 am
WHAT TO DO WITH A SOFT TISSUE TUMOUR WHICH ARRIVES ON YOUR DOORSTEP

Scientific Session - Rural Surgery, General Surgery, Surgical Oncology - Mezzanine Level Meeting Room M4

2:30 am
Soft tissue tumours - an overview of the pathology for the general surgeon
Dr Christina Roland
Although the vast majority of soft tissue masses are benign, approximately 13,000 people in the United States are diagnosed with soft tissue sarcoma every year. This session focuses on the optimal workup of soft tissue masses including the indications for ultrasound and MRI, as well as use of preoperative core needle biopsy. Current AJCC staging, surgical principles of soft tissue sarcoma management, and data regarding indications for radiation therapy and chemotherapy are reviewed.

2:50 am
Radiology for soft tissue tumours - what to order and how to interpret it
Dr Phillip Law

3:10 am
Benign soft tissue tumours - when to operate and what to do
Dr Jason Miller

3:30 am
Retroperitoneal sarcoma - current approach to treatment
Dr Hayden Snow

3:50 am
Discussion

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03 May 2022

3:00 am - 4:00 am
HEPATOCELLULAR CARCINOMA

Scientific Session - Transplantation Surgery, HPB Surgery - Great Hall Q3 (Use Door 9)

3:00 am
Molecular biology of HCC
Professor Lionel Hebbard

3:10 am
Advanced HCC surgery
Professor Peter Lodge, Professor Peter Lodge

3:20 am
Downstaging of large HCC to surgical resection
Professor Pierce Chow, Professor Pierce Chow

3:30 am
Discussion

3:00 am - 4:00 am
SUSTAINABLE BREAST SURGERY FROM COAST TO COUNTRY

Scientific Session - Breast Surgery - Great Hall Q2 (Use Door 8)

3:00 am
Providing Tertiary level care in the regions
Dr Emilia Dauway, Dr Emilia Dauway

3:20 am
Care for the Remote Far North - Challenges and Opportunities
Dr Tim Elston

3:40 am
Care at the Edge of the World
Dr Alice Febery

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03 May 2022

3:30 am - 5:30 am
COURT OF HONOUR MEETING AND LUNCH

Business Meeting - *Cross Discipline* - Boulevard Level Meeting Room B1

3:30 am - 4:00 am
KEYNOTE LECTURE - DR MARK MOORE (ADELAIDE, AU)

Keynote Lecture - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

3:30 am
Paediatric Craniosynostosis Surgery in Adelaide 2022 - Where We Are
Dr Mark Moore

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03 May 2022

3:50 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR TEIK OH (PERTH, AU)

Keynote Lecture - Senior Surgeons Program - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

3:50 am
Work-life Balance - Healthy Work or Mythical Woke
Professor Teik Oh
There should be a healthy balance in time and commitment between an individual's work and their life outside work (e.g. family responsibilities, relationships, interests and hobbies). Research in the corporate world has shown that the inability to separate work from home could significantly increase the chances of burnout and poor health - particularly myocardial infarction and stroke - as well as decrease work productivity. Fatigue will also increase stress and affect cognizance, concentration, and motor skills, which among healthcare professionals, might jeopardise patient safety. In Australia, 13% of employees (Males 3: Females 1 ratio) work more than a deemed "safe" 50 hours a week, compared to 11% in the OECD. Juggling the demands of career and personal life is an ongoing challenge. One's "correct" balance lies with individual persona, but by setting limits and looking after yourself, you can achieve the work-life balance that's best for you, your patients, and your family.

4:20 am
Questions and discussion

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03 May 2022

4:00 am - 4:30 am
KEYNOTE LECTURE - ASSOCIATE PROFESSOR RAMESH NATARAJA (MELBOURNE, AU)

Keynote Lecture - Global Health - Plaza Level Meeting Room P4

4:00 am
Harnessing technology and simulation based education in the COVID-19 pandemic and applications in Low and Middle Income Countries, now and in the future
Associate Professor Ramesh Nataraja, Associate Professor Ramesh Nataraja
The COVID-19 pandemic has led to significant paradigm shifts in how we approach surgical education in both high and low-resource settings. By incorporating novel techniques and technologies into our surgical educational programs it is possible maximise the educational impact even in the absence of visiting teams. By using validated techniques such as simulation-based education surgical educators and trainers can continue to support ongoing education in low-resource settings forming worthwhile programs. Lessons learnt from established programs and also potential future options will be discussed.

4:20 am
Discussion

4:00 am - 4:30 am
KEYNOTE LECTURE - DR DAVID GILLETT (PERTH, AU)

Keynote Lecture - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

4:00 am
The Evolution of a Stepwise Approach to Cleft Palate Repair
Dr David Gillett

4:00 am - 4:30 am
KEYNOTE LECTURE - DR FRANK MCDERMOTT (EXETER, UK)

Keynote Lecture - General Surgery, Colorectal Surgery - Great Hall Q4 (Use Door 5)

4:00 am
How genomics fits in to everyday colorectal practice
Mr Frank McDermott
The 100 000 Genomes Project was completed in 2019 in England as part of an NHS strategy to integrate and embed genomics into routine clinical care. Genomics has the potential to revolutionize how we practice surgery. Surgeons are crucial to the delivery of genomics as clinicians that care for patients at every part of the pathway, are core members of the MDT and often responsible for handling human tissue with biopsies and cancer resections for example. Within NHS England pathways have been developed for whole genome sequencing for some cancers and 500-gene panels for other solid tumours including colorectal cancer. Some of the applications for genomics include identifying patients with cancer predisposition syndromes that can respond to immunotherapy e.g., Lynch syndrome. Utilising gene panels to personalise care and the potential to use liquid biopsies such as circulating tumour DNA (ctDNA) as a diagnostic and surveillance tool to identify minimal residual disease/ recurrence. In addition, there is enormous potential to personalise care for our patients with ever expanding knowledge of omic disciplines including oncogenomics, pharmacogenomics, epigenomics and microbiomics. There are challenges but also exciting opportunities to embed genomics into 21st century colorectal surgery with surgeons integral to its delivery. The next steps are how the international colorectal community engage with genomics, with questions around training current surgeons and those in training, developing new pathways, how we collaborate with other core members of the MDT and communicate with our patients. Reference Implications for the colorectal surgeon following the 100 000 Genomes Project Colorectal Dis 2021 DOI: 10.1111/codi.15539 McDermott et al

4:00 am - 4:30 am
KEYNOTE LECTURE - DR KELVIN HIGA (FRESNO, USA)

Keynote Lecture - Bariatric Surgery - Great Hall Q1 (Use Door 6)

4:00 am
Roux-En-Y Gastric Bypass and one Anastamosis Gastric Bypass
Dr Kelvin Higa

4:00 am - 4:30 am
KEYNOTE LECTURE - DR YAZAN MASANNAT (ABERDEEN, UK)

Keynote Lecture - Breast Surgery - Great Hall Q2 (Use Door 8)

4:00 am
iBreastBook - teaching the world online
Mr Yazan Masannat

4:00 am - 4:30 am
KEYNOTE LECTURE - MR DAVID JENKINS (CAMBRIDGE, UK)

Keynote Lecture - Cardiothoracic Surgery - Plaza Level Meeting Room P3

4:00 am
Pulmonary Thromboendarterectomy
Mr David Jenkins
This talk will introduce chronic thromboembolic pulmonary hypertension (CTEPH) and the classification of PH and briefly discuss the current definition and pathology as it relates to pulmonary thromboendarterectomy surgery (PTE). PTE is the 1C guideline recommended treatment for CTEPH based on evidence from large case series, but there has not been a RCT. The assessment of operability and selections of patients for surgery will be discussed based on the UK model of designated PH centres and a national referral system with one hospital commissioned to provide surgery. The rarer (non CTEPH) reasons for PTE will be mentioned. The operation technique will be explained, including the need for circulatory arrest, illustrated by operative video. Post-operative management will be discussed. Treatment of complications including the use of ECMO will be included. The outcome and results of surgery will be covered in detail, including in-hospital mortality, haemodynamic and functional improvement and the most recent data about long term survival benefits from our own series and registries. The lecture will conclude with a discussion about multimodality therapy for CTEPH as some patients have residual PH despite PTE and may benefit from additional therapies.

4:00 am - 4:30 am
KEYNOTE LECTURE - MR TONY BERGER (MELBOURNE, AU)

Keynote Lecture - Hand Surgery - Mezzanine Level Meeting Room M9

4:00 am
Is Rheumatoid Hand Surgery Still Relevant?
Dr Tony Berger
Unfortunately rheumatoid arthritis and its many variants are still with us. The primary treatment of these conditions is still with the use of various anti-inflammatory medications, splinting and more recently more specific and directed biologic medication. Whilst medical treatment is more effective than previously there are still a number of patients in whom the control is less effective and tissue destruction persists. We fortunately see far fewer cases of end stage joint and tendon destruction however these cases still exist. There are some patients who might show good symptomatic control and yet the inflammatory process continues resulting is slow silent joint destruction Whilst the evidence for and against surgical intervention in rheumatoid arthritis is very rare I believe with appropriate patient selection there is still a very useful place for rheumatoid surgery. I believe there are definite indications, probable indications and possible indications. Definite indications exist for salvage of destroyed issues and for nerve compressions, probable indications for some motion preserving procedures and possible indications for preventative / prophylactic surgery. The surgical options and indications for these three scenarios will be discussed in some detail.

4:00 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR CARMEN SOLORZANO (NASHVILLE, USA)

Keynote Lecture - Endocrine Surgery - Plaza Level Meeting Room P2

This keynote lecture delivered by invited speaker, Professor Carmen Solarzano, explores her experience of parathyroid disease and related surgical management over time.

4:00 am
The Parathyroid
Professor Carmen Solórzano
Dr. Carmen C. Solórzano will review her reflections on “The Parathyroid” and how we must be steadfast locators and preservers of this important gland. A selective review of some aspects of parathyroid history will be discussed to highlight the importance of remembering the past so that we are not condemned to repeat it. The underestimated incidence of permanent postoperative hypoparathyroidism and its long-term complications will be highlighted. Lastly, the continued challenges with identification and preservation of the parathyroid gland(s) will be illustrated with an emphasis on how emerging technology could help alleviate these challenges.

4:00 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR HAN-KWANG YANG (SEOUL, SOUTH KOREA)

Keynote Lecture - Upper GI Surgery - Plaza Level Meeting Room P1

4:00 am
Evolution of surgical sciences beyond MIS
Professor Han-Kwang Yang

4:00 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR JOHAN FAGAN (CAPE TOWN, SOUTH AFRICA)

Keynote Lecture - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

4:00 am
Parotidectomy: critical decisions and controversies
Professor Johannes Fagan

4:00 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR MICHAEL SCHUETZ (BRISBANE, AU)

Scientific Session - Trauma Surgery, Orthopaedic Surgery - Mezzanine Level Meeting Room M2

4:00 am
How to establish quality trauma care in a tertiary facility
Professor Michael Schuetz

4:00 am - 4:30 am
THE JOHN MITCHELL CROUCH LECTURE

Keynote Lecture - HPB Surgery, General Surgery, Transplantation Surgery - Great Hall Q3 (Use Door 9)

4:00 am
Achieving the Unrealized Potential of Transplantation: Preservation of A Metabolically Active Liver For More Than 2 Weeks Using An Integrated Perfusion Machine
Carlo Pulitano, Associate Professor Carlo Pulitano

4:00 am - 4:30 am
THE TOM REEVE LECTURE

Keynote Lecture - Rural Surgery, General Surgery, Surgical Oncology - Mezzanine Level Meeting Room M4

4:00 am
Histology driven management of sarcoma - the contemporary approach
Dr Christina Roland
Treatment of soft tissue sarcoma centers around complete en-bloc gross resection. However, as soft tissue sarcoma represent > 70 histologic types with different biological behaviour, a homogenous therapeutic and surgical approach is probably inappropriate. Recent studies, both surgical and dedicated to adjuvant therapy studies, support histology-based treatment of sarcoma. This session summarizes recent advances and future directions.

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03 May 2022

4:30 am - 5:30 am
ANZTBCRS PROGRAM DIRECTORS' MEETING

Business Meeting - Colorectal Surgery - Great Hall Merivales Boardroom 1

4:30 am - 5:30 am
ROAD TRAUMA ADVISORY COMMITTEE MEETING

Business Meeting - Trauma Surgery - Great Hall Merivales Boardroom 2

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03 May 2022

5:30 am - 7:30 am
CHALLENGES AROUND THE HIATUS

Scientific Session - Upper GI Surgery - Plaza Level Meeting Room P1

5:30 am
Laryngopharyngeal reflux disease: An enigma of physiological changes, inaccurate diagnostic algorithms, and a treatment conundrum
Professor Greg Falk
Introduction: throat symptomatology thought to relate to reflux disease is poorly predictive of a diagnosis, and has been confounded by low sensitivity low accuracy diagnostic criteria and poor understanding of the physiological abnormalities due to the inability of previous technology to demonstrate the pathological process. Patients are frequently referred to a surgeon for management of “reflux”, the vast majority of whom do not benefit from standard antireflux management. Discussion: New concepts in the diagnosis utilising oesophageal and gastric physiological studies have shed light on the physiological abnormalities associated with the presence of non-diagnostic throat symptomatology. This may open possible channels of management of symptoms by treatments tailored to the physiological abnormalities and allow rational management selection. The extent of this disease has previously been suspected but not positively demonstrated. The gamut of the problem of extra-oesophageal reflux disease will be canvassed, including pulmonary diseases. Conclusion: The physiology of LPR distinguishes it substantively from typical reflux disease and indicates the reason for failure of medical management with acid suppression, andfailure of surgical management with antireflux surgery. Management options are considerable but rarely fully alleviate symptoms.

5:50 am
Preventing hiatal recurrence
Professor David Watson

6:10 am
Salvage gastrectomy for failed fundoplication
Dr Jason Robertson
The management of patients with gastroparesis and recurrent reflux after previous fundoplication is a treatment challenge. The aim of this presentation is to outline when and why salvage gastrectomy should be considered as part of the treatment algorithm, and present our experience with salvage subtotal gastrectomy with Roux-en-Y reconstruction as a remedial procedure in this select patient population.

6:30 am
Diaphragmatic hernia after MIS oesophagectomy
A/prof Cuong Duong, Dr Cuong Duong
Diaphragmatic herniation (DH) is a rare complication following oesophagectomy, associated with risks of aspiration pneumonia, bowel obstruction and strangulation. Repair can be challenging due to the presence of the gastric conduit. There is emerging evidence that oesophagectomy performed with a minimally invasive abdominal (MIA) approach increased risk for para-conduit DH. This may be due to reduced adhesion formation around the oesophageal hiatus. Increased awareness of post oesophagectomy DH and strategies to reduce this complication are warranted.

6:50 am
Oesophageal perforation
Professor Mike Griffin

7:10 am
Oesophageal diverticulum management
Dr Ahmad Aly

5:30 am - 6:00 am
KEYNOTE LECTURE - ASSISTANT PROFESSOR JAIME DOODY (CHAPEL HILL, USA)

Keynote Lecture - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

5:30 am
Paediatric suprastomal collapse
Assistant Professor Jaime Doody

5:30 am - 6:00 am
KEYNOTE LECTURE - DR MARK MOORE (ADELAIDE, AU)

Keynote Lecture - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

5:30 am
Assessment and Surgical Management of VPI - The Adelaide Approach
Dr Mark Moore

5:30 am - 6:00 am
KEYNOTE LECTURE - DR PETER CAMPBELL (SYDNEY, AU)

Keynote Lecture - Endocrine Surgery - Plaza Level Meeting Room P2

This keynote lecture delivered by Dr Peter Campbell explores our current knowledge of the recurrent laryngeal nerve as it relates to surgery of the thyroid and parathyroid.

5:30 am
Introduction
Professor Stan Sidhu

5:35 am
The Recurrent Laryngeal Nerve
Dr Peter Campbell

5:30 am - 6:00 am
KEYNOTE LECTURE - DR WEN XU (BRISBANE)

Keynote Lecture - Rural Surgery, General Surgery, Surgical Oncology - Mezzanine Level Meeting Room M4

5:30 am
The evolution of Merkel cell carcinoma immunotherapy. Is a cure on the horizon?
Dr Wen Xu

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR ANSON CHEUNG (VANCOUVER, CANADA)

Keynote Lecture - Cardiothoracic Surgery - Plaza Level Meeting Room P3

5:30 am
Catheter based therapy for structural heart disease
Professor Anson Cheung

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR CAREL LE ROUX (DUBLIN, IRELAND)

Keynote Lecture - Bariatric Surgery - Great Hall Q1 (Use Door 6)

5:30 am
How the gut talks to the brain
Professor Carel le Roux
A combination of factors either consciously or unconsciously influence eating choices, all of which converge to determine what, when, why and how much we eat. This presentation will focus on how appetite and behavior drive food choice. Various biological factors can have marked influences on appetite and food choices, including neurochemical and gut hormone signals. From in utero into childhood, research has shown how chemical senses shape present and future food preferences. Genetics can also influence food choice. Behavior is a major determinant of food choices. Behavior is shaped in large part by biology, education, environment, and experiences learned and acquired throughout life. Interactions with family, friends, peers, and other social structures influences food choices and behaviors. Physical activity and sleep can also

influence behavior that drives food choices. Understanding how these biological, chemical, physical and social factors interact to determine food choices is critical to informing public health recommendations aimed at changing or improving food choices both for people living with obesity but also for those with unintentional weight loss due to upper gastrointestinal surgery for cancer.

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR RANJENY THOMAS (BRISBANE, AU)

Keynote Lecture - Hand Surgery - Mezzanine Level Meeting Room M9

5:30 am
Medical therapy for rheumatoid arthritis
Professor Ranjeny Thomas

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR TAIZO HIBI (KUMAMOTO, JAPAN)

Keynote Lecture - HPB Surgery - Great Hall Q3 (Use Door 9)

5:30 am
Precision anatomy for liver surgery
Professor Taizo Hibi
An online gExpert Consensus Meeting: Precision Anatomy for Minimally Invasive HBP Surgery (PAM-HBP Surgery Consensus)h was held during the 32nd Meeting of Japanese Hepato-Biliary-Pancreatic Surgery. The steering committee invited 34 international experts (Expert Committee) of minimally invasive anatomic liver resection to incorporate the updated evidence on surgical anatomy and techniques. Seven clinical questions on three topics (hepatic inflow, hepatic outflow, and hepatic intersegmental planes) were selected and 22 recommendations were finally formulated after 2 Delphi rounds and PAM-Surgery Consensus that was attended by >500 surgeons across the globe. In addition, to update the Brisbane 2000 terminology for liver anatomy and resections, seven definitions and five recommendations regarding anatomic segmentectomy or less were finalized after the PAM-HBP Surgery Consensus and the Tokyo 2020 terminology of liver anatomy and resections was published. In this presentation, the expert consensus guidelines on minimally invasive anatomic liver resection and the Tokyo 2020 terminology will be summarized. The proof of concept of precision anatomy for liver surgery is demonstrated through clinical cases of both laparoscopic and open liver resections.

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR ZSOLT BALOGH (NEWCASTLE, AU)

Keynote Lecture - Trauma Surgery, Orthopaedic Surgery - Mezzanine Level Meeting Room M2

5:30 am
Evolution of trauma services throughout my career and what is yet to come
Professor Zsolt Balogh

5:30 am - 7:30 am
PERTINENT ASPECTS AFFECTING SURGICAL PRACTICE

Scientific Session - Senior Surgeons Program - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

5:30 am
The value of Audit
Dr John North

5:45 am
Question and answer

6:00 am
Reflections on surgical practice and administration at RBWH and beyond
Dr BARRY O'LOUGHLIN
The presentation will offer reflections on the changing face of Surgery in a metropolitan teaching hospital over a forty-year period. This refers to clinical practice and management of a division of surgery. Advances in technology have had a major impact on clinical surgical practice and some of these will be discussed. In addition, the process of providing surgical services, both elective and emergency, has evolved. This has meant significant disruption in service delivery and the way we work. The impetus for this has been variable, and includes financial, policy, political and patient factors. Last but not least, the influence of the Royal Australasian College of Surgeons (RACS) will be referenced in relation to change in some aspects of selection, training, assessment and culture.

6:30 am
Questions and discussion

6:45 am
Keynote Lecture: Decision Making
Dr Bernadette Eather

7:15 am
Discussion

5:30 am - 7:00 am
THE MARK KILLINGBACK RESEARCH PAPER PRIZE SESSION

Scientific Session - Colorectal Surgery - Great Hall Q4 (Use Door 5)

5:30 am
Impact of neuromuscular reversal agents on postoperative ileus following colorectal surgery: A multivariate analysis
Dr Luke Traeger
Purpose: Postoperative ileus (POI) following colorectal surgery occurs in 20-30% of patients. The cholinergic anti-inflammatory pathway (CAIP) is one of the major pathways by which POI develops. Neostigmine (acetylcholinesterase inhibitor) works on this pathway and is often given intra-operatively as part of neuromuscular reversal. Alternatively, sugammadex (a selective rocuronium or vecuronium binder) can be used, and this has no effect on the CAIP. We aim to assess what impact the choice of neuromuscular reversal agent has on POI in colorectal surgery. Methods: A retrospective cohort study was performed on patients at the Royal Adelaide Hospital between February 2019 – March 2021, including all patients who underwent elective major colorectal surgery. The primary outcome was GI-2, a validated composite measure of time to tolerance of solid intake without vomiting and passage of stool. Secondary outcomes were POI, length of stay, and complications. Results: A total of 285 patients were included. 198(69.5%) received neostigmine and 87(30.5%) sugammadex. Sugammadex reduced time to first stool (2(0-8) vs 3(0-12), p 0.024) and decreased GI-2 (3(0-8) vs 3(0-12) days, p 0.039). POI rates, nasogastric tube insertion, complications and length of stay were unaffected. On univariate and multivariate logistic regression analysis previous abdominal surgery (OR 7.6, p 0.016) and colostomy formation was predictive of POI (OR 7.5, p 0.010). Conclusion: This dataset forms the largest cohort of open and laparoscopic colorectal cases looking at the impact of neostigmine and sugammadex against the validated outcome of GI2. Sugammadex improves time to first stool and GI-2 however, does not impact the overall incidence of POI.

5:40 am
Topical lignocaine or lignocaine/diltiazem ointment for pain following rubber band ligation of haemorrhoids: a three-armed randomised controlled trial
Dr Allan Kwok
Over 300,000 cases of haemorrhoids are treated in Australia every year. Rubber band ligation (RBL) of haemorrhoids is often the first intervention after failure of conservative management as it improves symptoms in 80-90% of patients and causes less pain compared with excisional haemorrhoidectomy(1). However, 50% still experience pain following RBL and optimisation of analgesia remains challenging. We conducted a randomised, double-blinded, placebo controlled trial with two intervention arms (2% lignocaine (LIG), 2% lignocaine + 2% diltiazem (LDT)) to assess the effect of topical agents on pain after RBL. Ninety-nine patients were selected to participate in the trial. Patients had RBL performed under IV sedation after colonoscopic examination. The first dose was administered by the proceduralist just prior to placement of the bands. The dosing syringe was supplied to the patient prior to discharge with instructions to apply 1mL of the ointment topically three times daily for 5 days. Pain scores were recorded at various time points over the next 5 days. At 30-day follow-up, patients were asked to complete a questionnaire. Pain scores were

significantly reduced at 1 hour for patients in the LIG group (OR 4.15 (1.12-15.41), p=0.033) and LDT group (OR 3.85 (1.05-14.11), p=0.042) compared with placebo. Patient satisfaction was improved for the LDT group (OR 3.82 (1.28-11.44), p=0.017). There was no difference in complications between any of the groups. This study has demonstrated that topical administration of 2% lignocaine, with or without diltiazem, is a safe and effective method of achieving short-term analgesia following RBL. REFERENCES 1. Halverson A. Hemorrhoids. Clin Colon Rectal Surg 2007, 20(2), 77-85.

5:50 am
Intravenous Local Anesthetic Compared with Intraperitoneal Local Anesthetic in Laparoscopic Colectomy: A Double-Blind Randomized Controlled Trial
Dr Wiremu MacFater
Controlling perioperative pain is essential to improving patient experience following surgery. Traditionally opioids have been utilised for postoperative analgesia. Opioids are associated with adverse effects, including postoperative nausea, vomiting, ileus and opioid dependency. Following laparoscopic colectomy, the use of intravenous or intraperitoneal infusions of lignocaine (IVL, IPL) are promising analgesic options. There have been no direct, randomised comparisons in patients undergoing laparoscopic colectomy. This study compared IPL with IVL in laparoscopic colectomy. Double blinded, randomised controlled trial of patients undergoing laparoscopic colonic resection. The two groups received equal doses of either IPL or IVL which commenced intra-operatively with a bolus followed by a continuous infusion for 3 days postoperatively. Patients were cared for through a standardized ERAS program. The primary outcome was total post-operative opioid consumption over the first three post-operative days. Fifty-six patients were randomised in a 1:1 fashion to the IVL or IPL groups. Total opioid consumption over the first three days was significantly lower in the IPL group (70.9mg vs 157.8mg $p<0.05$) and overall opioid consumption during the total length of stay was also significantly lower (80.3mg vs 187.36mg $p<0.05$). Pain scores were significantly lower at two hours post-operatively in the IPL group; however, all other time points were not significant. IPL results in a reduction in opioid consumption following laparoscopic colectomy when compared to IVL. This suggests that the peritoneal cavity is a strategic target for local anaesthetic administration. Future ERAS recommendations should consider IPL as a component of a multimodal pain strategy.

6:00 am
Distinct Colonic Microbiome Changes are Associated with Acute Diverticulitis
Dr Gregory Turner
Purpose Alterations in the colonic microbiome have been implicated in several intestinal disease processes including IBD and cancer. Colonic diverticulosis is common, affecting up to 70% of people by the 8th decade. However, fewer than 5% of affected individuals will develop acute diverticulitis (AD). The reason why only a small minority develop AD is uncertain, but may be related to alterations in their colonic microbiome. The aim of this study is to evaluate whether patients with AD have altered an microbiome composition compared to a control population. Methodology Consecutive patients admitted to Christchurch Hospital with imaging confirmed AD were asked to provide a rectal swab for 16S rRNA gene sequencing analysis of their colonic microbiome. These were compared to a healthy control group. Patients were excluded if they received antibiotics or mechanical bowel preparation in the preceding six weeks. Results 65 patients were included compared to 27 healthy controls. There was significantly reduced alpha diversity (species richness) found in the AD group. At the genera level, there were 21 taxa found to be less abundant in AD patients, most of which are known commensals. Several genera known to be pathogenic were increased in AD. In addition, there were less marked, but significant differences found between patients with complicated compared to uncomplicated AD. Conclusion Distinct alterations in the colonic microbiome are present in individuals with AD. Establishing long term microbiome patterns is an area for future study and may provide useful prognostic information for an individual’s risk, as well as the potential for manipulation of the microbiome in individuals with diverticulosis hoping to prevent AD.

6:10 am
Impact of obesity on outcomes of patients undergoing surgery for rectal cancer: an analysis of BCCA data
Dr Phillip Yang
Aim: Patients undergoing rectal cancer surgery who have obesity may be at increased risk of developing postoperative complications, though the evidence is inconclusive. The aim of this study was to model the impact of obesity on outcomes following rectal cancer surgery using data from a large clinical registry. Method: The Binational Colorectal Cancer Audit database was used to identify patients who underwent rectal cancer surgery in Australia and New Zealand from 2007–2021. Primary outcomes were inpatient surgical and medical complications. Separate logistic regression models were developed for body-mass index (BMI) treated as a categorical and continuous variable. Results: Among 3,738 patients (median age 66 years [IQR, 56–75], 64.8% male), 2.4% had a BMI < 18.5 kg/m², 35.1% had a BMI of 18.5–24.9 kg/m², 37.3% had a BMI of 25.0–29.9 kg/m², 16.6% had a BMI of 30.0–34.9 kg/m², 5.9% had a BMI of 35.0–39.9 kg/m², and 2.6% had a BMI ≥ 40.0 kg/m². The proportions of patients who developed a surgical, medical, and overall complication were 28.0%, 14.4%, and 35.9%, respectively. Surgical complications occurred in 27.7% of patients with BMI 18.5–24.9 kg/m², compared with 28.5% of patients with BMI 30.0–34.9 kg/m² (adjusted OR 0.99, 95% CI 0.78–1.25), 34.8% of patients with BMI 35.0–39.9 kg/m² (adjusted OR 1.42, 95% CI 1.02–1.98), and 35% of patients with BMI ≥ 40 kg/m² (adjusted OR 1.37, 95% CI 0.83–2.23). Spline regression analysis supported this association, showing a rising risk of complications as BMI increased above 30 kg/m². A similar association

was observed for medical complications. Conclusion: The risk of postoperative complications is increased in patients with obesity undergoing rectal cancer surgery.

6:20 am
Survival Analysis for those with High Risk and Low Risk Malignant Polyps
Dr Andrew Zamit

6:30 am
Compound topical Gabapentin, Amitriptyline, and Lignocaine ointment versus placebo for post-haemorrhoidectomy analgesia – a prospective double-blinded randomised controlled trial
Thomas Suhardja
Introduction: Conventional haemorrhoidectomy is associated with post-procedural pain in the acute and intermediate setting, which can continue and develop into chronic pain. The use of topical compounded analgesia has been proven in radiation skin reaction and neuropathic pain. Aim: To examine the efficacy of compound topical Gabapentin, Amitriptyline, and Lignocaine ointment for the treatment of post-haemorrhoidectomy pain, when compared with placebo. Methods: Prospective, double-blinded, randomised, controlled, two-arm superiority trial comparing the use of a novel ointment as post-haemorrhoidectomy analgesia, on top of standard of care. After haemorrhoidectomy, patients were randomly allocated to either a compound topical Gabapentin, Amitriptyline, and Lignocaine ointment (Group A), or placebo ointment (Group B). The quality of pain control was assessed with Visual Analogue Score (VAS) and the amount of additional opioid consumption. Long term outcome of faecal incontinence and chronic pain was also measured. Results: Group A patients showed a trend towards a lower median VAS at postoperative days 1 and 3 than Group B. The median VAS at postoperative day 7, and at the follow-up appointment was the same for both groups. The rate of urinary retention and postoperative constipation were the same in both groups. Conclusion: This study analysed the use of topical Gabapentin, Amitriptyline, and Lignocaine for the treatment of post-haemorrhoidectomy pain. This short term outcome showed benefit in the acute and intermediate setting, with greater benefit in responders than non-responders. Long term no patient developed incontinence or chronic pain. Its use can potentially be extended beyond post-haemorrhoidectomy pain.

6:40 am
Immune profile of rectal tumours in the setting of neo-adjuvant immune checkpoint blockade (PD-L1) as part of the AveRec phase II clinical trial.
Dr Kasmira Wilson
Purpose/Background: To investigate the role of PD-L1 blockade as a neoadjuvant agent in RC we conducted a phase II clinical trial (AveRec). Tissue resident memory cells (TRM) are a newly described cell population that do not recirculate in the lymphatics. TRM have been implicated in local responses to cancer. CD8+ TRM express high levels of PD-1, making them attractive targets for immune checkpoint blockade (ICB). The aim of this study was to investigate the role of neo-adjuvant ICB on the pathological response (PR) rate of patients, as well as explore the effects of ICB on the immune landscape in RC. Methods: A phase II multicentre trial was conducted. Patients received long course chemoradiotherapy (LCCRT) followed by 4 cycles of Avelumab. Research biopsies were obtained for patients at three time points (screening, post LCCRT and post immunotherapy). An additional cohort of patients who received only LCCRT were used as a control. OPAL multiplex immunohistochemistry was completed for 3 panels (TRM, T-cell and pan immune). This trial was funded by Merck. Results: There was an increase in the number of CD8+ TRM cells present post treatment with immunotherapy when compared with pre-treatment biopsies ($p=0.048$) and with biopsies obtained following treatment with LCCRT ($p=0.033$). In addition, there was an increase in the number of B cells ($p=0.0076$) and PD-L1 expressing macrophages ($p=0.0273$) in patients receiving immunotherapy compared to the control cohort. Final outcome measure in terms of PR is underway. Conclusion: To our knowledge this is the first description of CD8+ TRM cells pre and post immunotherapy in RC. CD8+ TRM cell numbers appear to increase in response to treatment with Avelumab but not LCCRT.

6:50 am
Investigating the function of MAIT cells in colorectal-liver metastasis using a patient-derived tumoroid co-culture system
Dr. Atandrila Das
Background: Stage-IV Colorectal Cancer (CRC) involves liver metastasis (CRLM). Tumor infiltrating lymphocytes (TILs), particularly conventional cytotoxic CD8+ T-cells, play a critical role in cancer; serving as a key marker for the Galon-ImmunoscoreR. The ImmunoscoreR is informative of quantity, but not quality of TILs. Mucosal-associated invariant T-cells (MAIT) are a subset of innate-like cells that are abundant in the human liver and mostly CD8αα, meaning they are included as conventional CD8+ T-cells. Methods: To determine their role in CRLM we assessed the quantity and phenotype of MAIT cells from patients using flow cytometry. To further determine the function of immune cells, we used a recently developed in vitro immune co-culture assay involving patient-derived tumoroids. Results: We found that MAIT cells account for 15-30% of conventional CD8+ T-cells in the tumor and liver. MAIT cells were reduced in the tumor compared to surrounding liver, and had elevated PD-1 and CD69 expression in the tissue. Healthy donor MAIT cells were able to kill patient-derived tumoroids in an unstimulated and stimulated state, and this was only partially reduced with anti-MR1. Blocking of PD-1 did not enhance the effector function of MAIT cells. Secreted IFNγ produced by stimulated MAIT cells induced MHI-I expression on tumoroids, demonstrating that MAIT cells

have the ability to influence the tumor microenvironment (TME). Conclusions: Overall our data indicates that stimulated MAIT cells have the ability to kill patient-derived tumoroids and can influence the TME via induction of MHC-I expression which may increase the immunogenicity of these tumors to immune-cell killing by TILs.

5:30 am - 7:30 am
WHAT ARE WE DOING ABOUT IT?

Scientific Session - Trainees Association, Younger Fellows - Plaza Level Meeting Room P5

5:30 am
Powering our Hospitals with Renewable Energy. How I became involved in making our health system greener
Dr Ben Dunne

5:50 am
War on Waste at Queensland Children's Hospital
Ms Renae McBrien

6:10 am
Making operating theatres greener - how we did it
Dr Taryn Naggs

6:30 am
How to reduce the anaesthetic contribution to surgery's footprint
Dr Gerard Eames

6:50 am
How can I make my surgical practice more sustainable?
Dr Ben Dunne

7:10 am
Discussion

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03 May 2022

6:00 am - 7:30 am
BEYOND BOX-TICKING: NOTHING ABOUT US WITHOUT US

Scientific Session - Indigenous Health - Plaza Level Meeting Room P4

6:00 am
Turning policy into action - 'Nothing about us, without us'
Dr Jamie-lee Rahiri
Research reporting access to surgical care and perioperative outcomes for Māori has grown substantially in the last five years alone. Despite resources outlining how to conduct safe and responsive research for Māori, non-Māori researchers with little connection to Māori communities and people continue to lead and control research on or about Māori. Māori health clinicians and academics tirelessly challenge these researchers and attempt to protect Māori from research that is racist, exploitative and demeaning. Health researchers in Aotearoa, New Zealand, have delegated responsibilities under Te Tiriti o Waitangi to ensure their research is safe for, and responsive to, Māori. We present two resources to guide all researchers seeking to venture into Māori health research. These include a framework that seeks to guide researchers on how to conduct research that is mana-enhancing for Māori and a position statement for the ANZ Journal of Surgery to consider in processing publications from non-Indigenous researchers about Indigenous communities. We challenge that all researchers should examine their motivation for research involving Indigenous peoples. Unless there is a genuine desire to understand health inequities as a consequence of colonial and racist ideology, and to turn the lens inwards and critically examine themselves and their institutions, the research should be reconsidered and potentially abandoned. Descriptions of health inequity without critical analysis and provision of strength-based solutions will only perpetuate deficit discourse and negative stereotypes of Indigenous peoples.

6:15 am

The first, but not the last: The importance of Indigenous belonging in vascular surgery
Dr Justin Cain

6:30 am
The researcher and the researched: the role of First Nations in Academia
Dr Claudia Paul

6:45 am
First Nations fire in my blood: from Saibai to surgery
Dr Lisa Waia, Dr Lisa Waia
The goal of post-colonialism is accounting for and combating the residual effects of colonialism on cultures. Now a doctor in Far North Queensland, the author discusses personal insights and the reccurring barriers that First Nations doctors face going into a career in medicine and progressing through training. As a child growing up in Indigenous communities in rural Cape York, witnessing firsthand the discrepancies in health care and education prompted the passion and drive for equality that resulted in her career in medicine. There is an ongoing need for a skilled workforce specialising in Aboriginal and Torres Strait Islander health, including Aboriginal and Torres Strait health professionals. Indigenous doctors bring a unique set of clinical and cultural skills and an understanding of the importance of cultural safety, and having them within our organization and approach to policies is critical to enact change. The literature examining race concordance on patient outcomes will be reviewed, a view that is corroborated by Indigenous patients, who want Indigenous doctors that they can culturally connect with. The journey towards a post-colonialist society further moves to promote inclusivity and equality, but first requires the dismantling of the systems still evoking oppression.

7:00 am
Te tika me te pono - Real talk: Indigenous PhD'ing in Aotearoa
Dr Jamie-lee Rahiri
Pursuing a doctoral degree utilising Indigenous research methodology in surgery is a rarity that comes with another level of challenges. Indigenous research is often marginalised and belittled in Western scientific institutions as not being ‘scientific’ and of little use to the future direction of surgical research. These claims are often founded on racist assumptions that mātauranga Māori (Māori knowledge) is stuck in the ages, ever unable to evolve. In addition, these claims refuse to acknowledge how Western scientific research on Māori, has contributed to over two centuries of intergenerational racism through the re-entrenchment of racist policies targeted to exclude Māori from participating fully in New Zealand society. Despite this, the largest research funding organisations in New Zealand now require researchers to demonstrate Māori participation and engagement. Oftentimes this leads to a box-ticking and tokenistic exercise to pass through these checkpoints. There has been a recent growth in interest among non-Māori academics to pursue research utiising Kaupapa Māori methodologies. This has often meant that Māori clinicians and students are targeted to undertake Kaupapa Māori research without the proper supports in place for their research and wellbeing. As the first wahine Māori to undertake a PhD in Surgery utilising Kaupapa Māori methodology,this session provides some tips and tricks on how to select supervisors so that your wellbeing and your Kaupapa (research topic) is protected.

6:00 am - 7:30 am
HPB RESEARCH PAPERS - ORAL SESSION

Scientific Session - HPB Surgery - Great Hall Q3 (Use Door 9)

6:00 am
In-hospital survival after pancreatoduodenectomy is greater in high-volume hospitals versus lower-volume hospitals: a meta-analysis
Dr Joshua Kovoor
Background: Variation in cut-off values for what is considered a high volume (HV) hospital has made assessments of volume-outcome relationships for pancreaticoduodenectomy (PD) challenging. Accordingly, we performed a systematic review and meta-analysis comparing in-hospital mortality after PD in hospitals above and below HV thresholds of various cutoff values. Method: PubMed/MEDLINE, Embase and Cochrane Library were searched to 4 January 2021 for studies comparing in-hospital mortality after PD in hospitals above and below defined HV thresholds. After data extraction, risk of bias was assessed using the Downs and Black checklist. A random-effects model was used for meta analysis, including meta-regressions. Registration: PROSPERO, CRD42021224432. Results: From 1855 records, 17 observational studies of moderate quality were included. Median HV cut-off was 25 PDs/year (IQR: 20–32). Overall relative risk of in-hospital mortality was 0.37 (95% CI: 0.30, 0.45), that is, 63% less in HV hospitals. All subgroup analyses found an in-hospital survival benefit in performing PDs at HV hospitals. Meta-regressions from included studies found no statistically significant associations between relative risk of in-hospital mortality and region (USA vs. non-USA; p = 0.396); or 25th percentile (p = 0.231), median (p = 0.822) or 75th percentile (p =

0.469) HV cut-off values. Significant inverse relationships were found between PD hospital volume and other outcomes. Conclusion: In-hospital survival was significantly greater for patients undergoing PDs at HV hospitals, regardless of HV cut-off value or region. Future research is required to investigate regions where low-volume centres have specialized PD infrastructure and the potential impact on mortality.

6:09 am
Evaluation of radiological and multimodal prognostic models in discriminating patients by overall survival in a large single centre cohort of peri-hilar cholangiocarcinoma patients
Dr Zak Shehata
Background: Several putative prognostic models have been developed to stratify patients with peri-hilar cholangiocarcinoma (PHC) by Overall Survival (OS). The objective of this study was to evaluate the utility of these models in determining prognosis for all patients presenting to a tertiary referral centre with PHC. Methods: Three hundred and two patients diagnosed with PHC referred to a regional tertiary referral centre between 2008 and 2019 had their demographic and survival data retrospectively analysed from a prospectively held database linked to Hospital Episode Statistics and Somerset Cancer Registry data. Univariate and multivariate modelling was utilised to determine significant prognostic variables. Concordance indices were constructed for the prognostic models to determine internal validity within the cohort. Results: Multivariate analysis demonstrated that: pre-interventional ECOG status ($p<0.02$); bilirubin levels ($p<0.001$); resectional status ($p<0.001$) and Mayo Clinic (MC) model ($p<0.003$) were significant predictors of OS. MC staging system demonstrated utility in stratifying patients by OS in pre-interventional patients with peri-hilar cholangiocarcinoma in all comers ($p<0.001$) and patients who did not progress to resection ($p=0.021$). There was strongly significant concordance between pre-intervention MC staging and OS in all comers in this cohort (C-index 0.59). Conclusions: This study has validated the use of the MC model in a pre-interventional clinic setting. Bilirubin, a standardised easily obtainable serological biomarker, should be considered for incorporation into the MC model to refine patient stratification by OS.

6:18 am
Pancreatic Trauma - A comparative study between blunt and penetrating mechanisms
Dr Victor Kong
Introduction: This Study reviews our experience with managing pancreatic trauma. Methods: All patients over the age of 15 years with a pancreatic injury during the period December 2012–December 2018 at a major trauma centre in South Africa were reviewed. Results: During the study period 161 patients sustained a pancreatic injury. The mechanism of trauma was penetrating in 86 patients (53%) and blunt in 75 (47%). The median injury severity score was 16. There were 90 patients with AAST grade I injury to the pancreas, 36 AAST grade II, 27 AAST grade III, 7 AAST grade IV and a single AAST grade V. Fifty-four patients (34%) were initially treated non-operatively of which three eventually required surgery. Of the patients who required surgery, 26 (16%) underwent a distal pancreatectomy. The remainder simply underwent pancreatic drainage. The overall mortality rate was 13% (21/161). The operative mortality was 11% (18/161). Thirteen patients (8%) with penetrating injuries and eight patients (5%) with blunt injuries died. Of the 21 patients who died, 14 had multiple injuries. Five patients died due to overwhelming sepsis. One patient died due to hypovolemic shock and another due to a traumatic brain injury. Conclusion: Our centre not infrequently deals with pancreatic trauma secondary to both blunt and penetrating trauma. We follow the general principles outlined in the literature and pancreatic trauma is still associated with significant morbidity and mortality.

6:27 am
Comparison of risk adjusted excess post-operative pancreatic fistula rates using cumulative sum (CUSUM) analysis
Dr Elizabeth Lockie
Purpose Post-operative pancreatic fistula (POPF) is a key performance indicator post pancreaticoduodenectomy. There are numerous POPF risk calculators and no agreed benchmark, which is a key component of meaningful audit. We compared actual versus predicted POPF for five published risk-adjusted POPF calculators, to ascertain how they differ and thus contribute to discussion around benchmarking. Method This was a retrospective single-arm cohort study at the Royal Melbourne Hospital of patients who underwent pancreaticoduodenectomy 1/11/2015-31/12/2021 with a primary outcome of a clinically relevant POPF. Cumulative sum (CUSUM) plots of actual versus predicted rate of POPF for sequential patients were constructed for five risk-adjusted POPF calculators – Birmingham, fistula risk score (FRS), modified FRS (m-FRS), adjusted FRS (a-FRS), and updated adjusted FRS (ua-FRS). Results The study included 77 patients. The actual rate of clinically relevant POPF was 14.3%. FRS calculated an excess of 1.3 POPF per 100 cases. All other calculators demonstrated prevention of POPF per 100 cases: Birmingham 3.4, m-FRS 0.3, a-FRS 1.2, ua-FRS 19.7. Conclusion The actual versus predicted rate of POPF per 100 cases was near zero for all risk calculators except ua-FRS, which predicted a higher POPF than observed (19.7). These results indicate that, excepting ua-FRS, these risk calculators predict a similar POPF rate based on pre and intra operative POPF risk factors. Nevertheless, quality improvement relies on accurate and meaningful benchmarks. POPF benchmarks should declare which calculator is used or use multiple, and ideally a unified standard between centres should be the goal to provide consistency in outcome reporting.

6:36 am

Transition from open to Robotic distal pancreatectomy in a traditionally low volume country and outcome trends during the learning phase.
Dr Hiro Masuda
Introduction Advances in technology and techniques have allowed for robotic distal pancreatectomies to be readily performed in patients at high volume centres. This study describes the experience of a single surgeon during the learning curve and transition from open to robotic distal pancreatectomy in Australia, which traditionally has low-medium volume pancreatic surgery units. Methods All patients undergoing distal pancreatectomy at an Australian-based tertiary referral centre between 2010 and 2021 were analysed from a prospective database. Demographic, clinicopathologic and survival data were analysed to compare perioperative and oncological outcomes between patients who underwent open, laparoscopic, and robotic distal pancreatectomies. Results 91 open distal pancreatectomies, 48 laparoscopic distal pancreatectomies, and 39 robotic distal pancreatectomies were performed. The three groups were similar with respect to sex ratio and ASA score but patients in the ODP group were older ($p<0.001$). ODP was associated with higher estimated blood loss ($p<0.001$) and longer length of hospital stay ($p<0.001$). RDP was associated with a longer operative time ($p<0.001$). No mortalities were recorded and there were no significant differences in complications, 30-day readmission and reoperation rates, and R0 resection rate between all three groups. Conclusion RDP was associated with a longer operative time however was comparable in respect to most other perioperative outcomes and yielded some advantages over LDP and ODP. RDP can be performed safely during the learning curve phase in low-medium volume centres provided the surgeon is experienced in pancreatic procedures, careful case selection, and a robust discussion at the local multidisciplinary meeting.

6:45 am
Robotic Duodenal Sleeve Resection With The Transmesenteric Approach
Dr Osamu Yoshino
Purpose: Minimally invasive resection of the retroperitoneal duodenum is complicated due to its anatomical location, and proximity of the Ampulla of Vater and vascular structures. Benign or indolent pathology can add complexity to operative decision-making for these already challenging surgeries, permitting less morbid operations to be considered. This study describes a novel approach to performing a robotic duodenal sleeve resection for non-malignant lesions. Method: Retrospective review was performed on prospectively maintained institutional database between 2011 and 2021. The Da Vinci XI or SI platform (Intuitive Surgical, Sunnyvale, CA) was used in all cases. Results: Critical steps of robotic sleeve duodenectomy includes 1. Techniques for avoiding damage to ampulla; 2. Kocherization and reverse Kocherization; 3. Transmesenteric approach for further mobilization of the duodenum (Video). Nineteen patients underwent robotic transmesenteric duodenal sleeve resection during the study period. The diagnoses were following 12 adenoma, 2 GIST, 2 carcinoid and 3 other benign pathology. Lesions were located in the second part to the fourth part of the duodenum. The median operative time was 216 minutes (IQR: 199-225), and estimated intraoperative blood loss was 50ml (IQR: 50.0-93.7). 90 days readmission rate was 15.7% (3/19), and there was no 90-day mortality. One patient developed a possible anastomosis leak which was managed conservatively. One patient developed a delayed anastomosis stricture in which gastrojejunostomy bypass was performed. Conclusion: This small series of a transmesenteric approach for robotic sleeve duodenectomy demonstrates its feasibility and safety for what can be a challenging operation.

6:54 am
The impact of socioeconomic factors on resectability and survival time in pancreatic cancer: a systematic review and meta-analysis
Dr Josipa Petric
Purpose: Globally, pancreatic cancer is the sixth leading cause of cancer mortality. Low socioeconomic status (SES) is associated with a risk of pancreatic cancer. Its impact on pancreatic cancer outcomes has been suggested. This meta-analysis, based on a systematic review of the published literature, aims to compare the outcomes for patients with pancreatic cancer from low versus high SES. The primary endpoints were the likelihood of undergoing surgery and mean survival time. Methodology: A systematic review of major reference databases was undertaken to identify relevant studies comparing outcomes for low, versus high, SES, and a meta-analysis was performed. Results: Thirteen studies were found which compared individuals from a low SES ($n = 62379$) with those from a high SES ($n = 95047$). There were significant differences between the groups in terms of likelihood of undergoing surgery (12.9% low SES versus 17.2% high SES, $p < 0.00001$, OR 0.76, 95% CI 0.70 – 0.83) and mean survival time (low SES having shorter survival, $P < 0.00001$, OR –2.89, 95% CI –3.45 – 2.33). Conclusion: Pancreatic cancer patients from low SES are less likely to undergo surgery and have a lower mean survival time. There is need to address the issue of equity in pancreatic cancer care if we are to improve overall survival.

7:03 am
Neoadjuvant therapy in resectable pancreatic ductal adenocarcinoma (PDAC) patients: A systematic review and meta-analysis
Mr Tanay Bapna
Purpose: Neoadjuvant therapy may have potential benefits in resectable PDAC due to its high risk of metastatic disease at diagnosis and a low rate of adjuvant treatment. The aim of the study is to investigate the role of neoadjuvant therapy in resectable PDAC. Method: A systematic review of the literature was

performed between 2010 and 2021. Studies were included if patients with resectable PDAC received neoadjuvant therapy (NAT). Overall survival (OS), progression-free survival (PFS), and R0 resection rate (R0 RR) were reported. Results: 1417 patients were included from 14 eligible studies. 747 patients (52.7%) received NAT. The range of the median OS in the NAT group was 15.0 – 36.7 months and 13.0 – 26.6 months in the upfront surgery (UFS) group. PFS in the NAT group was 12.3 – 28.7 months versus 15.6 – 19.3 months in the UFS group. R0 RR in the NAT group was 51.5% – 100.0% and 33.0% – 97.4% in the UFS group. No statistical difference in OS, PFS, and R0 RR between the groups were noted. A subgroup receiving NAT, who underwent R0 resection had an improved OS. Conclusion: Our study showed no statistical differences in OS, PFS, and R0 RR between the neoadjuvant treatment and upfront surgery groups. This demonstrates that neoadjuvant treatment is not inferior to upfront surgery in patients with PDAC. Further prospective trials using modern chemotherapy +/- radiotherapy regimens may identify a subgroup of resectable PDAC patients with improved outcomes.

7:12 am
Neoadjuvant Chemoradiation for Borderline Resectable Pancreatic Adenocarcinoma: A UK Tertiary Surgical Oncology Centre Series
Dr Eve Hopping
Purpose: Pancreatic ductal adenocarcinoma is associated with poor long-term survival. Patients with borderline-resectable pancreatic ductal adenocarcinoma (BR-PDAC) have tumours with a degree of vascular involvement, increasing the risk of a positive surgical margin. Recent evidence suggests that neoadjuvant chemoradiation (NCR) improves R0 resection rates in patients with BR-PDAC. We evaluated the R0 resection rate, disease free survival (DFS) and overall survival (OS) in patients who received neoadjuvant chemoradiation for BR-PDAC at our institution. Methodology: All cases of patients with BR-PDAC who proceeded for pancreatic resection following NCR between Jan 2010 and Mar 2020 at The Royal Marsden Hospital in London, United Kingdom were reviewed. Patient morbidity, R0 resection rate, histological parameters, DFS and OS were evaluated. Results: 29 patients with BR-PDAC were included in the study, with a median age of 65 years (range, 46-74 years). 17 patients received FOLFIRINOX and 12 patients received gemcitabine (GEM) based NCR regimens. All patients received chemoradiation at the end of chemotherapy (range 45-56Gy). R0 resection was achieved in 75% of patients, with a higher rate (94%) noted in the FOLFIRINOX group. Median DFS was 35 months for the whole cohort, but higher in the FOLFIRINOX group (60 months). Median OS for the cohort was 30 months, with a higher median OS noted for the FOLFIRINOX cohort versus the GEM cohort (42 versus 30 months). Conclusion: NCR, particularly FOLFIRINOX based treatment, for BR-PDAC results in higher rates of R0 resection and increased median DFS and OS, supporting its continued use in this patient group.

7:21 am
Lipase-to-Amylase Ratio for the Prediction of Postoperative Pancreatic Fistula after Pancreaticoduodenectomy
Dr Juanita Chui
Aim: Postoperative pancreatic fistula(POPF) represents a leading cause of morbidity and mortality following major pancreatic resections. The present study aimed to evaluate the predictive value of lipase-to-amylase(L/A) ratio in post-operative drain fluid for the incidence and severity of POPF. Methods: Consecutive patients who underwent pancreaticoduodenectomy between June 2017 and July 2021 at a tertiary referral centre were retrospectively reviewed (n=130). Clinically relevant POPF was defined according to ISGPS criteria. Absolute and relative drain fluid levels of amylase and lipase were determined for postoperative days(POD) 1, 3, and 5. Receiver operator characteristic(ROC) analysis was performed to evaluate the predictive value of L/A ratio for POPF and Youden Index calculated to determine optimal cut-offs. Results: Absolute and relative drain fluid levels for amylase and lipase significantly correlated with POPF in the early postoperative period ($p<0.001$). Amylase and lipase were independently identified as significant predictors for POPF, with the greatest strength of association on POD1 (AUC=0.89 and AUC=0.89 respectively). By comparison, L/A ratio correlated with POPF on POD3 and 5, with equal strength of association (AUC=0.86). Over POD1 to 5, optimal cut-offs for predicting POPF using amylase and lipase ranged from 160-1747U/L (sensitivity 79-89% and specificity 78-83%) and 669-4062U/L (sensitivity 93-100% and specificity 73-84%) respectively; meanwhile cut-offs for L/A ratio were relatively consistent (2.6-3.0) with comparable sensitivity (92%) and specificity (71%). Conclusion: Postoperative drain fluid L/A ratio represents a reliable indicator for POPF incidence and severity. Our results demonstrate its utility in the early risk stratification of patients undergoing major pancreatic resections.

6:00 am - 7:30 am
JOINT SPECIFIC SURGERY FOR RHEUMATOID ARTHRITIS

Scientific Session - Hand Surgery - Mezzanine Level Meeting Room M9

6:00 am
Wrist
Dr Benjamin Hope

6:15 am
MCPJ
Dr Neela Janakiramanan

6:30 am
PIPJ
Dr Damian Ryan

6:45 am
DRUJ
Dr Jeff Ecker

7:00 am
Panel Discussion
Dr Jeff Ecker, Dr Damian Ryan, Dr Neela Janakiramanan, Dr Benjamin Hope, Dr Tony Berger

6:00 am - 6:30 am
KEYNOTE LECTURE - DR DAVID GILLETT (PERTH, AU)

Keynote Lecture - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

6:00 am
Optimising Alveolar Bone Graft Outcomes Using the Perth Protocol
Dr David Gillett

6:00 am - 7:30 am
ORTHOPAEDIC TRAUMA

Scientific Session - Trauma Surgery, General Surgery, Orthopaedic Surgery - Mezzanine Level Meeting Room M2

6:00 am
Game changes in the early management of severe trauma
Dr Mark Rickman

6:15 am
How to set up an effective trauma service
Professor Michael Schuetz, Associate Professor Chris Morrey, Dr David Lockwood, Professor Zsolt Balogh

7:00 am
Discussion

6:00 am - 7:30 am
PERCUTANEOUS VALVES

Scientific Session - Cardiothoracic Surgery - Plaza Level Meeting Room P3

6:00 am
A room with a view - a structural echocardiologist's perspective
Dr Damian Roper

6:20 am
The first cut is the deepest. Planning TAVI for the future
Dr Karl Poon

6:40 am
Surgeons and TAVI - luxury appendage or valuable member?
A/prof Jayme Bennetts

7:00 am
TAVI disasters - when it all goes wrong!
Dr Emily Granger

7:20 am
Discussion

6:00 am - 7:30 am
PRESIDENT'S ROUND TABLE

Business Meeting - *Cross Discipline* - Boulevard Level Meeting Room B1

6:00 am
Non-gendered titles
Dr Christine Lai

6:20 am
Discussion

6:00 am - 7:30 am
REVISIONAL BARIATRIC SURGERY

Scientific Session - Bariatric Surgery - Great Hall Q1 (Use Door 6)

6:00 am
Options for weight regain post gastric sleeve
Dr Jacobus Jordaan

6:15 am
Gastric sleeve conversion to gastric bypass considerations
A/Prof Nicholas Williams

6:30 am
One anastamosis gastric bypass as a revisional procedure
dr david martin

6:45 am
Options for weight regain post roux en y gastric bypass
Dr Mark Daoud
Roux y gastric bypass procedure being the gold standard procedure, is the most effective treatment of obesity. In a recent prospective, long-term study of patients who had undergone RYGB, up to 30% of patients experience premature weight stabilisation, or weight regain postoperatively. A multidisciplinary team approach should be undertaken early to reduce the risk for weight regain. These include cognitive behaviour therapy, appetite suppressants, endoscopic procedures and revision surgery which can be associated with significant complications. Revision surgery should only be considered to restore the restrictive component of the procedure or to increase the malabsorption component. Summary: the reasons for Significant weight regain following bariatric surgery are multifactorial. The best practice therefore should be that patients seeking bariatric surgery are counselled on the likelihood of weight regain as well as informed of possible options should it occur. References 1. Dayyeh BKA, Lautz DB, Thompson CC. Gastrojejunal stoma diameter predicts weight regain after Roux-en-Y gastric bypass. Clin Gastroenterol Hepatol. 2011;9(3):228–33. 2. Christou NV, Look D, Maclean LD. Weight gain after short- and long-limb gastric bypass in patients followed for longer than 10 years. Ann Surg. 2006;244(5):734–40. 3. Vargas EJ, Bazerbachi F, Rizk M, et al. Transoral outlet reduction with full thickness endoscopic suturing for weight regain after gastric bypass: a large multicenter international experience and metaanalysis. Surg Endosc. 2017:1–8. 4. Ferraz ÁAB, de SLT, Filho EN, et al. Revision surgery for treatment of weight regain after Roux-En-Y gastric bypass. Obes Surg. 2014;24(1):2–8.

7:00 am
Managing the hiatus in revisional bariatric surgery
Dr Ian Martin
Dr Martin will discuss the perplexing topic of hiatal repair in redo Bariatric surgery. Assessing the hiatus fully may be dangerous and best avoided at times. A rational approach is discussed.

7:15 am
Discussion

6:00 am - 7:30 am
SENTINEL NODE BIOPSY FOR MELANOMA AND OTHER CUTANEOUS MALIGNANCIES

Scientific Session - Rural Surgery, General Surgery, Surgical Oncology - Mezzanine Level Meeting Room M4

6:00 am
Education in performing sentinel node biopsy for melanoma
Professor Andrew Spillane

6:15 am
Sentinel node biopsy for melanoma - how I do it
Dr Trent Cross

6:30 am
Sentinel node biopsy in the head and neck. How it differs and the potential pitfalls
Dr Samuel Yang

6:45 am
Sentinel node biopsy for non-melanomatous skin malignancies
Assoc Prof David Gyorki

7:00 am
The sentinel node biopsy item number for melanoma
Dr Michael Donovan, Dr Michael Donovan

7:15 am
Discussion

6:00 am - 7:30 am
SLEEP SURGERY

Scientific Session - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

6:00 am
SDB: Expectation management and when NOT to do upper airway surgery
Professor Stuart Mackay

6:20 am
Outcomes in Sleep Surgery and when TO do upper airway surgery
Dr Leon Kitipornchai

6:40 am
Expansion Sphincter Pharyngoplasty - the evidence and update
Dr Kenny Pang

7:00 am
SLEEPGOAL
Dr Kenny Pang

7:10 am
Non-surgical neuromuscular stimulation for managing sleep disordered breathing
Professor Bhikhu Kotecha

6:00 am - 7:30 am
THE ENDOCRINE ALLIANCE - ENDOCRINOLOGY FOR SURGEONS

Scientific Session - Endocrine Surgery - Plaza Level Meeting Room P2

This session aims to explore the endocrinologist's perspective of endocrine surgical pathology, providing practical advice for surgeons.

6:00 am
An update on diagnosis and pathogenesis of primary aldosteronism
Professor Michael Stowasser

6:20 am
Nuclear Medicine Basics: A Scintillating Review of Thyroid and Parathyroid Disease, with a Hint of Adrenal
Dr Emily Mackenzie

6:40 am
Genetic endocrine neoplasia - a guide for the endocrine surgeon
Dr Lisa Hayes
Over the last decade there have been significant advances in the field of genetics and more mainstream genetic testing. There are several conditions managed by endocrine surgeons that potentially have an underlying genetic cause, including primary hyperparathyroidism, medullary thyroid cancer, non-medullary thyroid cancer, phaeochromocytoma and adrenocortical carcinoma. There is increased availability and reduced cost of targeted disease-specific gene panels to assess for underlying germline mutations in these patients. This presentation will include an overview of genetic testing and the predominant genetic conditions that may be encountered by the endocrine surgeon. For many genetic endocrine conditions there is a strong genotype-phenotype correlation, and the genetic testing results can be helpful to guide management. A genetic diagnosis can inform counselling for patients on prognosis, anticipated comorbidities, and long-term surveillance. The surveillance guidelines for common familial endocrine neoplasia syndromes will be outlined. There has also been progress in customising the surgical approach for genetic endocrine conditions, including primary hyperparathyroidism and phaeochromocytoma, based on preoperative genetic testing results. There is evidence that knowledge of the genetic diagnosis prior to surgery can lead to improved patient outcomes.

7:00 am
The expanding landscape of targeted thyroid cancer treatments
A/Professor Don Mcleod

7:20 am
Discussion

6:00 am - 7:30 am
TRAINING AND EDUCATION FOR THE DISPERSED WORKFORCE

Scientific Session - Breast Surgery - Great Hall Q2 (Use Door 8)

6:00 am
Patterns of care across regional and metropolitan Queensland - QCCAT
Dr Michelle Morris

6:20 am
Tbe BreastSurg ANZ perspective
Associate Professor Sanjay Warrier, Associate Professor Sanjay Warrier

6:40 am
The General Surgeons Australia perspective and how does GSET impact?
Dr Sally Butchers

7:00 am
Discussion

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03 May 2022

6:30 am - 7:30 am
CLEFT I

Scientific Session - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

6:30 am
Does a syndromic diagnosis increase the need for airway and feeding management in children with Robin Sequence?
Mr Alex Davies
Purpose: The diagnosis of syndromic Robin Sequence may have implications for patient management with the potential for more intensive airway and feeding intervention compared to patients with non-syndromic RS and cleft palate only (CPO). We aimed to explore the national prevalence of syndromic RS, and to determine if this group of patients has an increased need medical management. Methodology: We performed a national multi-institutional prospective study using data from the UK Cleft Collective cohort. The sample consisted of 258 participants diagnosed with RS and for whom syndromic status, and airway and feeding management data were available. This group was compared to 550 participants with CPO. Results: An associated syndrome was seen in 28% of our RS group. The most common syndrome was Stickler syndrome (27%). Syndromic status was higher amongst patients with RS compared to those with CPO ($\chi2=22.508$; $p<0.001$). Syndromic RS patients have an increased reliance on airway adjuncts compared to non-syndromic RS patients ($\chi2=5.656$; $p=0.017$). A syndromic diagnosis does not seem to increase the need for feeding adjuncts ($p=0.147$). Conclusion: A syndromic diagnosis is associated with increased airway and breathing difficulty in patients with RS. Early identification of a syndrome may help prevent the consequences of a missed syndromic diagnosis. Routine screening for Stickler syndrome, the most commonly occurring syndrome, should be mandatory for all patients with RS.

6:40 am
Surgical Results at the Royal Children's Hospital Cleft Centre: A Ten-Year Review
Dr Teagan Fink
There is little international consensus on the surgical management of patients born with cleft lip and palate (CL&P), controversies remain as to the optimal timing, staging and surgical repair techniques. The aims of this study were to audit the timing, staging and surgical repair approaches utilised at a single Cleft centre. Perioperative outcomes and rates of secondary Cleft surgery were also explored. Retrospective data from 193 patients born with non-syndromic CL&P undergoing primary repair over a ten-year period were analysed. 33% (n = 64) of the cohort were born with bilateral CL&P, and 66% of the patients born with unilateral CL&P had a left sided cleft (n = 85). There were 2.5 times more males than females. Four different sequences of repair were adopted by six surgeons. Both the timing of cleft lip closure (median 162-204 days old) and cleft palate closure (median 204-504 days old) significantly varied between the four surgical approaches (p-value = 0.00). Postoperative complications grade three and above on the Clavien Dindo scale were uncommon (n = 14). Rates of velopharyngeal insufficiency surgery (8.7% at five years of age; 14.3% at eight years of age) and oronasal fistula surgery (10.5% at five years of age; 14.3% at eight years of age) varied across repair sequences (p value = > 0.05) and were similar to other international centres. Despite widespread variation with regards to the surgical care of patients born with CL&P, rates of postoperative complications and secondary Cleft surgery were uncommon in this audit. Determining the influence of different surgical approaches requires further robust research with long-term follow up and a multidisciplinary analysis of patient care and outcomes.

6:50 am
Do postoperative antibiotic regimens reduce the rate of fistula formation following cleft palate repair?
Mr Alex Davies
Purpose: There is significant debate on the use of antibiotics as a means of preventing postoperative fistulae following palatoplasty. We sought to determine whether differing perioperative antibiotic regimens affect the prevalence of postoperative fistulae in patients with cleft palate. Methodology: A prospective multi-centre cohort study of cases submitted to the Cleft Collective Studies from all cleft services in the UK was undertaken. 752 participants who had undergone primary palatoplasty between 2012 and 2021 were included. Antibiotic exposure was determined from the regimen prescribed at the time of repair. The primary outcome was the presence of palatal fistula up to 24 months following surgery. Results: Fistula data was available for 159 participants when exploring antibiotic regimen and 153 when exploring antibiotic agent. When exploring the data as an ordinal variable (given on induction only/as an inpatient/up to 5-7 days postoperatively) there was no evidence to suggest a difference in fistula rate between the groups ($\chi2=4.34$, $P=0.114$). There was no evidence to suggest a difference in fistula rate between those who received co-amoxiclav and those who received an alternative antibiotic ($\chi2=0.68$, $P=0.410$). There was strong evidence to suggest that the prevalence of postoperative fistulae increased with the extent of the cleft ($\chi2=22.41$, $P<0.001$); further subgroup analysis of cleft type demonstrated no evidence of an association in any group (CPO $\chi2=2.98$, $P=0.225$; UCLP $\chi2=3.72$, $P=0.156$; BCLP $\chi2=2.48$ $P=0.290$). Conclusion: The choice of antibiotic and dosing regimen does not appear to reduce the rate of postoperative fistulae formation. These results should be supported by an interventional trial.

7:00 am
A preliminary clinical experience comparing the VITOM®3D system and endoscopic-assistance in

palatopharyngeal surgery for temporo-mandibular joint (TMJ) ankylosis
Dr Oliver Hovav
Cleft palate is among the most common congenital anomalies of the head and neck resulting from the failed fusion of the frontonasal and maxillary prominence. The goals of cleft palate repair are focused on anatomical closure to ensure the normal function of speech, facial growth, and auditory tubes. Given the restricted oral opening of paediatric patients, cleft palate surgery has continued to be associated with difficult visualisation and illumination, poor assistant visibility, and injurious operator ergonomics. Methods of overcoming these limitations have seen the use of endoscopic and video-assisted modalities for palatopharyngeal surgery. This case report will examine the use of the VITOM ®3D system by KARL STORZ in a cleft palate repair and compare its utility to the use of an endoscope. The aim was to assess differences in both modalities and to assess a variety of characteristics including operative time, illumination, visibility, ergonomics, operational cohesiveness, functionality, and procedural outcomes. We found both the VITOM ®3D system and endoscope improved ergonomics and theatre cohesiveness due to the shared screen viewing. The VITOM ®3D system added accessories and superior magnification were advantageous is certain aspects of the case.

7:10 am
Efficacy of Iliac Crest Cap Cartilage Grafts in Intermediate Cleft Rhinoplasty
Liana Cheung
Purpose This case-control study evaluated the trends and outcomes of iliac crest cap cartilage (ICCC) grafts in an intermediate mixed-dentition (IMD) cohort undergoing cleft rhinoplasty. Methods From 2006 to 2020, our institution performed 959 cleft rhinoplasties, 304 during IMD of which 140 underwent tip rhinoplasty with ICCC grafts concomitant to alveolar bone grafting. Cohort and subgroup statistical analyses and regression modeling were completed. Photomorphometric (PMM) analyses on basal, frontal and lateral views were conducted on cohorts with and without ICCC grafts assessing nasal symmetry, protrusion and nasolabial angles. Results There were no significant differences between the ICCC cohort and controls regarding sex, cleft laterality or surgical age (all $p>0.1$). There was a statistically significant increase in institutional use of ICCC over time ($p<0.001$), without correlation to sex, laterality, or age at surgery (all $p>0.05$). Within a subgroup of now skeletally mature patients, the prior use of ICCC was significantly correlated with a decreased incidence of requiring further rhinoplasties ($\varphi=0.2195$; $p=0.0176$). PMM analyses demonstrated the unilateral cleft ICCC cohort had superior improvement in nasal symmetry postoperatively relative to controls ($p=0.0277$) but was otherwise comparable to controls in nostril symmetry ($p=0.696$) and tip projection ($p=0.334$). No patients had iliac crest contour irregularities with functional sequelae. Conclusions ICCC provides an abundant source of cartilage for cleft rhinoplasty in the period of IMD concomitant to alveolar bone grafting. Our data demonstrates comparable or improved aesthetic outcomes with ICCC without additional morbidity and provides reassurance on ICCC’s retention over time.

7:20 am
A Patient Centred Approach: Efficacy of Patient Reported Outcome Measures in Cleft Care
Liana Cheung
Purpose Management of patients with cleft lip/palate (CLP) has historically reflected clinician assessment of patient appearance and function. Patient-reported outcome (PRO) instruments are increasingly used to assess patient perceptions of their health states, which may differ from their parents or clinicians. The validated Cleft-Q PRO was used to assess clinical effect of discordance found between clinicians and CLP patients. Methods Patients 8 years and older were prospectively, consecutively enrolled at a tertiary cleft center. The PRO was completed prior to the clinic visit. The consultant surgeon was initially masked to PRO findings and conducted a standard clinic visit with formulation of a provisional assessment and plan. PRO data was then reviewed by surgeon and patient together and plans revised. Discrepancies in verbal and scored PRO responses greater than one standard deviation from normative data were considered discordant. Results At time of abstract, 15 patients met inclusion criteria and 3 patients (20%) had at least one module of discordance. Discordance was most common in sectors of lip and lip scar, followed by nose and jaw appearance. Proposed management plan changed in all discordant cases as a result of Cleft-Q, with 1 patient (6.7%) provided non-surgical subspecialist referral and 2 (13.3%) suitable for surgical management. One patient underwent a recent surgery where an opportunity for concurrent surgical treatment of a separate problem was missed. Conclusions Early results suggest that PRO implementation identified discordance between patient perceptions compared to standard assessment in approximately 20% of cases. Furthermore, a changed management plan was feasible in all cases of reported discordance.

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03 May 2022

7:00 am - 7:30 am
KEYNOTE LECTURE - DR JULIE CORNISH (CARDIFF, UK)

Scientific Session - General Surgery, Colorectal Surgery - Great Hall Q4 (Use Door 5)

7:00 am
Patient reported outcomes in colorectal surgery
Mrs Julie Cornish

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03 May 2022

8:00 am - 9:30 am
BILIARY RECONSTRUCTION

Scientific Session - HPB Surgery - Great Hall Q3 (Use Door 9)

8:00 am
Radiological diagnosis and investigation for complex biliary injury
Dr Allan Avery
The presentation will explore the imaging options available to confirm and define a bile duct injury. Conventional MRCP, MRCP/MRI liver with Gd-EOB-DTPA (Primovist), and CT cholangiogram will be discussed, highlighting the strengths and weaknesses of each technique. Imaging examples of biliary injuries of differing causes will be presented: Post-cholecystectomy, post-liver resection and traumatic. A brief update for surgeons of the Medicare eligibility criteria for MRI liver and MRCP (including proposed new changes).

8:17 am
Hepaticojejunostomy after Strasberg E bile duct injury
Shinn Yeung

8:34 am
What to do with the disconnected RPSD?

8:51 am
Managing small ducts and separate ducts - hooking up after live donors or hilar resection
Dr Jerome Laurence
Biliary reconstruction remains troublesome. Short-term and long-term complications are common. The aim of this presentation is to better understand why biliary reconstruction remains a challenge. I will briefly consider some of the conventional technical solutions to difficult situations in an unashamedly evidence-free way. Finally, I wish to explore the potential of near-infrared fluorescence and bio-absorbable biliary stents to prevent complications in biliary reconstruction.

8:00 am - 9:30 am
CORONARY SURGERY AND ATRIAL FIBRILLATION, NEW FRONTIERS

Scientific Session - Cardiothoracic Surgery - Plaza Level Meeting Room P3

8:00 am
Splitting the anterior mitral leaflet impairs left ventricular function in an ovine model
Dr Laurencie Brunel
Purpose: Preservation of the subvalvular apparatus is paramount in ischemic mitral valve replacement. To prevent left ventricular (LV) outflow tract obstruction, the anterior mitral leaflet (AML) is often split in the middle and its edges folded and re-attached at the annular level, therefore reducing the annulo-papillary distance. This study quantifies the acute effects of splitting the AML and shortening the annulo-papillary distance on LV function. Method: Six adult sheep (mean BW 48.5 ± 3.7 kg) underwent a mechanical mitral valve insertion on normothermic beating-heart cardiopulmonary bypass, with retention of the native AML and placement of releasable snares to reduce the papillary-commissural distance. The AML was split using a wire pre-placed around the leaflet. Instantaneous changes of cardiac mechano-energetics were analysed before and after shortening the papillary-commissural distance, then before and after splitting the AML. Results: After splitting the AML, PRSW, SW, SV, CO, LVESP and Mean LVP were significantly decreased by 26 %, 23%, 12%, 9%, 15% and 11% respectively. Shortening the papillary-commissural distance was associated with a significant decrease in ESPVR and PRSW by 67% and 33% respectively. Stroke work and LVESP were reduced by 15 % and 13% respectively. Reducing the papillary-commissural distance after splitting the AML did not further alter LV function. Conclusions: Splitting the AML and shortening the papillary-commissural distance both individually acutely impaired LV function but the effects were not additive. In patients with pre-existing severe LV systolic dysfunction, replacement techniques and valve designs should optimise

preservation of left ventricular function.

8:10 am
Percutaneous Treatment of Post-Myocardial Infarction Ventricular Septal Defect- A Systematic Review and Meta-Analysis
Dr Lucy Manuel

8:20 am
Modified deep percardial traction (Modified LIMA suture) technique to facilitate off pump CABG
Dr Kohei Abe
Background: The deep pericardial traction method called as 'LIMA suture' described by Ricardo Lima is superior to expose the posterior wall of beating heart with minimal hemodynamic changes. However, these stitches often disturb the working area to accomplish the anastomoses. We have developed 'modified LIMA suture' to resolve this problem. Objectives 210 cases of isolated CABG during 2011 and 2017 were enrolled in this study. Methods After median sternotomy and harvesting grafts, two deep pericardial stitches were placed as described by Ricardo LIMA. A needle type loop wire hooking device was inserted from left 2nd and 4th inter costal space on the anterior axillary line and the sutures were pulled out from the thoracic cavity. The sutures were pulled up to lift and rotate the heart as well as to prohibit the left lung bulging by ventilation. The target coronary artery was stabilized by Acrobat stabilizer. Results Off pump CABG was completed in 199 cases out of 210 consecutive cases of isolated coronary disease (94.8%). 11 cases were scheduled as on pump CABG because of severe pulmonary hypertension, arrhythmia, or ongoing ischemia. Modified LIMA suture was utilized in 181 cases. There was only one case of conversion to on-pump CABG due to ventricular arrhythmia in patient with acute coronary syndrome. The average number of anastomses was 3.6(2-6). Left and right internal thoracic arteries were utilized in 96.7% and 85.6% respectively. No hospital mortality was observed during this period. Conclusions Excellent results could be achieved by utilizing modified LIMA suture. This technique is simple and facilitates off pump CABG with better view and stable hemodynamics.

8:40 am
MIDCAB : the lost operation or the future?
Dr Hugh Wolfenden

9:00 am
Minimally invasive thoracoscopic approaches for ablation of atrial fibrillation and occlusion of LA appendage
Dr Pragnesh Joshi

9:20 am
Discussion

8:00 am - 9:30 am
CRANIAL RECONSTRUCTION

Scientific Session - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

8:00 am
Civilian cerebral gunshot wounds: A South African experience
Dr Victor Kong
Background: Cerebral gunshot wounds represent one of the most lethal forms of traumatic brain injury, but there is a paucity of literature on the topic, especially from the developing world. We reviewed our experience and describe the spectrum and outcome of civilian cerebral gunshot wounds in a major metropolitan trauma centre in South Africa. Methods: This was a retrospective study of all patients with isolated cerebral gunshot wounds managed by the Pietermaritzburg Metropolitan Trauma Service over a 5-year period from 2010 to 2014. Results: One hundred and two patients were included, 92% (94/102) were male and the mean age was 29 years. Fifty-four per cent (55/102) of all patients were from urban areas. The mean time from injury to arrival was 6 h (standard deviation: 5) for urban patients and 15 h (standard deviation: 5.2) for rural patients ($P < 0.001$). Ninety-four per cent (94/102) of all injuries were related to interpersonal violence and involved low velocity firearms. Twenty per cent of all patients (20/102) had a Glasgow Coma Scale 3–8, 20% (20/102) 9–12 and 61% (61/102) 12–15. All 102 patients underwent computed tomography scans. Thirty per cent (31/102) required neurosurgical interventions. The overall mortality rate was 22% (22/102). There was a significant difference in mortality between urban and rural patients (9% versus 36%, $P < 0.001$). Conclusions: Cerebral gunshot wounds are associated with significant mortality and protracted delay to definitive care is common in our setting. Those who survive the delayed transfer to definitive care generally do well and have reasonably good clinical outcomes.

8:10 am

If They Hit a Fan, They Get a Scan: The Argument for CT Head in Paediatric Ceiling Fan Injuries

Dr Rhys Youngberg

Background: Head injuries comprise 1-2% of ED presentations, and CT represents the gold standard for assessing intracranial injuries. However, the risks of radiation and - if required - sedation in a paediatric population are commonly raised objections to CT in this population. These risks must be weighed against the risks of missed intracranial injury, particularly in a patient who is ultimately placed under general anaesthesia. While guidelines for Emergency Department (ED) management aid in the decision of whether to CT, these are based on risk stratification rather than overall risk reduction. Methods: A review of Australian Paediatric ED guidelines, and of published literature on ceiling fan injuries and paediatric CT head radiation was performed. Results: The most commonly referenced ED algorithms to assist in deciding whether or not to CT are the PECARN and CHALICE scores, which inform risk stratification and management. There are only a handful of articles describing paediatric ceiling fan injuries, though the literature suggests significant associated morbidity. CT radiation dose and the lifetime attributable cancer risk in a paediatric population has been extensively studied, as have methods for reducing radiation doses in children. Low dose CT has been shown to substantially reduce radiation exposure without compromising image quality or diagnostic confidence. Conclusions: Conflicting information on CT risk and limited studies on paediatric ceiling fan injuries may contribute to inaccurate risk stratification of these injuries. This overestimate of radiation risk and underestimate of ceiling fan morbidity has the potential to result in missed injuries and patient harm.

8:20 am

Vacuum-assisted closure therapy for cranial defects with exposed dura or brain: A case report and review of the literature

Dr Isobel Yeap

Purpose First described by Morykwas et al. in 1997, vacuum-assisted closure (VAC) therapy is now a staple in the armamentarium of wound management devices.1 Complex cranial wounds with exposed dura or brain represent reconstructive challenges, and typically require local or free flaps. However, in rare cases, such wounds may be managed with VAC therapy, either as a temporising measure or as a means of allowing the dura to granulate prior to definitive skin grafting. Method A case report and literature review. Results We present only the sixth case in the literature to describe VAC therapy applied to cranial wounds with exposed brain. An 81 year-old male with pyoderma vegetans presented with an iatrogenic cranial wound with exposed brain secondary to punch biopsy. He had a history of head and neck cancer, requiring multiple surgeries and radiotherapy to his scalp. His wound was temporised with a VAC therapy applied over a dural patch and a layer of biodegradable temporising matrix (BTM). Our systematic review identified 5 cases of VAC therapy applied to exposed brain and 10 cases of it applied to exposed dura. In 2 cases, where it was applied to exposed brain, the patients developed hydrocephalus and required shunting. In 4 cases, VAC therapy facilitated skin grafting to dura. Conclusion There exists Level IV evidence to suggest that VAC therapy is a safe and effective means of managing wounds with exposed dura, and rarely even exposed brain. Where VAC therapy is applied directly to brain, patients should be monitored for hydrocephalus. References 1. Morykwas MJ, Argenta LC, Shelton-Brown EI, McGuirt W. Vacuum-assisted closure: a new method for wound control and treatment: animal studies and basic foundation. Ann Plast Surg 1997;38:553-62.

8:30 am

Study Of Cranioplasty Outcomes To Inform A Novel Method For Skull Bone Reconstruction

Dr Isabel Gonzalez Matheus

Background: The increasing utilisation of decompressive craniectomy for traumatic brain injury and stroke has led to a surge in the number of cranioplasties undertaken. The current literature shows significant variability in reconstructive techniques and a wide range of associated morbidity. There also remains a knowledge gap in identifying the patient risk factors for failed cranioplasty. Objectives: Define the outcomes of cranioplasty procedures undertaken across two large trauma centres in Australia in order to i) address the variability in reported techniques and outcomes in relation to morbidity ii) address the knowledge gap on patient risk factors and by doing so define the cohort of patients in whom it is reasonable to attempt a different method of reconstruction. Methods: We performed a retrospective chart review on patients who underwent cranioplasty from 01/04/2014 to 01/01/2021 at the level -1 Trauma Centre, Royal Brisbane & Women's Hospital & Princess Alexandra Hospital in Brisbane, Australia. Results: There are no significant variations in practice and outcomes between the two units. We determined the reason for the reported variability of outcomes, including defining risk factors for failed cranioplasty. By doing so, we have informed the development of a decision-making algorithm for cranioplasty based on defect size (small, medium and large) Conclusions: By addressing the stated variability of outcomes and establishing a local data set we have been able to support the need for a new cranioplasty method for skull reconstruction and have identified a cohort of patients in whom this novel method of reconstruction could be beneficial.

8:40 am

A First In Human Series Evaluating The 3D Printed PCL-TCP Scaffold System With Corticoperiosteal Tissue For Skull Reconstruction

Dr Isabel Gonzalez Matheus

Background: Large skull defects present a reconstructive challenge. Conventional cranioplasty options carry

a risk of implant resorption, exposure, failure and infection. Introduction of a hybridised implant composed of a vascularised 3D implant is a new and innovative surgical approach that could boost optimal bone regeneration. This introduces the concept of Regenerative Matching Axial Vascularisation (RMAV) and an absorbable 3D printed scaffold. For individuals who have undergone unsuccessful cranioplasties, the above surgical approach could offer both lifesaving and lifechanging reconstruction. Objectives: We describe the first clinical series of a novel bone replacement technique based on RMAV in patients with acquired calvarial defects and previous failed cranioplasty. Method: Five patients with residual calvarial defects and prior failed cranioplasty underwent reconstruction with 3D-printed mPCL-TCP scaffolds wrapped in vascularized free corticoperiosteal flap. Outcome: Nine months after successful reconstruction, histological analysis and Scanning Electron Micrography confirm the presence of healthy osteocytes and good quality regenerate bone. CT imaging three months after surgery shows new bone formation adjacent to the scaffold. The FACE-Q Craniofacial tool was used to measure patient reported functional and psychological outcomes 1 year following reconstruction. Results show scores at or above 85 over all domains: appearance, facial function, quality of life, and adverse effects of treatment. Conclusion: This technique offers an alternative to existing methods of bone defect reconstruction that may be safe, reliable and give predictable outcomes in challenging situations.

8:50 am
3D-Printed Biodegradable PCL Mesh In Paediatric Cranial Vault Surgery: A Descriptive Case Study
Dr Isabel Gonzalez Matheus
Background: The surgical management of craniosynostosis has greatly evolved with improvements in both technology and understanding of the disease process. Some drawbacks remain regarding bone regeneration within the surgical bony gaps. Generally, bony gaps improve in the 12-24 months following surgery, but some gaps may remain for longer and cause deformity and/or require additional bony reconstruction. These considerations make tissue engineered bone very attractive. Novel 3D printed bioresorbable mesh implants made of Polycaprolactone (PCL) can be used to fill the surgical bony defects. Objectives: We seek to investigate how the use of a 3D printed biodegradable PCL mesh applied to bony defects in cranial vault surgery affects bone healing. Methods: Case series analysis of eight paediatric patients who have undergone surgical intervention using PCL mesh implants for reconstruction of bony defects during craniosynostosis correction surgery. Findings: On clinical examination, bony gaps were seen in 2 out of 8 patients by 12 months postoperative. One patient who underwent a subsequent cranial vault surgery was found to lack bone regeneration in the defect area despite the use of PCL mesh 8 months prior, and there was no difference in regeneration when compared to an adjacent area of bony deficit were mesh was not used and bone dust was applied. Conclusions: Based on our experience, the use of PCL mesh did not augment bone regeneration. It is possible this is due to lack of scaffold vascularization and supports the concept of regenerative matching axial vascularisation (RMAV) and an absorbable 3D printed scaffold.

9:00 am
Virtual surgical planning and intra-operative computer navigation in open cranial vault remodelling surgery: a case series
Dr Oliver Hovav
Craniosynostosis is the premature fusion of one or more cranial sutures. With an incidence of approximately 1 in every 2000/2500 births worldwide, craniosynostosis is one of the most common craniofacial abnormalities. Surgical intervention for craniosynostosis is indicated to prevent/correct raised intracranial pressure and/or to normalise the aesthetic appearance of the head and face. The current approach in correcting the calvarial deformity relies on relies on subjective judgement by the lead surgeon. This may be highly dependable on the experience of the surgeon. Virtual surgical planning (VSP), including three-dimensional bio-models and virtual-reality, allow pre-operative insight and reference to the patient. Intra-operative navigation allows surgeons to transfer their pre-operative planning into the craniosynostosis surgery. We will present a case series of patients who underwent open cranial vault remodelling utilising VSP and intra-operative computer navigation. We will describe the pre, intra and post-operative experience in this series.

8:00 am - 9:30 am
CULTURAL SAFETY: HOW I DO IT

Scientific Session - Indigenous Health - Plaza Level Meeting Room P4

Practical tips for practising surgeons to start implementing the tenth competency on the wards, in the rooms, in theatre, and when teaching/ mentoring.

8:00 am
What does cultural un-safety look like?
Mr Geoffrey Binge, Ms Patricia Kennedy

8:15 am

How I do it in theatre / ED
Dr Richard Bradbury

8:30 am
How I do it on wards and in teaching / mentoring
Dr Lesley Barron

8:45 am
How I do it in private / metro settings
Ms Sarah Boyne, Professor Chris Perry

9:00 am
Discussion

8:00 am - 9:30 am
HOW IS THE HEALTH CARE SYSTEM ACTING TO MITIGATE CLIMATE CHANGE?

Scientific Session - Trainees Association, Younger Fellows - Plaza Level Meeting Room P5

8:00 am
Ramsay Cares - Ramsay Health Care Report
Sue Panuccio, Ms Siobhan Leach

8:20 am
Mater Group Report
Ms Ngaire McGaw

8:40 am
What actions can and are be undertaken by Queensland Health to foster a climate ready and environmentally sustainable public health system?
Ms Uma Rajappa

9:00 am
Discussion

8:00 am - 8:30 am
KEYNOTE LECTURE - PROFESSOR CAREL LE ROUX (DUBLIN, IRELAND)

Keynote Lecture - Upper GI Surgery, Bariatric Surgery - Plaza Level Meeting Room P1

8:00 am
Can bariatric surgery place chronic kidney disease into remission?
Professor Carel le Roux
Obesity is now recognised as a disease that is associated with serious morbidity and increased mortality. One of its main metabolic complications is type 2 diabetes and diabetic kidney disease, as these conditions share key pathophysiological mechanisms. Weight loss is known to reverse the underlying metabolic abnormalities of type 2 diabetes and, as such, improve glucose control; loss of 15% or more of bodyweight, such as seen with bariatric surgery, can have a disease-modifying effect in people with diabetic kidney disease, an outcome that is less likely to be attainable by glucose-lowering interventions alone. Furthermore, weight loss with bariatric surgery in this population exerts benefits that extend beyond glycaemic control to improve risk factors for cardiometabolic disease and quality of life. The evidence supporting the role of bariatric surgery in the management diabetic kidney disease is now overwhelmingly clear and we propose that many patients with diabetic kidney disease would benefit from having a primary weight-centric approach such as bariatric surgery. There are logistical challenges to implementing a new weight-centric primary treatment goal in people with diabetic kidney disease, but these can now be addressed with the safe and effective treatment options which ranges from nutrition therapy, exercise therapy, pharmacotherapy, and surgical therapy.

8:00 am - 9:30 am
MALIGNANT PROCTOLOGY

Scientific Session - General Surgery, Colorectal Surgery - Great Hall Q4 (Use Door 5)

8:00 am
Perianal Paget's disease - an update
Dr Eugene Ong

8:10 am
An overview of HPV-related anal lesions
Dr Pia Bernardi

8:25 am
The benefit of HPV vaccination in benign and malignant anal conditions
Associate Professor Richard Hillman
This session will begin by recapping the histopathology and epidemiology of anal HPV-associated lesions. It will then discuss the strong evidence for the value of prophylactic HPV vaccination (such as Gardasil) in primary prevention of people ≤ 26 years of age, who have had ≤ 5 lifetime sexual partners (Palefsky J et al NEJM 2011;365:1576). Two studies (Wilkin T et al Clinical Infectious Diseases 2018;67(9):1339–46 & Hidalgo-Tenorio C et al. Viruses 202113(2):144) have now demonstrated that there is no protective benefit in older populations (> 26 years old) living with HIV. The evidence for the adjunctive role of HPV vaccination in the ablative treatment of cervical and laryngeal HPV-related diseases will be presented. However, evidence from the anus is less clear and does not currently support its use with ablative treatment (Stewart DB et al. ASCRS Clinical Practice Guidelines (2018) Dis Col Rect 2018;61(7):755). Therapeutic HPV vaccines target different components of HPV and work in completely different manners to Gardasil. The session will end with a presentation of early data regarding the potential roles of therapeutic vaccination in the elimination of AIN3, and as adjunctive therapy in the treatment of invasive disease.

8:40 am
High resolution anoscopy - a tool for colorectal surgeons?
Dr Penelope De Lacavalerie
Purpose In a manner directly comparable to cervical colposcopy, High Resolution Anoscopy (HRA) is a relatively new development that facilitates the microscopic identification and characterisation of anal lesions. We sought to describe the training and early experiences of a Colorectal Surgeon training in HRA. Methodology Following the HRA online training course ran by the International Anal Neoplasia Society(IANS) and clinical mentorship, a Colorectal Surgeon undertook HRAs at a clinic specialising in the diagnosis and management of anal dysplasia. Quality Assurance metrics were collected as per guidelines from IANS(1). Results 14 HRAs were undertaken on 8 men and 6 women. Analysis of anal cytology determined that 13 (93%) were technically satisfactory for analysis, and High grade Squamous Intraepithelial Lesions (HSIL) were identified on cytology in 5 cases (36%). High risk HPV was found in 71% of cases, with HPV16 being present in 6 patients (43%). The most serious histological abnormalities identified was anal SCC in 1 patient and HSIL in 64% of patients, none of which was visible to the unaided eye. Conclusion In a specialised clinic, HRA was able to identify HSIL in 64% of patients, none of which were detectable using standard approaches. The preliminary results of a recent large, randomised, trial have established that HSIL identification and treatment substantially reduces the risk of development of anal cancer, Colorectal Surgeons are ideally placed to play a major role in the prevention of anal cancer. Reference: (1) Hillman, R et al IANS International Guidelines for Practice Standards in the Detection of Anal Cancer Precursors. J Low Genit Tract Dis 2016;20:283–91

8:55 am
Anal cancer - an update on a more common disease
Dr Glen Guerra

9:10 am
Discussion

8:00 am - 9:30 am
MEDICAL THERAPIES FOR MELANOMA - PLEASE ENLIGHTEN ME, THE HUMBLE GENERAL SURGEON

Scientific Session - Rural Surgery, General Surgery, Surgical Oncology - Mezzanine Level Meeting Room M4

8:00 am
Immunotherapy - how does it work, how effective is it and what are the side effects
Assoc Prof Victoria Atkinson

8:20 am
Combination BRAF/MEK targeted therapy - how does it work, when is it used?
Associate Professor Melissa Eastgate

8:40 am
Adjuvant medical therapies - the regional patient experience
Dr Hayden Christie

9:00 am
Neoadjuvant therapy and the place for surgery
A/Prof. Dr Alexander van Akkooi

9:20 am
Discussion

8:00 am - 9:30 am
MISCELLANEOUS AND RESEARCH PAPERS

Scientific Session - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

8:00 am
Taking Vertigo for a Spin
Ms Leia Barnes, Associate Professor Bernard Whitfield

8:20 am
Juvenile nasopharyngeal angiofibroma
Assistant Professor Jaime Doody

8:40 am
Effect of myelodysplastic syndromes on head and neck free flap outcomes
Dr William Crohan
Purpose: Myelodysplastic syndrome is a heterogeneous stem cell disorder of the blood and marrow typically diagnosed based on the presence of persistent pancytopenia, dysplastic cells, and genetic markers. It is well known that myelodysplastic syndrome is associated with a greater incidence of solid malignant tumours, particularly squamous cell carcinoma. In the Head and Neck region, free flap grafts are sometimes required to repair the defect following surgical excision of squamous cell carcinoma. The outcomes of myelodysplasia are not well appreciated within the literature. Methods: We present a retrospective cohort study looking at the surgical morbidity and mortality of patients with myelodysplastic syndromes undergoing head and neck free flap surgery. Cases were recorded within a large cancer database at a tertiary centre in Western Australia between 2017 and 2021. Results: Patients with myelodysplastic syndrome undergoing head and neck free flap surgery experienced higher incidence of complications and higher morbidity and mortality, even after adjusting for controlled variables. Conclusion: Myelodysplastic syndrome was associate with worse morbidity and mortality following head and neck free flap surgery.

8:55 am
Tracheal dilatation
Professor Darlene Lubbe

9:15 am
Clinical investigation of local over general anesthetic tonsillectomy using the BiZactTM device
Dr David Housley

8:00 am - 9:30 am
ORTHOPAEDIC TRAUMA II

Scientific Session - Trauma Surgery, Orthopaedic Surgery - Mezzanine Level Meeting Room M2

8:00 am
Presentation of Gordon Trinca Medal
Dr Sally Langley

8:05 am
High energy displaced subcapital fractures

Mr Kevin Tetsworth

8:20 am
How I approach Pelvic Ring injuries
Dr Mark Rickman

8:35 am
Reconstructive options for spinopelvic injuries
Dr Adam Parr

8:50 am
Discussion

8:00 am - 9:00 am
REFLECTIONS

Scientific Session - Senior Surgeons Program - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

8:00 am
Evolution of an Established Medical Course: Where does surgery fit?
Professor Mark Smithers

8:25 am
Questions and discussion

8:30 am
The Behan Art Collection at the University of Queensland
Associate Professor Felix Behan

8:00 am - 9:30 am
SUSTAINABILITY IN HAND SURGERY

Scientific Session - Hand Surgery - Mezzanine Level Meeting Room M9

8:00 am
Workplace sustainability
Dr Neela Janakiramanan

8:20 am
Sustainable hand therapy
Ms Marianne Hodder

8:40 am
Preventable errors in hand surgery: analysis of data from NHS England
Mr Islam Omar
Background: Avoidable medical errors and never events represent a significant problem with negative consequences on the patient, the healthcare professionals, and the healthcare facilities. Hand surgery is a unique multidisciplinary speciality in which orthopaedics, plastic andgeneral surgery are usually involved in the care of their patients, which makes this speciality prone to medical errors. The study highlights these preventable errors in hand surgery in NHS England. Methods: We analysed hand surgery-related preventable medical errors published by the NHS England during the last ten years from 2012 till July 2021. Results: Out of 3742 never events during the review period, only 50 never events related to hand surgery were found, representing (1.3%). The majority were under wrong-site surgery category 30 (60%), which included 17 (57%) wrong finger or digit surgery followed by five wrong digit or thumb injections, three wrong k wire placement, and three scaphoid bones were mistakenly removed during trapeziectomy. The second most common category was wrong incision 15 (30%), with 13 wrong finger incisions and two wrong carpal tunnel incisions for trigger finger release. Four patients had wrong procedures, including CTR rather than trigger finger or Dequervain release or an unnecessary carpal tunnel release in addition to one wrong hand tendon transfer. Lastly, only one patient had a wrong injection for carpal tunnel that was intended for another patient. Conclusions: Hand surgery-related medical errors represent 1.3% of the whole Never Events reported. Awareness of these incidents will help prevent their occurrence in the future.

8:55 am
Palmed off: The public cost of hand surgery shifted to the private system
Dr Avinesh Chelliah

9:10 am
Discussion

8:00 am - 9:30 am
THE FOLLOW-UP TSUNAMI - WHAT IS SUSTAINABLE?

Scientific Session - Breast Surgery - Great Hall Q2 (Use Door 8)

8:00 am
Shared care in breast cancer follow up
Professor Patsy Yates

8:25 am
The role of breast physician and GP
Dr Lea Freeman

8:50 am
How we do it in a busy Australian unit
Associate Professor Rhea Liang

9:15 am
Discussion

8:00 am - 9:30 am
TS REEVE PAPER SESSION 1

Scientific Session - Endocrine Surgery - Plaza Level Meeting Room P2

Free paper session

8:00 am
Predicting outcomes of sporadic micro-Medullary Thyroid Cancer using the International MTC grading system
Mr Nicholas Kesby
Purpose Management of sporadic medullary thyroid cancers smaller than 1cm (micro-MTC) is controversial due to conflicting reports of prognosis. The International MTC grading system (IMTCGS) has been introduced to assess prognosis using proliferation and presence of necrosis to identify high-grade tumours. Methodology Micro-MTC were identified from a database and pathology reviewed to apply the IMTCGS (high/low). The primary endpoints were recurrence and five-year disease-free survival (DFS). Prognostic factors assessed included size, grade, lymph node metastasis (LNM) and elevated post-operative calcitonin. Cox regression was used to assess the strength of association using Hazard Ratios (HR). Results From 1995-2021, 63 patients were identified with 20 excluded due to hereditary disease. Sporadic micro-MTC patients were 70% female, with a median age of 60 years and median tumour size of 4mm (range 0.9-10mm). The diagnosis was incidental in 56%, 14% had LNM and 16% had elevated post-op calcitonin. Over a 5-year median follow up, 7% developed distant recurrence with no disease-specific deaths. As a predictor of recurrence, LNM had a HR=17 (P=0.04), high grade HR=10 (P=0.06), while size and post-op calcitonin had weaker associations. By the IMTCGS, 9% were high grade and were associated with LNM (75% vs. 8%, $p<0.01$) and recurrence (50% vs. 3%, p=0.02). Five-year DFS was 67% for high grade compared to 100% for low grade (P=0.02). Conclusion Sporadic micro-MTC has low rates of recurrence. The presence of LNM is a poor prognostic factor, but tumour size and post-op calcitonin are not. The IMTCGS grade shows promise as a predictor of LNM and recurrence, allowing individualised management following a diagnosis of sporadic micro-MTC.

8:12 am
Preoperative serum calcitonin may improve initial surgery for medullary thyroid cancer in patients with indeterminate cytology
Dr Nandhini Ravintharan
PURPOSE Medullary thyroid cancer (MTC) is rare, with poorer outcomes than differentiated thyroid cancer. Current American and European guidelines are unclear on the utility of serum calcitonin (sCT) in the workup of thyroid nodules. We aimed to investigate the role of sCT in the pre-operative evaluation of patients with possible MTC. We hypothesised that the selective use of sCT as a biomarker for possible MTC could guide the extent of optimal initial surgical management. METHODS We recruited MTC patients between 2000-2020

from the Monash University Endocrine Surgery Unit database. Demographics, tumour characteristics, pre-operative evaluation, operative management, and outcomes were analysed. RESULTS Of 1454 thyroid cancer patients, 43 (3 %) had MTC. Of these, 36 (84 %) with MTC were diagnosed preoperatively by cytology (28, 65 %), elevated sCT (6, 14 %) or RET mutation (2, 4 %). Of the 36, 31 (86 %) had optimal extent of thyroidectomy and lymph node dissection (LND). Five (14%) had less than total thyroidectomy due to nerve injury. Thirty-four patients had compartmental LND. Of 12 (27 %) patients with indeterminate or non-diagnostic cytology, 5 had elevated sCT and were managed optimally as above; but the other 7 did not have LND, and therefore potentially had suboptimal surgery. CONCLUSION Our findings reflect the rarity of MTC, and the challenges of pre-operative diagnosis. We would recommend sCT in the workup of cytologically indeterminate thyroid nodules in selected patients, or when there is clinical, radiological or cytological suspicion of malignancy.

8:24 am
Diffuse Sclerosing Variant of Papillary Thyroid Carcinoma: Clinical Outcomes by Genotype
Henry Crayton
Purpose: Diffuse Sclerosing Variant Papillary Thyroid Carcinoma (DSV-PTC) is associated with high rates of lymphatic and distant metastasis. DSV-PTC has been associated with RET-fusions, however the genotype-phenotype relationship is debated. We sought to characterise the driver mutations and their relationship with clinical outcome. Methods: DSV-PTC were identified from a pathology database and screened by BRAF V600E Immunohistochemistry (IHC). Wild type BRAF samples were sent for targeted fusion and genomic sequencing. Outcomes were obtained from a prospectively maintained endocrine surgery database. Results: Over 20-years, 47 DSV-PTC samples were identified, ten patients were excluded due to no tissue available for review. The study population of 37 patients had a median age of 35 years, with 73% female and 81% of cancers had extrathyroidal extension, 89% lympho-vascular invasion and median 15 metastatic lymph nodes. BRAF V600E (IHC) was positive in 7 (19%) and genomic analysis of the remaining samples showed fusions including CDCC6-RET and novel fusions including ALK and NTRK. Both groups had similar presentation however BRAF wildtype patients had higher rates of distant metastasis (18% vs 0%, P<0.0001). Over a median follow up of 4 years both groups received similar doses of radioactive iodine (4.8 GBq median dose) and had similar rates of structural recurrence (29%). Two (7%) BRAF wildtype patients died from thyroid cancer. Conclusion: DSV-PTC has more genomic driver diversity than previously described, including fusions with ALK and NTRK which has not previously been described. Non-BRAF DSV-PTC is associated with development of metastatic disease. Fusion testing should be considered to guide management.

8:36 am
Factors which inform patient decision between active surveillance, hemithyroidectomy and total thyroidectomy for low-risk thyroid cancer: A systematic review
Miss Jessica Wei
Background: Due to the excellent prognosis and relatively high incidence of small low-risk thyroid cancers, more conservative management strategies such as active surveillance (AS) or hemithyroidectomy (HT) may be preferable to total thyroidectomy (TT) for patients seeking to balance long-term survival rates with the potential adverse effects of overtreatment. The aim of this systematic review was to synthesise key factors influencing treatment preference to inform the design of decision aids (DAs) promoting shared decision-making. Methods: Studies were identified from the Medline, Cochrane and Embase databases up until August 2021. Study characteristics were extracted into a pre-piloted form, and risk of bias was evaluated using the Qualsyst scoring system. Results: Six studies were identified; four cross-sectional, one prospective cohort and one mixed-methods. The decisions addressed included: the choice between AS vs surgery (HT and/or TT) and HT vs TT. Treatment choice was the primary outcome in 83% of studies. Participants who were given the option of AS or surgery predominately chose the more conservative pathway (70-84%). Major factors represented were risk of cancer recurrence/spread, need for hormone replacement therapy and voice change. The risk of requiring a second surgery given HT was also determined critical by participants, however considered in only 40% of studies. Conclusions: A framework of key factors informing patient treatment choice may be derived from current studies involving information provision for low-risk thyroid cancer management. Further research evaluating the efficacy and optimal timing of DA use would assist the design of future decisions support tools, enhancing shared decision making.

8:48 am
Dedicated Multidisciplinary Service Improves Surgical Selection and Postoperative Outcomes for Patients with Primary Aldosteronism
Dr Jinghong Zhang
PURPOSE Primary aldosteronism (PA) is the most common surgically curable cause of endocrine hypertension. It is unclear if the management of patients with unilateral PA through a dedicated Endocrine Hypertension Service (EHS) confers better outcomes than standard management. METHOD In this retrospective study, patients from the Monash University Endocrine Surgery Database were divided into the EHS group, where patients were managed by a dedicated multidisciplinary team; or the Standard group, where patients were managed by individual physicians. The comparisons included patient selection for unilateral adrenalectomy, perioperative blood pressure, surgical cure rate, and postoperative follow-up. RESULTS Despite similar perioperative blood pressure control, patients in the EHS group (n=41) were on fewer antihypertensive medications (1 vs 2, p=0.011) compared to the Standard group (n=55). A larger

proportion of EHS patients had either bilateral adrenal nodules or no adrenal lesions on CT (41% vs 18%, p=0.013). Patients in the Standard group had larger adrenal lesions on CT (median 15mm vs 10mm, p=0.032). Postoperatively, biochemical cure rate was higher in the EHS group at 6 months (97% vs 76%, p=0.021). More EHS patients were followed up with endocrine markers for detecting residual disease and recurrence. CONCLUSION Patients managed by the EHS were more likely to be diagnosed with surgically curable PA without a unilateral adrenal adenoma on imaging, required fewer medications for perioperative blood pressure control and experienced higher rate of biochemical cure. Referral to a dedicated EHS should be considered for patients with PA who wish to pursue a surgical cure.

9:00 am
Pathological volume as a predictor of risk stratification for differentiated thyroid microcarcinoma
Mr Krishna Vikneson
Purpose Differentiated thyroid cancer (DTC) ≤1cm in greatest diameter (GD) is regarded generally as having a more indolent biology. As DTCs are not spherical, tumour volume (TV) may better represent size and be a better predictor of the American Thyroid Association (ATA) risk of recurrence. Methodology T1 DTC (GD ≤2cm) treated by surgery between 2007-16 were analysed. ATA high-risk DTC and DTC without data for volume were excluded. TV was calculated using an ellipsoid shape. TV cut-off was established by ROC analysis. Odds ratio (OR) for ATA intermediate risk were obtained by logistic regression using a large and small volume group and a GD of ≤1cm and 1-2cm. Results Of 1697 T1 DTC patients treated, 523 DTCs were analysed. ROC analysis (AUC= 0.0193, P= 0.0193) established optimal TV cut-off of 350mm3 to classify two volume groups by the presence of lateral nodal disease (N1b) disease. Larger volume had a higher OR than GD>1cm for predicting intermediate versus low risk in multivariate analysis (OR=2.1 vs 1.8, P= <0.001 vs 0.004). Only larger volume was able to predict lymphovascular invasion in multivariate analysis (OR=1.7, P= 0.024). Excluding N1b patients, analysis showed larger TV remained able to predict ATA risk better than GD (OR=1.8 vs 1.6, P= 0.004 vs 0.022). Using this tumour volume, increased the low ATA risk categorisation by 1.4% with 67.3% classified low risk in the smaller volume group less than 350mm3 compared to 65.9% of those classified with a GD≤1cm. Conclusion In this pilot study, TV grouped by 350mm3 was a better indicator than the traditional GD≤1cm for T1 cancer risk category stratification offering potential for future study for using TV measurements to better risk stratify of patients with small DTC.

9:12 am
A prospective study of electromyographic amplitude changes during intraoperative neural monitoring for open thyroidectomy
Mr Tony Lian
PURPOSE Intraoperative nerve monitoring (IONM) of the recurrent laryngeal nerve (RLN) enables prediction of postoperative function and the avoidance of bilateral RLN palsy. The correlation of intraoperative electromyographic amplitude changes (EMG) with surgical manoeuvres during conventional thyroidectomy has not been described. The aim of this study is to measure EMG amplitude changes during IONM at specified surgical steps in patients during open thyroidectomy. METHODOLOGY A prospective study of consecutive patients undergoing thyroidectomy was performed with intermittent IONM. The threshold was set at 100uV and electrode stimulation set at 1mA. 200ug of Sugammadex was administered in all subjects at least 5 min prior to data collection. The ipsilateral vagal nerve was stimulated, and signal amplitude recorded at five time points during thyroidectomy (baseline, after mobilisation of superior pole, medialisation of the gland, before release at Ligament of Berry, end of case). The alpha for significance was set at $p<0.05$. RESULTS A total of 61 consecutive patients were studied with 77 RLN at risk. The mean patient age was 51. The median measured amplitudes at the five surgical timepoints were 779,753,696,744,700mA respectively. The overall rate of loss of signal was 3.9%, with no permanent RLN injuries. There is a highly significant median percentage amplitude drop at both medialisation of the thyroid lobe (-16.8 ± 28.3%, P=0.004) and prior to release at the Ligament of Berry (-21.8 ± 33.1%, P=0.007) compared to baseline. CONCLUSION Medialisation of the thyroid lobe and dissection at the Ligament of Berry during thyroidectomy is associated with a significant percentage drop in EMG amplitude compared to baseline.

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03 May 2022

8:30 am - 9:30 am
RESEARCH PAPERS

Scientific Session - Upper GI Surgery, Bariatric Surgery - Plaza Level Meeting Room P1

8:30 am
The Impact of Sleeve Gastrectomy for Weight Loss on the Gastric Conduction System
Mr Samuel Robertson
Purpose Sleeve gastrectomy is performed for the treatment of obesity and type 2 diabetes. The stomach's greater curvature is removed, which includes the normal gastric pacemaker region, but the long-term impact

of gastric pacemaker resection on gastric conduction has never been evaluated. Abnormalities of gastric conduction could contribute to side effects such as reflux, nausea and food intolerance. The purpose of the study was to evaluate the impact of sleeve gastrectomy on gastric conduction. Methods Participants were >3 months post-surgery. Gastric conduction was measured non-invasively using a novel medical device (64 electrode stretchable electronics array and wearable reader) (Alimetry, NZ). Recordings comprised a 30 minute baseline (fasted), followed by a meal, and a post-meal recording for 4 hours. Gastrointestinal symptoms were measured using a validated App and quality of life questionnaires. Results Sleeve gastrectomy patients (n=21) reported low GI symptom burdens that were higher than in controls (n=25) ($p<0.001$). Slow wave frequency was lower in patients (mean 2.36 vs 2.93 cpm, $p<0.001$). Gastric amplitude was also lower in patients (19.1 vs 42.2 μV; $p<0.001$), although greater mean BMI could also contribute (mean 32.5 vs 24.2, $p<0.001$). Slow wave conduction direction was generally antegrade and not significantly different between groups ($p=0.64$). Conclusions After sleeve gastrectomy, most patients develop a new stable gastric pacemaker on the lesser curvature of the corpus, operating at a lower frequency than the native pacemaker. This study was performed in patients with positive outcomes and minimal symptoms, the next step will be to compare outcomes in patients reporting post-operative symptoms such as reflux.

8:40 am

Prediction of gastro-oesophageal reflux using the shape of sleeve gastrectomy observed on postoperative gastrografin swallow

Dr Reshi Suthakaran

Purpose: Sleeve gastrectomy is a commonly performed metabolic and bariatric procedure associated with exacerbating or precipitating gastro-oesophageal reflux disease (GORD). It is a common belief that the apparent shape and dimensions of the stomach seen on postoperative gastrografin swallow may be predictive of GORD. Methods: All procedures were performed by a single surgeon within a single centre who routinely conducted early postoperative gastrografin swallow. One independent assessor evaluated the apparent shape and dimensions of the gastric sleeve. Another assessor used a questionnaire to assess clinical reflux and quality of eating. Together, this data was systemically analysed to determine whether the gastric sleeve's apparent shape could predict GORD. Results: Routine post-operative gastrografin swallow of 50 patients did not predict GORD at an average of 28 months from surgery. Post-operative reflux is weakly correlated preoperative anti-reflux medication use ($r = 0.34$, $p = 0.02$) and preoperative regurgitation ($r = 0.32$, $p = 0.03$). Conclusion: The apparent shape of the sleeve pictured on early routine post-gastrografin swallow post-surgery was not a predictor of reflux in this group of patients with at least 18 months of follow-up.

8:50 am

Comparison of Bariatric surgery outcomes of Single Anastomosis Duodeno-ileostomy (SADI) vs Sleeve Duodenojejunal bypass (SDJB) vs Sleeve gastrectomy (SG) alone.

Dr Joanne Ehemann

Introduction The SADI procedure has been proposed to avoid complications of dumping syndrome, internal hernias and anastomotic ulcers often seen with the Roux-en-Y gastric bypass. SADI involves a sleeve gastrectomy and a Duodeno-ileostomy with a common channel of 250-300cm. Optimal length for the common channel (CC) and bilio-pancreatic (BP) limb in bariatric surgery remains contested within the literature. Our study aims to perform a retrospective review of patients whom have undergone the SADI, and its modification; the SDJB procedure. The SDJB is similar to the SADI other than the BP limb is shortened to about 150cm. The aim is to reduce malabsorption complications whilst maintaining optimum weight loss. Methods A retrospective analysis of a prospective database was performed. All procedures performed at the same site by a single surgeon. 82 SADI, 34 SDJB patients and a propensity matched cohort of 116 SG patients with matched BMI. Inclusion criteria: BMI 35-70, operations between December 2015 – December 2021. Exclusion criteria: revisional and Minimizer ring procedures. Informed consent was gained prior to surgery. Demographic data will be collected pre and post operative, biochemistry at 1 year post operative and complications including readmissions, reoperations. Data analysis was performed utilising descriptive statistics. Conclusion Our research aims to compare SADI to SDJB groups in regard to complications and weight loss outcomes. Does shortening the BP limb and lengthening the CC improve outcomes for patients? On preliminary analysis, we have observed a reduction in complications of SDJB compared to SADI. The secondary goal is to assess whether there is superior weight loss with SDJB & SADI groups compared to Sleeve Gastrectomy.

9:00 am

Is Simultaneous Bariatric Surgery and Ventral Hernia Repair A Safe And Effective Approach?

Mr Sukrit Khanna

Purpose: Obesity is a known risk factor for ventral hernia occurrence and recurrence. There are currently no guidelines on the most appropriate timing of ventral hernia repair relative to bariatric surgery. Methodology: A retrospective case series from a single institution's prospectively collected database (2003-21) was performed to investigate the safety and efficacy of the simultaneous approach to bariatric surgery (resection or non-resection) and ventral hernia repair. Results: In our patient cohort (N=132), 111 (84.1%) patients underwent simultaneous repair and 21 (15.9%) had a deferred procedure. Of the simultaneous patients, 95 (85.6%) underwent resection bariatric surgery. The median operative time in the simultaneous vs deferred groups were 155 vs 287 minutes and length of stay was 3 vs 7 days. There has been one (0.9%) mesh

infection requiring explant, in an open, simultaneous repair undertaken in a gastric band patient and eight (7.5%) hernia recurrences in the simultaneous group, as well as 3 (2.7%) infected seromas and 1 (0.9%) surgical site infection. The deferred group has had no mesh infections, no hernia recurrence, and 2 (9.5%) infected seromas to date. There was one mortality in the entire cohort (simultaneous gastric bypass group), from a massive Pulmonary Embolism (<30 days post-operatively). In the simultaneous group 106 (96.4%) of hernia repairs were laparoscopic, and in the delayed group, 15 (71.4%) were laparoscopic. Conclusion: Simultaneous ventral hernia repair with bariatric surgery had a low rate of infection, and a very low mesh explant rate, even when coupled with resection bariatric surgery in this series. A combined approach may be safe, even in the clean-contaminated surgical context.

9:10 am
Endoscopic Sleeve Gastroplasty: Caution Regarding the Use of Argon Plasma Coagulation
Doctor Melissa Wright
Purpose: Endoscopic sleeve gastroplasty (ESG) is emerging as a minimally invasive bariatric procedure which aims to remodel the greater curvature to reduce stomach capacity and delay gastric emptying. ESG involves the placement of full-thickness sutures between the anterior and posterior walls of the stomach. ESG is associated with fewer serious adverse events compared to laparoscopic sleeve gastrectomy. There are only 2 reported cases of gastric perforation following ESG according to a world-wide systematic review. We describe a case of an otherwise well 34-year old female, requiring operative intervention for gastric perforation following an ESG. Case: The patient underwent endoscopy and laparoscopy 48 hours post-ESG. Endoscopy showed two 5mm sites of perforation, located posteriorly on the suture line along the greater curvature. The short gastric arteries were divided and the stomach was reflected laparoscopically. The perforation sites were found laparoscopically using a suction catheter which communicated with the stomach while an endoscope was still insitu. The perforations were closed with interrupted vicryl sutures. The ESG had distorted the anatomy and produced numerous extra folds within the stomach. It is unclear if the gastric perforation occurred as a result of suture laceration or from full thickness burn secondary to APC. There was significant improvement in symptoms day 0 post laparoscopy and the patient was discharged home on day 5. Conclusion: Although ESG appears to be a safe and effective procedure, this case demonstrates that serious complications requiring operative management can occur. It is important for general surgeons to be aware of such complications and have an operative approach to managing such cases

9:20 am
Migrated intragastric balloon causing small bowel obstruction: a case report and review of literature
Dr Min Yien Tan
Purpose Endoscopic intragastric balloons (IGB) are becoming increasingly popular due to its easy-reversibility and minimally invasive approach. Complications such as migration causing a small bowel obstruction is rare, but can be associated with significant morbidity and mortality. Methodology We present a case of a migrated IGB causing small bowel obstruction, requiring laparotomy and enterotomy for retrieval. A review of the literature was also performed to compare the weight loss efficacy and safety profile in comparison to other common bariatric surgeries. Result IGB offers an average total weight loss of around 15 kilograms at time of removal, with maintenance of at least 10% body weight loss and sustained reduction in metabolic syndrome in a 1-year follow up study(1). Its efficacy pales in comparison to sleeve gastrectomy and Roux-en-Y gastric bypass in the first 6 months but is better than adjustable gastric band. Spontaneous deflation occurs in 0.9% cases and approximately 0.06% will require surgical intervention(2). A review of the literature reveals 34 cases reported in the last 35 years. Conclusion As IGB continues to have an increasing uptake in the population, we have to be vigilant of potential complications. 1. Crea N, Pata G, Della Casa D, Minelli L, Maifredi G, Di Betta E, et al. Improvement of Metabolic Syndrome Following Intragastric Balloon: 1 Year Follow-up Analysis. Obesity Surgery 2009; 19, 1084-1088. 2. Neto MG, Silva LB, Grecco E, de Quadros LG, Teixeira A, Souza T, et al. 'Brazilian Intragastric Balloon Consensus Statement (BIBC): practical guidelines based on experience of over 40,000 cases', Surgery for Obesity and Related Diseases 2018; 14(2), 151-159.

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03 May 2022

9:00 am - 11:00 am
ASC 2023 MEETING

Business Meeting - *Cross Discipline* - Boulevard Level Meeting Room B1

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03 May 2022

9:30 am - 10:30 am

ANZCMFS ANNUAL BUSINESS MEETING

Business Meeting - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

9:30 am - 10:30 am
BREASTSURG ANZ ANNUAL GENERAL MEETING

Business Meeting - Breast Surgery - Great Hall Q2 (Use Door 8)

9:30 am - 10:30 am
COLON AND RECTAL SURGERY SECTION ANNUAL BUSINESS MEETING

Business Meeting - Colorectal Surgery - Great Hall Q4 (Use Door 5)

9:30 am - 10:30 am
DSTC COMMITTEE MEETING

Business Meeting - Trauma Surgery - Great Hall Merivales Boardroom 1

9:30 am - 10:30 am
ENDOCRINE SURGERY SECTION EXECUTIVE MEETING

Business Meeting - Endocrine Surgery - Plaza Level Meeting Room P2

9:30 am - 10:00 am
GSA ANNUAL GENERAL MEETING

Business Meeting - General Surgery - Mezzanine Level Meeting Room M3

9:30 am
AGM presentation
Dr Sally Butchers

9:30 am - 10:30 am
RURAL SURGERY SECTION ANNUAL BUSINESS MEETING

Business Meeting - Rural Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

9:30 am - 10:30 am
SURGICAL ONCOLOGY SECTION ANNUAL BUSINESS MEETING

Business Meeting - Surgical Oncology - Mezzanine Level Meeting Room M4

03 May 2022

10:30 am - 1:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Senior Surgeons Program, Quality & Safety in Surgical Practice

Venue: The Plaza Gallery, Brisbane Convention and Exhibition Centre

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03 May 2022

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Surgical Oncology

Venue: Aquitaine Brasserie, Southbank

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Otolaryngology Head & Neck Surgery, Pain Medicine & Surgery, Craniomaxillofacial Surgery

Venue: Brisbane Club

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Cardiothoracic Surgery

Venue: Black Hide Steakhouse

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Orthopaedic Surgery, Global Health

Venue: Alchemy Restaurant

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Surgical Directors, Rural Surgery, General Surgery

Venue: Persone

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Younger Fellows, Indigenous Health, Trainees Association, Women in Surgery, Hand Surgery

Venue: The YOT Club

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04 May 2022

11:00 pm - 12:20 am
CHRISTIAN MEDICAL FELLOWSHIP BREAKFAST (TICKETED EVENT)

Breakfast Session - *Cross Discipline* - Boulevard Level Meeting Room B2

11:00 pm
The joy of working in the unknown and uncertain – Reflections of a child and adolescent psychiatrist
Associate Professor Stephen Stathis

11:00 pm - 12:20 am
ENDOCRINE SURGEONS FOCUS GROUP: DEVELOPING A DECISION AID FOR PATIENTS WITH LOW-RISK THYROID CANCER

Breakfast Session - Endocrine Surgery - Plaza Level Meeting Room P2

Section discussion forum/focus group on development of a decision aid for patients with low risk thyroid cancer.

11:00 pm
Endocrine Surgery Focus Group: Developing a Decision Aid for Patients with Low-Risk Thyroid Cancer
Conjoint Associate Professor Chris O'Neill
There is robust evidence that shared decision making decreases decisional regret in cancer patients. There is little relevant patient information to assist with this process in low-risk thyroid cancer. We aim to develop both written and online information that assists patients and clinicians with these decisions. A written and online prototype will be workshopped with clinicians. The aim is to develop written and online material that will be used in “real practice” within the Australian context. Input will be sought from endocrinologists and surgeons at their respective national meetings.

11:00 pm - 12:20 am
INDIGENOUS HEALTH BREAKFAST (TICKETED EVENT)

Breakfast Session - Indigenous Health - Boulevard Level Meeting Room B1

11:00 pm
Opening remark
Professor Kelvin Kong

11:10 pm
Welcome to Country

11:20 pm
Indigenous surgery panel discussion - future Dreaming
Dr Robert Grant, Dr Jamie-lee Rahiri, Dr Claudia Paul

11:50 pm
Presentation of RACS Indigenous scholarships and medals
Dr Sally Langley

12:05 am
Message from Deputy Director-General QHealth
Ms Haylene Grogan

11:00 pm - 12:20 am

MASTERCLASS (MC07): BREAST RECONSTRUCTION - IMPLANT-BASED RECONSTRUCTION AND FAT-GRAFTING: TIPS AND TRICKS (TICKETED EVENT)

Masterclass - Breast Surgery - Plaza Level Meeting Room P1

11:00 pm
Breast Reconstruction -implant-based reconstruction and fat-grafting – Tips and Tricks
A/Prof Cindy Mak, Dr Farid Meybodi, Dr Cindy Mak, Dr Anne Peled, A/Prof James French

11:00 pm - 12:20 am
MASTERCLASS (MC08): PEARS PROCEDURE (TICKETED EVENT)

Masterclass - Cardiothoracic Surgery - Mezzanine Level Meeting Room M4

11:00 pm
Discussion

11:00 pm - 12:20 am
MASTERCLASS (MC09): HAEMORRHOIDS - A HOLISTIC APPROACH TO IMPROVING YOUR RESULTS

Masterclass - Colorectal Surgery - Mezzanine Level Meeting Room M2

11:00 pm
How I manage haemorrhoids and why
Dr Timothy Slack

11:08 pm
How I manage haemorrhoids and why
Dr Joanne Dale

11:16 pm
How I manage haemorrhoids and why
Dr Hugh Mcgregor

11:24 pm
How I manage haemorrhoids and why
Dr Darren Gold

11:32 pm
Panel Discussion

11:00 pm - 12:20 am
MASTERCLASS (MC10): HIATUS HERNIA (TICKETED EVENT)

Masterclass - General Surgery - Plaza Level Meeting Room P4

Overview of the diagnosis and management of hiatus hernia, and an approach to the recurrent hiatus hernia.

11:00 pm
Hiatus Hernia
Professor David Gotley, Dr Les Nathanson, Professor Mark Smithers

11:00 pm - 12:20 am
MASTERCLASS (MC11): CLINICAL TRIALS IN HAND SURGERY (TICKETED EVENT)

Masterclass - Hand Surgery - Mezzanine Level Meeting Room M9

11:00 pm
Clinical trials for surgeons
Dr Allison Sutherland

11:20 pm
Clinical Trial of Sutureless Nerve Repair
Ms Joanne Xylas

11:50 pm
Discussion

11:00 pm - 11:50 pm
MASTERCLASS (MC12): TRANSORBITAL SURGERY - APPLICATIONS AND METHOD (TICKETED EVENT)

Masterclass - Otolaryngology Head & Neck Surgery - Plaza Level Meeting Room P3

11:00 pm
Novel and alternative surgical approaches to orbital, sinus and skull base pathology
Professor Darlene Lubbe

11:00 pm - 12:00 am
SECTION OF ACADEMIC SURGERY ANNUAL BUSINESS MEETING

Business Meeting - *Cross Discipline* - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

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04 May 2022

11:30 pm - 12:30 am
GSA BOARD OF DIRECTORS MEETING

Business Meeting - General Surgery - Great Hall Merivales Boardroom 1

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04 May 2022

12:00 am - 12:30 am
KEYNOTE LECTURE - PROFESSOR BENEDICT PANIZZA (BRISBANE, AU)

Keynote Lecture - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

12:00 am
Perineural spread in head and neck cancer
Professor Benedict Panizza

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04 May 2022

12:30 am - 2:00 am

AORTIC ROOT - THE SHIFTING PARADIGMS

Scientific Session - Cardiothoracic Surgery - Plaza Level Meeting Room P3

12:30 am
Congenital Aortic Root- challenges and options
Dr Yishay Orr

12:50 am
Has the gold standard operation for aortic root aneurysms changed in the post TAVI era?
Dr Ashutosh Hardikar

1:10 am
Best indications for VSARS for tricuspid and bicuspid valves and Ross procedure
Dr Homayoun Jalali, Dr Homayoun Jalali

1:30 am
The Ross-PEARS Procedure; an alternate autograft support
Mr Conal Austin

1:50 am
Discussion

12:30 am - 2:00 am
CLINICAL AND TRANSLATIONAL RESEARCH PAPERS

Scientific Session - General Surgery - Great Hall Q3 (Use Door 9)

12:30 am
Small bite versus large bite stitching technique for laparotomy wound closure: A Systematic review and Meta-analysis
Dr Erwin Yii
Background: Mass closure with a continuous suture using large bite stitching technique has been widely accepted for midline laparotomy wound closures. However, emerging evidence suggests the use of small bites technique to reduce rates of incisional ventral hernia (IVH), surgical site infection (SSI) and burst abdomen (BA). This meta-analysis aims to compare small versus large bite stitching techniques to assess complication rates in midline laparotomy wound closures. Methods: A comprehensive multi-database search (OVID EBM Reviews, OVID Medline, EMBASE, Scopus) was conducted from database inception to 11th October 2021 according to PRISMA guidelines. We included studies comparing post-operative complication rates of small bite versus large bite stitiching technique for midline laparotomy wound closure. Extracted data was pooled for meta-analysis. Findings: We included six randomized controlled studies and three prospective cohort studies evaluating rates of IVH, SSI and B. A total of 4,057 participants composed of 1681 small bite and 2376 large bite technique patients were included. There was a significant reduction in the rates of IVH, SSI and BA associated with small bite suturing techniques with odds ratios (OR) of 0.42 (95% CI [0.30-0.61]), 0.64 (95% CI [0.51-0.86]) and 0.49 (95% CI [0.25-0.96]) respectively. Subgroup analysis of elective cases yielded significant reduction in IVH, but not for SSI and BA with OR of 0.56 (95% CI [0.36-0.86]), 0.77 (95% CI [0.56-1.06]) and 0.55 (95% CI [0.18-1.68]) respectively. Conclusion: Small bite technique in midline laparotomy wound closure is a superior approach over conventional mass closure using large bite technique, with statistically significant lower rates of IVH, SSI and BA.

12:40 am
The SUNRRISE TRIAL - Single Use Negative pRessure dressing for Reduction In Surgical site infection following Emergency laparotomy
Dr Yick Lam
Background Surgical Site Infections (SSI) are common after abdominal surgery, and more so after emergency laparotomy. Despite Single Use Negative Pressure Dressings (SUNPDs) having mixed evidence regarding effectiveness, they are recommended in the WHO SSI Prevention guidelines. SUNRRISE is an international, multi-centre, trainee devised, led and delivered randomised controlled trial, funded by the NIHR (UK) and MRFF (Australia). It investigates whether a SUNPD reduces the risk of SSI within 30 days of emergency laparotomy. Method Patients were randomised between SUNPD (PICO7©, Smith and Nephew) and surgeon's preference of dressing. Patients were eligible if they underwent an emergency laparotomy with an incision of at least 5cm that was primarily closed at the end of the operation. SSI was assessed at day 5-10, via a patient diary while the patient was at home and at day 30-44 by a blinded, trained wound assessor. Results 840 patients were randomised from 34 centres across the UK and Australia. Intention to treat analysis

showed no difference in SSI between the two groups (SUNPD-28%, Control-27%, p=0.75). There was also no difference in all secondary outcomes- length of stay (9 vs 11, p=0.14), hospital readmission for wound related complications (3% vs 3%, p-0.96, rates of wound related complications (19% vs 18%, p-0.79), pain (1.8 vs 1.8, p-0.61) and quality of life (SF-12 & EQ5D-5L). Conclusion SUNRRISE is a multicentre, assessor blinded, phase III RCT that provides robust evidence that single-use negative pressure dressings are not effective in reducing surgical site infections in patients undergoing an emergency laparotomy.

1:00 am
Hospital acquired infections in surgical patients: impact of COVID-19-related infection prevention measures.
Dr Nicole Tham
Purpose Hospital acquired infections are common, costly, and potentially preventable adverse events. This study aimed to determine the effect of the COVID-19 pandemic-related escalation in infection prevention and control measures on the incidence of hospital acquired infection in surgical patients in a low COVID-19 environment in Australia. Method This was a retrospective cohort study in a tertiary institution. All patients undergoing a surgical procedure from 1 April 2020 – 30 June 2020 (COVID-19 pandemic period) were compared to patients pre-pandemic (1 April 2019 – 30 June 2019). The primary outcome investigated was odds of overall hospital acquired infection. The secondary outcome was patterns of involved microorganisms. Univariable and multivariable logistic regression analysis was performed to assess odds of hospital acquired infection. Results There were 5945 admission episodes included in this study, 224 (6.6%) episodes had hospital acquired infections in 2019 and 179 (7.1%) in 2020. Univariable logistic regression analysis demonstrated no evidence of change in odds of having a hospital acquired infection between cohorts (OR 1.08, 95% CI 0.88 – 1.33, P = 0.434). The multivariable regression analysis adjusting for potentially confounding co-variables also demonstrated no evidence of change in odds of hospital acquired infection (OR 0.93, 95% CI 0.74 – 1.16, P = 0.530). Conclusion Increased infection prevention and control measures did not affect the incidence of hospital acquired infection in surgical patients in our institution, suggesting that there may be a plateau effect with these measures in a system with a pre-existing high baseline of practice.

1:10 am
Faecal immunochemical test (FIT) to triage patients with symptoms indicative of possible colorectal cancer (CRC) :- A systematic review and meta-analysis
Dr Kai Sheng Saw
Purpose To evaluates the utility of single quantitative FIT as a triaging tool for patients presenting with symptoms of possible CRC, the effect of symptoms on FIT accuracy and the impact of FIT incorporated triaging on service provision Methodology Five databases were searched. Bivariate meta-analyses of the extracted FIT sensitivities and specificities for detection of CRC at reported faecal haemoglobin (f-Hb) thresholds were performed. Secondary outcomes include sensitivity and specificity of FIT for advanced colorectal neoplasia and serious bowel disease. Subgroup analysis by FIT brand and symptoms was performed. Results Fifteen prospective cohort studies, including 28 832 symptomatic patients were included. At the most commonly reported f-Hb positivity threshold of ≥10 μg Hb/g faeces (n=13), summary sensitivity was 88.7% (95% CI = 85.2-91.4) and specificity was 80.5% (95% CI = 75.3-84.8) for CRC. At lower limits of detection of ≥2 μg Hb/g faeces, summary sensitivity was 96.8% (95% CI = 91.0-98.9) and specificity was 65.6% (95% CI = 59.0-71.6). At upper f-Hb positivity threshold of ≥100 μg Hb/g faeces and ≥150 μg Hb/g faeces, summary sensitivities were 68.1% (95% CI = 59.2-75.9) and 66.3% (95% CI = 52.2-78.0) while specificities were 93.4% (95% CI = 91.3-95.1) and 95.1% (95% CI = 93.6-96.3) respectively. FIT sensitivity between different assay brands was comparable. FIT sensitivity may be higher in patients reporting rectal bleeding. Conclusion Use of single quantitative FIT at lower f-Hb positivity thresholds can adequately exclude CRC in symptomatic patients and provides a data-based approach to prioritisation of colonoscopy resource.

1:20 am
Quality improvement: chest drain complications, procedural documentation and monitoring
Dr Jennifer Scott
Purpose: Tube thoracostomy (TT) in trauma is lifesaving. A previous audit at Counties Manukau District Health Board (CMDHB), New Zealand, showed a 22% complication rate for trauma TT.1 Subsequently CMDHB introduced a procedural guideline to reduce complications. This led us to evaluate complications, documentation, and procedural monitoring to identify ways to further mitigate patient safety risk. Methods: This is a 30-month retrospective audit of patients presenting to CMDHB with injuries which may require TT. Those who already had a TT in situ, did not require a TT or whose presentation was not secondary to trauma were excluded. Results: 143 TTs were performed in 115 patients. 87% had injuries secondary to blunt mechanism. Penetrating injuries were more likely to require TT (p=0.015). Non-accidental injuries were more likely to have a TT (p=0.025). General surgery contributed to 50% of complications. TT prior to imaging had a 31% complication rate (p<0.03). 23% had no TT insertion note. 40% had no TT removal note. 9% TTs had no tertiary information to identify the proceduralist and a complication rate of 46%. 22% of insertions and 4% of removals documented consent. 2% of insertions documented anticoagulation status. Interventional radiology had the best documentation of data points assessed (p<0.0001). Post procedural monitoring recommendations were documented in 1% insertions and 11% removals. Conclusions: The complication rate has not reduced despite introduction of a guideline. Procedural documentation and monitoring was inadequate potentially impacting patient safety. 1. Balhorn J., MacCormick AD. Early Chest Drain

Management in Trauma (2016) Trauma and Acute Care 1 (18)

1:30 am
Learning from trauma deaths – the role of a “Secondary” mortality review
Dr Andrew Kiat
Purpose Multi-specialty trauma mortality panels are a standard quality improvement process. Potentially preventable deaths have plateaued within mature trauma systems. We hypothesize that a “secondary” trauma mortality review would identify areas for improvement even within a well-established system. Methodology Trauma related deaths in an Australian Level 1 Trauma Centre were identified from Jan 2017 to Aug 2021, all of which had previously been reviewed by the Trauma Clinical Review Committee (TCRC). For this study a “Secondary” mortality review was conducted by examining TCRC meeting minutes and patient medical records to identify areas of potential improvement in care, followed by discussion within a trauma research group. Errors were categorised and also reviewed in respect to compliance with existing protocols. Findings on Secondary review were compared with initial TCRC review. TCRC recommendations were examined for contemporary institutional responses to error. Results On Secondary review we identified 16 out of 302 (5%) trauma related mortalities where improved care may have prevented or reduced the likelihood of death. Of these 16, 5 were considered potentially preventable on initial TCRC review. In 44% of cases an existing clinical protocol was found to have been breached that may have altered patient outcome. In 11 of 16 cases the TCRCs’ response was provision of clinician education. In only one case was a change in policy implemented. Conclusion Secondary mortality review has identified further areas for clinical improvement not recognised on standard review. Breaches of protocol were frequently seen in clinical errors. Institutional responses were generally related to education rather than systems change.

1:40 am
Three-year outcomes from the Australian and New Zealand Emergency Laparotomy Audit - Quality Improvement (ANZELA-QI) program.
Mr Robert Aitken
Purpose The Australian and New Zealand Emergency Laparotomy Audit (ANZELA-QI) assesses care provided against evidence-based standards of care. The results of the first three years are presented. Methods ANZELA-QI collects near real time data on a bespoke cloud based REDCap database. Data on ten standards of care are extracted at the start of each month and retuned to hospitals by the middle of each month using continuous Statistical Process Control (SPC) run charts. Data on mortality and length of stay are returned annually. Results There was a statistically significant fall in the risk adjusted overall mortality from 8.2% to 6.4% (p=0.023) over the 3-year period. There was a non-significant reduction on average length of stay from 17.1 to 15.9 days. Both outcomes showed wide inter-hospital variation with hospitals outside both the upper and lower 95% confidence limits. There was poor compliance with the care standards. Compliance with care standards in ANZELA-QI was lower than in the 7th National Emergency Laparotomy Audit report from the UK. During the COVID-19 peaks in early 2020 the number of emergency laparotomies fell and fewer high risk patients were admitted to ICU. The mortality fell over the same months. Conclusion ANZELA-QI has shown it is possible to use SPC in a national Quality Improvement programme. Although the overall mortality is low by international standards there is considerable scope to reduce inter-hospital variation through better compliance with evidence-based standards of care. It is estimated that, if reproduced nationally, each day of reduced stay would save about $40 million per annum.

1:50 am
Prophylactic negative pressure dressings reduce wound complications following emergency laparotomies: A systematic review and meta-analysis
Dr Wael Jamel
Purpose: Wound complications are a common cause of post-operative morbidity and incur significant healthcare costs. Recent studies have shown that negative pressure dressings (NPD) reduce wound complication rates, particularly surgical site infection (SSI), following elective laparotomies. This meta-analysis explores the rates of wound complications following emergency laparotomy when a NPD was applied. Methods: A systematic review and meta-analysis was performed according to PRISMA guidelines. Medline, EMBASE, Cochrane Library, Web of Science and Clinialtrials.gov databases were searched from 1/1/2005 to 1/12/2020. English studies comparing NPD to standard dressings on closed emergency laparotomy incisions were included. The random-effects model was used to calculate pooled odds ratios of SSI and other wound complications following emergency laparotomy. Results: A total of 1047 patients in 6 studies were identified. Overall SSI rate (superficial and deep) was 15.0% (n = 74/493) versus 27.3% (n = 151/554) in the NPD group and standard dressing group respectively (OR 0.45, 95% CI 0.28–0.67). Wound breakdown (skin and fascial dehiscence) was significantly lower in the NPD group (5.3%) compared to the standard dressing group (13.7%) (OR 0.34, 95% CI 0.12–0.93). The incidence of overall wound complications was significantly lower in the NPD group (16%) compared to the standard dressing group (30%) (OR 0.42, 95% CI 0.26–0.66). Conclusions: The use of NPD on closed emergency laparotomy incisions was associated with a significant reduction in SSI, wound breakdown and overall wound complications.

12:30 am - 2:00 am
CRANIOFACIAL PAIN

Scientific Session - Pain Medicine & Surgery, Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

12:30 am
Management of craniofacial pain with deep brain lesioning
Dr Benjamin Jonker

12:45 am
Neuromodulation for management of craniofacial pain
Associate Professor Andrew Zacest

1:00 am
Understanding Chronic Migraine
Dr Nicole Limberg

1:15 am
Headache Surgery - 20+ Years and Counting
Dr Ziv Peled

1:45 am
Discussion

12:30 am - 2:00 am
GASTRO-OESOPHAGEAL REFLUX IN THE BARIATRIC PATIENT

Scientific Session - Upper GI Surgery, Bariatric Surgery - Great Hall Q1 (Use Door 6)

12:30 am
Use of biological mesh in anti-reflux and hiatal surgery
Dr Iain Thomson

12:45 am
Hiatus hernia >4cm + BMI >30 - which operation is best?
Dr Michael Hii

1:00 am
Gord and Barrett's + BMI >30 - which operation is best?
Dr Ben Dodd

1:15 am
Outcomes of traditional anti-reflux surgery in obese patients
Tim Bright

1:30 am
Discussion

12:30 am - 2:00 am
HEAD AND NECK ONCOLOGY

Scientific Session - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

12:30 am
Perineural tumour pathology and imaging
Dr Jennifer Gillespie
Large nerve perineural tumour spread (PNS) in the head and neck malignancies is rare but has important consequences for patient management and prognosis. There is often a delay in diagnosis following the onset of symptoms and it is important for surgeons to be aware of this condition. We will review the clinical presentation and imaging findings of PNS. The specific MRI techniques used in the evaluation of suspected cases of PNS will be discussed. A series of imaging examples will be reviewed to highlight the imaging manifestations.

12:50 am
Use of high-resolution 3T + 7T MRI in the skull base to change management
Dr Ryan Sommerville
Use of 3T MRI has become a standard practice in modern surgery. The results are critical to guiding management, with skull base having a higher demand than most sub-specialties. Prognosis of skull base malignancies is highly dependent on clear margins of resection and the impact of MR imaging on treatment will be discussed. Higher than normal resolution 3T and ultra-high resolution 7T MRI may provide new avenues for assessment of critical structures but a bigger magnet may not always be better. Efficient imaging protocols, collaboration between surgical and radiological teams, and a clear surgical plan has driven the RBWH Skull Base team to create better patient outcomes in several different aspects but also to optimising critical resources such as theatre time and hospital bed space.

1:10 am
Cutaneous squamous cell carcinoma requiring temporal bone resection - epidemiology and survival outcomes
Dr Michael Schachtel
Background This study aimed to review an Australian cohort of patients with cutaneous squamous cell carcinoma (cSCC) requiring temporal bone resection, reporting on epidemiology and treatment outcomes. Methods Retrospective analysis of patients managed through the Princess Alexandra Hospital between 2000 and 2019. Results 167 patients were included. cSCC extending to the temporal bone from surrounding subsites (93.4%) were 14 times more frequent than primary (ear canal) cSCC (6.6%), with the parotid/pre-auricular nodes (29.9%) and pinna/conchal bowl (20.4%) the most common subsites. 32.3% had radiological evidence of perineural spread, largely affecting VII and V3 simultaneously. For patients who underwent curative intent surgery with or without PORT (n = 146, 87.4%), 5-year DFS, LRRFS, DSS, and OS was 53.0%, 59.4%, 67.9%, and 44.7%, respectively. The pinna/conchal bowl and pre-auricular subsites, salvage surgery, tumours ≥ 40 mm in medial-lateral dimension, pathologically involved nodes, and involved surgical margins significantly worsened outcomes in multivariate analysis. Conclusion In regions of high sun exposure, cSCC extending to the temporal bone is much more common than primary temporal bone cSCC. The importance of early disease recognition and radical surgical resection is demonstrated through the improved outcomes in less advanced tumours and with clear surgical margins.

1:30 am
Surgical approaches to the lateral skull base
Emily Guazzo

1:50 am
Discussion

12:30 am - 2:00 am
INJURY PREVENTION AND ADVOCACY

Scientific Session - Trauma Surgery - Plaza Level Meeting Room P5

12:30 am
Insider report: Good intentions vs. political realities
Associate Professor Anthony Lynham

1:00 am
Outsider report: Campaigning for prevention of dog bite injuries in children

1:12 am
Advocacy in the Queensland Statewide Trauma Clinical Network
Professor Martin Wullschleger

1:24 am
Queensland Trauma Committee: Working with Stakeholders
Dr Matthew Hope

1:36 am
A Road to Somewhere: RACS advocacy in the 21st century
Dr John CROZIER

1:48 am
Discussion

12:30 am - 2:00 am
ISSUES IN SURGICAL ONCOLOGY

Scientific Session - Surgical Oncology - Mezzanine Level Meeting Room M2

12:30 am
A history of the Australian and North American Melanoma partnership
Professor John Thompson, Professor Jeffrey Gershenwald

1:00 am
Radiotherapy for soft tissue sarcoma - an update on contemporary developments
Associate Professor David Pryor

1:30 am
Immunotherapy for soft tissue sarcoma? I need some convincing
Dr Christina Roland
Within the past decade, major advances have been made in cancer therapy through the use of immunotherapy, with some patients with advanced disease experiencing cure in renal cell, lung cancer and melanoma. However, the role of immunotherapy in patients with soft tissue sarcoma are in their infancy. Although the majority of sarcomas do not respond to anti-PD-1 monotherapy, recent data demonstrate increased response rates in a histology-specific manner including in alveolar soft parts sarcoma, angiosarcoma and other sarcoma types. This session will review data on sarcoma immunotherapy, including novel combinations and neoadjuvant approaches and future directions.

12:30 am - 1:00 am
KEYNOTE LECTURE - DR ANDREA GINGERICH (PRINCE GEORGE, CANADA)

Keynote Lecture - Surgical Education - Sky Level Meeting Room S1

12:30 am
Opening and Introduction
Dr Andrea Gingerich

12:35 am
The shift from disbelieving underperformance to recognising failure
Dr Andrea Gingerich
Sometimes trainees who should have failed were not failed. Sometimes it is because there was not sufficient evidence of their underperformance. Often supervisors are blamed for being reluctant or unwilling to provide that assessment evidence. However, efforts to glean assessment information withheld by supervisors have not been entirely successful. In this presentation, we will discuss how underperformance is recognized as we re-examine the phenomenon failure to fail.

12:30 am - 1:00 am
KEYNOTE LECTURE - DR JAYME BERTELLI (FLORIANOPOLIS, BRAZIL)

Keynote Lecture - Hand Surgery - Mezzanine Level Meeting Room M9

12:30 am
State of the Art in Upper Limb Reanimation
Professor Jayme Bertelli

12:30 am - 1:00 am
KEYNOTE LECTURE - DR JULIE HALLET (TORONTO, CANADA)

Keynote Lecture - HPB Surgery - Sky Level Sky Room

12:30 am
Optimising the approach to metastatic GE-NET

Dr Julie Hallet

12:30 am - 2:00 am
PAEDIATRIC COLORECTAL DISORDERS - PAEDIATRIC AND ADULT PERSPECTIVES

Scientific Session - Paediatric Surgery, Colorectal Surgery - Great Hall Q4 (Use Door 5)

12:30 am
An overview of anorectal malformations
Associate Professor Sebastian King

12:42 am
Hirschsprung disease
Dr Susan Adams

12:54 am
The adult patient with anorectal malformation
Dr Marc Gladman

1:06 am
The management of constipation in children
Dr Liesel Porrett

1:18 am
The management of functional constipation in adulthood
Dr Michael Lamparelli

1:30 am
Discussion

12:30 am - 2:00 am
PARATHYROID UPDATES

Scientific Session - Endocrine Surgery - Plaza Level Meeting Room P2

This scientific session will provide up to date insights into the science and management of parathyroid disease.

12:30 am
ANZ Hyperparathyroidism Guidelines - Medical
Dr Madhuni Herath
Primary hyperparathyroidism is increasingly prevalent in Australia. A two-part, Australian and New Zealand Position Statement on primary hyperparathyroidism was recently published and endorsed by the ANZES, ESA and ANZBMS. Part I of the Position Statement addresses the assessment and patient evaluation for eligibility for surgery as well as medical management of this condition. Part II covers surgical management and follow-up. This presentation will highlight pertinent aspects of Part I through a discussion of the key areas which attracted further deliberation amongst the authors.

12:50 am
ANZ Hyperparathyroidism Guidelines - Surgical
Professor Justin Gundara

1:10 am
Parathyroidectomy in MEN2
Dr Simon Harper

1:30 am
Indications for renal parathyroidectomy.. that a surgeon can understand
Associate Professor David Mudge

1:50 am
Discussion

12:30 am - 2:00 am
SCIENTIFIC SESSION

Scientific Session - Orthopaedic Surgery - Plaza Level Meeting Room P6

12:30 am
Arthroplasty in acetabular trauma
Dr Jerry Van de Pol

12:45 am
Use of endoprosthesis for Distal Femur fractures
Dr John Roe

1:00 am
Use of endoprosthesis for proximal femur fractures
Associate Professor Scott Sommerville

1:15 am
Insights into osseointegration
Mr Kevin Tetsworth

1:30 am
Discussion

12:30 am - 2:00 am
SURGICAL DIRECTORS, THE GOOD, THE BAD AND THE REST OF US - WHAT SHOULD WE EXPECT FROM OUR DIRECTORS

Scientific Session - Surgical Directors - Mezzanine Level Meeting Room M4

12:30 am
Introduction
Sanjeev Naidu

12:33 am
Panel Discussion
Dr Karen Murphy, Mr Shaun Drummond, Dr Catherine Ferguson, Dr Mark O'Brien, Dr Karen Murphy, Associate Professor Wanda Stelmach

12:30 am - 2:00 am
SUSTAINABLE IMPLANT BASED RECONSTRUCTION - IS IT POSSIBLE?

Scientific Session - Breast Surgery - Great Hall Q2 (Use Door 8)

12:30 am
USA experience
Dr Anne Peled

12:50 am
Adelaide and UK experience
Dr Janne Bingham

1:10 am
NZ Perspective
Dr Peter Chin

1:30 am
Managing breast reconstruction in regional Australia
Dr Andrew Thompson

1:50 am
Discussion

12:30 am - 2:00 am
SUSTAINABLE RURAL SURGERY

Scientific Session - Rural Surgery - Plaza Level Meeting Room P1

12:30 am
Rural Surgery strategy
Dr Bridget Clancy

12:50 am
Low volume care
A/Prof Mahiban Thomas

1:10 am
Surgical Oncology in Rural Setting
Dr. Rajiv Choudhrie

1:30 am
Tribalism and Cabal amongst Surgeons
Assoc Prof Ned Abraham
Aim: To explore an underestimated and unacceptable level of non-gender related discriminatory and damaging behaviour in the Australian and New Zealand Surgery Community and to explore potential remedies. Methodology: The literature was reviewed for evidence of tribalism and cabal in clinical practice. Twenty unpublished relevant case studies affecting twenty different surgeons and trainees in the last few years where behaviours were perceived to be the result of cabal and tribalism in the Surgery Community of Australia and New Zealand are presented and discussed. Results: There is clear evidence in the literature that tribalism in medical practice is alive and well. There seems to be some superficial benefits to tribalism, but the bulk of its impact is negative and damaging to clinicians and patients alike. Potential remedies have been suggested including the implementation of strong and transparent governance processes. The multitude of case studies suggest that there is strong evidence that some members of the Surgery Community in Australia and New Zealand target other members with damaging behaviour that did not seem grounded in objective parameters. Conclusion: There seems to be an underestimated level of tribalism and tribalistic behaviour by some members of the Surgery Community. Despite several changes to governance in the last few decades, it seems that the Surgery Community has so far failed to address that elephant in the room. Further research is needed with recommendations made to address the issue. It seems that implementation of such recommendations is the pace-limiting step.

1:45 am
Discussion

12:30 am - 2:00 am
THE 20-YEAR WAR IN AFGHANISTAN

Scientific Session - Surgical History, Military Surgery - Plaza Level Meeting Room P4

12:30 am
Trauma in military missions, observations of a trauma surgeons journey over 33 years and multiple missions
Captain Onno Boonstra
Surgeon Captain Onno Boonstra (trauma surgeon Royal Netherlands Navy) outlines challenges and learning points in a selection of missions (UNTAC, UNMEE, ISAF and others) and recommendations regarding the trauma chain in UN peacekeeping missions as identified during his work at the UN HQ in New York together with AirCdre Amanda Dines Royal Australian Air Force.

12:50 am
Camp bastion: the British perspective
Professor Mark Midwinter

1:10 am
Tarin Kowt: the Australian perspective
Dr Keith Towsey

1:30 am
Kandahar Airfield: the Australian perspective
Dr Michael Rudd

1:50 am
Discussion

12:30 am - 2:00 am
THE CHANGING FACE OF VASCULAR SURGERY

Scientific Session - Vascular Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

12:30 am
Changing face of Vascular Surgery
Dr John Quinn

1:00 am
Arterial Anastomosis: The New Hope for Arterial Trauma
Dr Samuel Bryant
Background: Arterial anastomosis, a routine procedure practiced in multiple specialties in the modern age, was a significant step in the advancement of surgical science. This critical development afforded surgeons a viable alternative to ligation for arterial injuries, opening the door for limb salvage techniques and advanced traumatic repair. History: Pioneered by giants of surgical history such as John B. Murphy and Alexis Carrel, arterial anastomosis has its roots in the late 19th century. When the first vascular anastomosis was performed, credited to Nikolai Eck in 1877, it gave surgeons of the time hope that there could be more advanced and nuanced treatment for arterial injuries. It would not take long until Murphy repaired a Common Femoral Artery in 1896 using an end-to-end invagination technique. Similarly dissatisfied with surgeons' inability to repair vascular structures, Carrel set out to build upon Murphy's work to perfect a reliable end-to-end anastomotic technique. Carrel would go on to found further significant concepts such as vein patches, transplantation, and venous autologous repair. Modern Advances: Advancements in surgical science, such as the discovery of purified heparin, modern vascular sutures, and the use of pliable synthetic graft materials (Dacron, Polytetrafluoroethylene), have been important additions to the modern arterial anastomosis. Conclusions: Arterial anastomosis has had a profound impact on the fields of trauma, vascular, and transplantation surgery since its inception over 100 years ago. Whilst there have been modern advancements, Carrel's concepts have remained gold standard for anastomotic repair in modern surgery.

1:10 am
Giant visceral aneurysms and Management: Open or Endovascular. Case series and A systematic review
Dr Animesh Singla
Aims: Giant visceral artery aneurysms (GVAs), >5cm, and the best management strategy have been less well known. They portend a risk of rupture but also may cause local compression symptoms. They are often discovered incidentally. This paper reviews the epidemiology of GVAs in literature and discusses the options and outcomes of endovascular and open surgical techniques. Methods: A single institution experience from 2020-2021 inclusive. A literature search was also performed using MedLine, PubMed, Embase, GoogleScholar. Results: We retrieved 4 patients over this time with large visceral artery aneurysms: SMA branch & renal artery(1), common hepatic artery(1), pancreaticoduodenal aneurysm(1). ¾ aneurysms underwent endovascular treatment including: stent grafting (n=2) and coil embolization techniques (n=2). The patient with common hepatic aneurysm underwent open surgical repair. All patients survived to discharge without any major complications. Literature revealed very sparse data on giant visceral aneurysms (n=6). Most reported individual case reports (n=4), with a few limited case series (n=2). Endovascular treatment and open surgical management are both equally performed. Common hepatic artery aneurysms favour surgical repair. Endovascular principles relate to mapping out inflow, outflow and aneurysm morphology. Open surgical repair is infrequent and often performed with multidisciplinary care: options include primary ligation, aneurysmoraphy, interposition grafting and en-bloc resection. Conclusion: Giant visceral artery aneurysm are a rare entity. Whilst experience with endovascular techniques continues to improve, open surgical repair still remains a viable option. Multidisciplinary team care is crucial.

1:20 am
Measuring Quality of Life in Chronic Limb-Threatening Ischemia Patients and Informal Carers: A Scoping Review
Dr Leonard Shan
Purpose: Appropriate selection and use of quality of life (QOL) measurements instruments is necessary to ensure valid outcomes, but these are poorly understood in chronic limb-threatening ischemia (CLTI). This

study reviews QOL instruments for CLTI patients and informal carers, and their use in QOL and cost-utility analysis (CUA) studies. Methods: PRISMA-ScR guidelines were followed. Protocol registered in Open Science Framework (https://doi.org/10.17605/OSF.IO/KNG9U). MEDLINE, EMBASE, PsycINFO, CINAHL, COSMIN, PROQOLID, CEA registry, and NHS EED databases were searched for all English language studies up to May 2021. Features of instruments, evidence of measurement property appraisal, and trends in use were assessed. Results: A total of 146 studies were included. Four disease-specific QOL instruments are available for lower extremity arterial disease (intermittent claudication or CLTI). VascuQoL-25 and VascuQoL-6 have been used in CLTI. There is no CLTI-specific instrument. Of 14 generic instruments, SF-36, EQ-5D-3L, NHP, and WHOQOL-BREF were most common. Partial measurement property appraisal favoured VascuQoL-25, VascuQoL-6, and SF-36. Practical considerations include mode of administration and responder burden. None of four available carer-specific instruments have been used in CLTI. Since 1992, the number of QOL studies has increased considerably, but CUA studies are scarce. Informal carers have not been assessed. Conclusions: This review provides a comprehensive reference for QOL measurement in CLTI that aids data interpretation and instrument selection. However, a CLTI-specific instrument is needed. There is an opportunity to benefit society through future CUA studies and evaluation of QOL in informal carers.

12:30 am - 2:00 am
YARNING CIRCLE / HUI WHAKAWHĀNAUNGATANGA

Scientific Session - Indigenous Health - Boulevard Level Meeting Room B3

The yarning circle/ hui whakawhānaungatanga is open to everyone to connect, learn from each other, and share cultural knowledge. The session has no set programme and will be facilitated by Indigenous surgical leaders.

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04 May 2022

1:00 am - 2:00 am
FRAMING UNDERPERFORMANCE

Scientific Session - Surgical Education - Sky Level Meeting Room S1

1:00 am
Causes of underperformance in surgical trainees and their implications for improving remediation processes
Dr Kathryn McLeod
Urological surgical trainees who underperform are difficult to identify, manage and require significant resources in an already stretched system relying on pro bono supervisors that often have no formal training. While there are commentaries on how to manage underperforming surgical trainees, there is a lack of data detailing the complex reasons for underperformance. It is important to understand the complexities contributing to underperformance so that improved remediation plans can be developed which can better help trainees meet expectations and succeed. Methods In this qualitative study, individual semi-structured interviews were conducted with key persons identified as having very high levels of background knowledge and involvement with current underperforming urological surgery trainees. Transcribed interviews were thematically analysed. Results Ten interviews were conducted, including nine urology consultants and one educational manager. Five themes were identified: underperformance is a small but profound issue; spiral of failure; the changing trainee; lack of insight and under supported supervisors and posts. Conclusion Causes of underperformance in urology trainees are complex and multifactorial. Behavioural issues were considered the most likely cause, which are also the most challenging to remedy. However, in addition to trainee factors, causative factors related to supervision and training were identified. Addressing all of these issues is paramount if effective remediation of these trainees is to occur.

1:25 am
Updated Evidence and Practice Tips for Remediation of Underperformance in Surgical Trainees
Dr Henry To

1:50 am
Panel Discussion
Dr Henry To, Dr Andrea Gingerich, Dr Kathryn McLeod

1:00 am - 2:00 am

NEUROENDOCRINE TUMOURS

Scientific Session - HPB Surgery - Sky Level Sky Room

1:00 am
Update on NET pathology - MEN 1 syndrome
Dr Catherine Campbell
MEN1 is an autosomal dominant inherited tumour syndrome characterised by neuroendocrine tumours (NET) of the parathyroid, pituitary and pancreas. Germline heterozygous inactivating mutations in the MEN1 gene on chromosome 11q13 predispose to tumours of the MEN1 syndrome. Tumour development occurs with the loss of the normal copy of the MEN1 gene (LOH or loss-of-function mutation). The protein product, menin, is located primarily in the nucleus and interacts with many different protein partners mainly involved in transcriptional regulation and chromatin modification. The loss of menin activity alters the epigenetic control of gene expression mediated by histone modifications and DNA hypermethylation. Pancreatic neuroendocrine tumours (pNET) in MEN1 can be functioning (15%) or non-functioning (85%). Of the functioning tumours, insulinomas (7-31%) and gastrinomas (5%) are most common; importantly, most gastrinomas in MEN1 are located within the duodenum. The prevalence of NF-pNET is increasing with newer imaging modalities. Previously, much of the mortality of MEN1 syndrome was secondary to gastric acid hypersecretion secondary to duodenal gastrinomas (ZE syndrome). With medical management, this is now less significant and pNETs are now the main cause of death in MEN1. The particular characteristics of pancreatic neuroendocrine tumours in MEN1 impacts on decisions regarding management. Information required to inform surgical decision-making will include functional status as well as the number, size and location of these tumours. Effraimidi G et al. MEN type 1 and neuroendocrine neoplasms. Sem Can Biol 2022, 79, 141-162

1:16 am
Lutate treatment for metastatic NET - access, timing and outcomes
Associate Professor David Wyld

1:32 am
NEC and G2+ NET - what is the role for surgery?
Professor Benjamin Thomson

1:00 am - 2:00 am
UPPER LIMB REANIMATION AROUND THE GROUNDS

Scientific Session - Hand Surgery - Mezzanine Level Meeting Room M9

1:00 am
Stroke
James Ledgard
Stroke is the most common cause of adult spasticity in our multidisciplinary clinic. The complex assessment of their upper limbs starts with a questionnaire incorporating their goals of treatment. Examination includes scales and classifications of spasticity, motor control, proprioception and resting position. Patient and clinician rated outcome measures assess if goals of treatment are achieved. We discuss our clinic including challenges, victories and failures.

1:10 am
Spinal cord injury
Dr Natasha van Zyl

1:20 am
Adult Plexus
Dr Scott Ferris

1:30 am
Adult Plexus
Dr Alex O'Beirne

1:40 am
Paediatric Plexus
Associate Professor Stuart Bade

1:50 am

Panel Discussion

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04 May 2022

2:30 am - 4:00 am
PLENARY SESSION: SUSTAINABILITY AS AN EVERYDAY EVENT

Plenary Session - *Cross Discipline* - Great Hall Q4 (Use Door 5)

2:30 am
Opening and introduction
Dr Heidi Peverill, Professor Deborah Bailey

2:40 am
Sustaining Good Surgical Outcomes for an Ageing Population
Professor Ruth Hubbard

3:05 am
Approaching sustainability from different viewpoints
Professor Dietmar Hutmacher

3:30 am
Global megatrends – Patterns of change shaping our future
Professor Stefan Hajkowicz

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04 May 2022

4:00 am - 4:30 am
ANZES PRESIDENT'S LECTURE - ASSOCIATE PROFESSOR JULIE MILLER (MELBOURNE, AU)

Scientific Session - Endocrine Surgery - Plaza Level Meeting Room P2

4:00 am
Introduction
A/Professor Mark Sywak

4:02 am
The evolution of thyroid nodule ablation techniques
A/Professor Julie Miller

4:00 am - 4:30 am
EXPERT PANEL DISCUSSION

Scientific Session - Vascular Surgery - Plaza Level Meeting Room P1

4:00 am
Panel Discussion
Dr John Quinn, Associate Professor Shipra Arya

4:00 am - 4:30 am
KEYNOTE LECTURE - ASSISTANT PROFESSOR RED HOFFMAN (ASHVILLE, USA)

Keynote Lecture - General Surgery - Mezzanine Level Meeting Room M4

4:00 am
Palliative Care and Surgery: Two Sides of the Same Coin
Assistant Professor Red Hoffman

4:00 am - 4:30 am
KEYNOTE LECTURE - ASSOCIATE PROFESSOR NEIL SMART (EXETER, UK)

Keynote Lecture - Colorectal Surgery - Great Hall Q4 (Use Door 5)

4:00 am
Introduction
Dr Rowan Collinson

4:05 am
The future of surgical research - a journal Editor's perspective
Associate Professor Neil Smart

4:00 am - 4:30 am
KEYNOTE LECTURE - DR ANNE PELED (SAN FRANCISCO, USA)

Keynote Lecture - Breast Surgery - Great Hall Q2 (Use Door 8)

4:00 am
Sensation preserving mastectomy and reconstruction
Dr Anne Peled

4:00 am - 4:30 am
KEYNOTE LECTURE - DR KOHEI ABE (TOKYO, JAPAN)

Keynote Lecture - Cardiothoracic Surgery - Plaza Level Meeting Room P3

4:00 am
Recent progression in aortic valve repair: indications and repair techniques
Dr Kohei Abe
Many surgical procedures and techniques to repair an aortic valve were developed since 1990s. Aortic valve repair is an attractive option for younger generations from the point of view of avoiding anticoagulant therapy. In recent years, many papers have been published, such as the good long-term results and the superiority of survival rate over valve replacement in meta-analysis. The latest 2017 European Association for Cardio-Thoracic Surgeons (EACTS)/European Society of Cardiology (ESC) guidelines for heart valve disease recommend a “heart team discussion” for selected patients “with pliable, non-calcified tricuspid or bicuspid” AV insufficiency “in whom aortic valve repair may be a feasible alternative to valve replacement” (class I C indication). However, the reality is that only few percentages of patients with aortic valve disease are receiving aortic valve repair. One of the reasons for this situation is that there is no commonly used device. Recent developed devices, techniques for repair, and the results will be described. Also, the aortic ring holder to developed subvalvular circular annuloplasty method, which was invented by Dr. Kawazoe, will be described.

4:00 am - 4:30 am
KEYNOTE LECTURE - DR LIZ MCLEOD (MELBOURNE, AU)

Keynote Lecture - Global Health, Paediatric Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

4:00 am
At the end of the day - what it takes to be a global paediatric surgeon

Dr Liz McLeod

4:00 am - 4:30 am
KEYNOTE LECTURE - DR MAXINE RONALD (WHANGĀREI)

Keynote Lecture - Indigenous Health - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

4:00 am
"Tenei au" - Surgery in an Indigenous world
Dr Maxine Ronald

4:00 am - 4:30 am
KEYNOTE LECTURE - DR OLIVER FISHER (SYDNEY, AU)

Keynote Lecture - Upper GI Surgery, Bariatric Surgery - Great Hall Q1 (Use Door 6)

4:00 am
Barret's Oesophagus and Bariatric / Metabolic Surgery
Dr Oliver Fisher

4:00 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR JOHAN FAGAN (CAPE TOWN, SOUTH AFRICA)

Keynote Lecture - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

4:00 am
Laryngectomy practice based on personal research
Professor Johannes Fagan

4:00 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR MARGARET BEARMAN (MELBOURNE, AU)

Keynote Lecture - Global Health, Surgical Education - Sky Level Meeting Room S1

4:00 am
Learning to practice without supervision
Professor Margaret Bearman
The ultimate aim of clinical education is to graduate doctors who can practice without supervision. Surgical training is no exception but most feedback focusses on correcting mistakes. This approach may address a current problem, but trainees may not develop the ability to learn once supervision has gone. How can we ensure that surgeons continue to attain excellence across their careers in increasingly complex and constantly changing clinical environments? This keynote explores ways in which surgical supervisors can help trainees learn to practice without supervision.

4:00 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR PETER SOYER (BRISBANE)

Keynote Lecture - Surgical Oncology - Mezzanine Level Meeting Room M2

4:00 am
Modern approaches to early identification of melanoma
Professor Peter Soyer
Melanoma incidence is growing in many populations globally, alongside increases in mortality associated

with advanced disease that highlights the clinical need for improved early detection. However, if detected early, patients have a very promising prognosis. Traditional methods that have been utilized for early detection include clinician and patient skin examinations, dermoscopy (static and sequential imaging), and total body photography via 2D imaging. Total body photography has recently witnessed an evolution from 2D imaging with the ability to now create a 3D representation of the patient linked with dermoscopy images of individual lesions, in a manner that is faster and of higher resolution than current methods. Moreover, convolutional neural networks designed for the image classification of skin lesions are able to deliver diagnostic support of comparable or greater accuracy than skin doctors and dermatologists. The incorporation of machine learning processes such as skin cancer image classification with 3D total body photography can significantly improve early melanoma detection. The optimal system for melanoma screening should improve diagnostic accuracy, be time and cost efficient, and accessible to patients across all demographic and socioeconomic groups. The ACRF-supported Australian Centre for Excellence in Melanoma Imaging and Diagnosis (ACEMID), led by the University of Queensland together with the University of Sydney and Monash University, is developing a network of 3D total body photography clinics with future potential for implementing machine learning and other innovations, in order to maximise early detection and bring closer the vision of a world without melanoma.

4:00 am - 4:30 am
RESEARCH PAPERS

Scientific Session - Hand Surgery - Mezzanine Level Meeting Room M9

4:00 am
A Twenty-Year Review of Carpal Tunnel Release trends in Australia
Dr Arunan Jeyakumar
Purpose To assess the trend in carpal tunnel release (CTR) in Australia over the past twenty years and evaluate variations with age and gender. Methods A retrospective analysis of Medicare Australia data over the past 20 years was performed using the relevant Medicare Benefits Schedule item (39331). The study included all patients aged older than 15 years. Results Over the last 20 years, 302,211 CTR operations were subsidised by Medicare Australia. CTR was most common amongst ages 55 to 64 for females and 65 to 74 for males. The yearly incidence of CTR has increased by 30% over the last twenty years (75.4 to 107.7 per 100,000 population). While females made the majority of claims (59.3%), in 2020, the incidence for males has eclipsed females for the first time (108.2 vs 103.2 per 100,000 population). Trends varied by age and gender. The rate of CTR in males has nearly doubled over two decades (59.8 to 108.1 per 100,000 population), with logistic regression demonstrating a significant linear relationship ($p < 0.001$). This increase is largely attributed to two age groups (75-84 (+180%) and >=85 (+201%)). For females, the incidence has remained largely unchanged over twenty years, with a decline seen for some age groups (45-54 (-32%) and 55-64 (-20%)). Rates of surgery increased despite COVID-19 disruptions. Conclusion This study demonstrates the increasing incidence of CTR amongst Australian males. Trends may be explained by increasing prevalence of carpal tunnel syndrome in males or sex-related discrepancies influencing progression to severe disease and/or operative management. However, further population-based studies are required.

4:10 am
Outcomes of Catgut vs Nylon Sutures in Open Carpal Tunnel Surgery: A Prospective Study
Dr Ishvar Nedunchezhian
Purpose Carpal tunnel syndrome (CTS) is the most diagnosed nerve compression in the upper extremity, with increasing prevalence. Surgical decompression through an open carpal tunnel release (CTR) is an effective treatment, although patients may develop pain and tenderness around the scar that can impair outcomes. We aimed to assess outcomes based on two commonly used suture materials - chromic catgut and nylon. Methodology This is a prospective cohort study that examined patients presenting with CTS to the Gold Coast Health Service. All patients received open CTR, and wounds were closed with either 4/0 chromic catgut or 4/0 nylon sutures. Primary outcome measures were the VAS pain scale and Boston Carpal Tunnel Questionnaire (BCTQ), with wounds assessed in line with the Southampton Wound Score. Post-operative complications and patient satisfaction were also captured. Results Analysis demonstrated no significant difference in pain scores between suture materials at 2 weeks ($p=0.79$) and 6 weeks ($p=0.36$). Likewise, the BCTQ ($p=0.754$) and Southampton Wound Score ($p=0.827$) were not significantly different between chromic catgut and nylon sutures. There were no encounters of deep wound dehiscence, and antibiotic use between groups was minimal and similar ($p>0.05$). Patients had high post-operative satisfaction regardless of suture material ($p=0.956$) Conclusion This study demonstrates that the use of chromic catgut and nylon in open CTR is equivalent in terms of post-operative pain, functional outcomes, complications and patient satisfaction. Surgeons should consider the advantages and disadvantages of each suture material when performing open CTR, with considerations to cost, patient preference and resources available.

4:20 am
Extra-articular metacarpal fracture: percutaneous intramedullary headless compression screw vs traditional

plating techniques
Dr Emily Horan

4:00 am - 4:30 am
THE SIR EDWARD 'WEARY' DUNLOP MEMORIAL LECTURE

Keynote Lecture - Military Surgery, Surgical History - Plaza Level Meeting Room P4

4:00 am
Heroes
Associate Professor Michael Redmond

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04 May 2022

4:30 am - 5:30 am
ANZ CHAPTER OF THE ACS LUNCHEON AND ANNUAL BUSINESS MEETING

Business Meeting - *Cross Discipline* - Boulevard Level Meeting Room B2

4:30 am - 5:15 am
HISTORY, HERITAGE AND ARCHIVES SECTION EXECUTIVE MEETING

Business Meeting - Surgical History - Plaza Level Meeting Room P4

4:30 am - 5:30 am
TRAUMA VERIFICATION SUBCOMMITTEE MEETING

Business Meeting - Trauma Surgery - Great Hall Merivales Boardroom 1

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04 May 2022

4:45 am - 5:15 am
MEDTRONIC LUNCHTIME SESSION: APPROACHES TO MID-SIZE VENTRAL HERNIA

Scientific Session - *Cross Discipline* - Mezzanine Level Meeting Room M3

Proudly supported by Medtronic

4:45 am
TAPP Ventral
Michael Ghusn

4:52 am
Open Retro-Rectus
Dr Leigh Rutherford

4:59 am
Robotic Repair
Ian Martin

5:06 am

Discussion

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04 May 2022

5:30 am - 6:00 am
KEYNOTE LECTURE - DR JOANN ROTHERHAM (BRISBANE, AU)

Keynote Lecture - Pain Medicine & Surgery, General Surgery - Plaza Level Meeting Room P5

5:30 am
Post-operative opiate prescribing in Australia
Dr joann rotherham, Dr Jo Rotherham
At 6%, postsurgical chronic opioid use in the opioid-naive is one of the commonest surgical complications. This talk will inform you how to; - improve postop analgesia - reduce postop complications - reduce postsurgical chronic opioid use - help divert Australia from a US-like opioid crisis Practical, helpful solutions provided to the problems you see and the ones you don't.

5:30 am - 6:00 am
KEYNOTE LECTURE - DR KRISTOPHER RALLAH-BAKER (NOOSA)

Keynote Lecture - Indigenous Health - Boulevard Level Meeting Room B1

5:30 am
RANZCO's Indigenous Journey. An Indigenous perspective
Dr Kristopher Rallah-Baker

5:30 am - 6:15 am
KEYNOTE LECTURE - DR MARK MOORE (ADELAIDE, AU) AND DR DAVID GILLET (PERTH,AU)

Keynote Lecture - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

5:30 am
Cleft and Craniofacial Orthognathic Surgery
Dr David Gillett

5:50 am
Le Fort I Advancement - Is More or Less Better?
Dr Mark Moore

6:10 am
Discussion

5:30 am - 6:00 am
KEYNOTE LECTURE - DR MARK O'BRIEN (BRISBANE, AU)

Keynote Lecture - Surgical Directors - Mezzanine Level Meeting Room M4

5:30 am
Leading the journey to a high reliability culture
Dr Mark O'Brien

5:30 am - 6:00 am
KEYNOTE LECTURE - DR PETER CAMPBELL (SYDNEY, AU)

Keynote Lecture - Endocrine Surgery - Plaza Level Meeting Room P2

5:30 am
Setting up a Safe and Effective Adrenal Service
Dr Peter Campbell

5:30 am - 6:00 am
KEYNOTE LECTURE - DR RAJIV CHOUDHRIE (BETUL, INDIA)

Keynote Lecture - Rural Surgery - Great Hall Q3 (Use Door 9)

5:30 am
Sustainability of rural healthcare from a surgical perspective
Dr. Rajiv Choudhrie

5:30 am - 6:00 am
KEYNOTE LECTURE - MR IAN NICHOLSON (SYDNEY, AU)

Keynote Lecture - Cardiothoracic Surgery - Plaza Level Meeting Room P3

5:30 am
Anomalous coronary arteries
Dr Ian Nicholson

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR ALKIS PSALTIS (ADELAIDE, AU)

Keynote Lecture - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

5:30 am
Recurrent sinunasal polyps after surgery: A personalised approach to management
Professor Alkis Psaltis, Professor Alkis Psaltis

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR AMIR GHAFERI (ANN ARBOR, USA)

Keynote Lecture - Upper GI Surgery, Bariatric Surgery - Great Hall Q1 (Use Door 6)

5:30 am
Improving safety and quality of bariatric surgery
Professor Amir Ghaferi

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR FRANK FRIZELLE (CHRISTCHURCH, NZ)

Keynote Lecture - Colorectal Surgery - Great Hall Q4 (Use Door 5)

5:30 am
How we can improve the quality of management for patients with colorectal cancer in Australia and New

Zealand
Professor Frank Frizelle

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR IAN BENNETT (BRISBANE, AU)

Keynote Lecture - Breast Surgery - Great Hall Q2 (Use Door 8)

5:30 am
Sustainable Breast Imaging in the Dispersed Workplace- What is Enough?
Professor Ian Bennett

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR KENJI INABA (LOS ANGELES, USA)

Keynote Lecture - Vascular Surgery, Trauma Surgery - Plaza Level Meeting Room P6

5:30 am
Firearm Injury
Professor Kenji Inaba

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR KIARASH KHOSROTEHRANI (BRISBANE)

Keynote Lecture - Surgical Oncology - Mezzanine Level Meeting Room M2

5:30 am
An overview of recent ongoing melanoma research themes and outcomes in Queensland
Professor Kiarash Khosrotehrani

5:30 am - 6:30 am
RESEARCH PAPERS

Scientific Session - Hand Surgery - Mezzanine Level Meeting Room M9

5:30 am
Smartphone goniometer: reliable convenient measurement of finger range-of-motion
Dr Shiv Chopra

5:45 am
A Brief History in Peripheral Nerve Surgery
Dr Minhao Hu
In the past century-and-half, surgery of the peripheral nerves have evolved from an almost completely avoided practice, to flawed non-scientific empiricism, to the scientifically and clinically robust field that we know today. In this paper, we explore early ‘physiologically unsound’ attempts at nerve repair such the “Nerve flap”, “Lateral implantation”, as well as exotic splinting regimes used to combat nerve gaps - techniques often driven by military innovation arising from the World Wars. We also delve into the key foundational scientific discoveries of the discipline, such as Augustus Waller’s observations of distal nerve degeneration, G. Carl Huber’s early animal models on autologous nerve grafting, J. Tinel’s projects on axonal regeneration of repaired nerves, and Herbert Seddon’s classification systems for nerve injury - all among the trailblazers who left their eponymous legacies in the fields of hand and peripheral nerve surgery, in one way or another.

6:00 am
Nerve conduits in review
Dr Brandon Leggett

6:15 am
Negative Pressure in Nerve Regeneration
Dr Tamer Adel Mettyas
Background: Various modalities to facilitate nerve regeneration have been described in the literature with limited success. We hypothesised that negative pressure applied to a sectioned peripheral nerve would enhance nerve regeneration by promoting angiogenesis and axonal lengthening. Methods: Wistar rats' Sciatic nerve were cut (creating ~7 mm nerve gap) and placed into silicone T tube to which negative pressure was applied. The rats were divided into four groups: control (no pressure), group-A (Low pressure: 10 mmHg), group-B (medium pressure: 20/30 mmHg) and group-C (high pressure: 50/70 mmHg). The nerve segments were retrieved after seven days for gross and histological analysis. Results: 22 rats completed the study. The control group showed insignificant nerve growth, while the three negative pressure groups showed nerve growth and nerve gap reduction. The true nerve growth was highest in group A (Median: 3.54 mm) compared to group B, C, and control (Medians: 1.19 mm, 1.3 mm and 0.35 mm), however, only group A was found to be significantly different to control group (**p < 0.01). Similarly, angiogenesis was observed to be significantly greater in group-A (**p < 0.01) in comparison to the control. Conclusion: Negative pressure stimulated nerve lengthening and angiogenesis within an in vivo rat model. Low negative pressure (10 mmHg) provided superior results over the higher negative pressure groups and the control, favouring axonal growth. Further studies are required with greater number of rats and longer recovery time to assess the functional outcome.

5:30 am - 7:30 am
SUSTAINABILITY OF PAEDIATRIC SURGERY TRAINING

Scientific Session - Paediatric Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

5:30 am
The Board of Paediatric Surgery
Dr Neil Price

5:50 am
The Trainee
Dr Aneetha Pasupati

6:10 am
The Examiner
Dr Kelvin Choo

6:30 am
The Head of Department
Professor Deborah Bailey

6:50 am
Discussion

5:30 am - 6:30 am
THE ANZ CHAPTER OF THE ACS "SCIENTIFIC FORUM" SESSION

Scientific Session - *Cross Discipline* - Boulevard Level Meeting Room B2

5:30 am
The Suva Evidence-Based Guidelines for Quality Safe, Surgical, Obstetric, Trauma, and Anesthesia Care in Low- and Middle- Income Countries (LMICs)
Dr James Jin
Purpose: Morbidity and mortality in surgical, obstetric, trauma and anaesthesia (SOTA) care systems in low- and middle-income countries (LMICs) remain high. This study aimed to develop evidence-based guidelines on best practice recommendations to improve mortality and infection outcomes in SOTA systems in LMICs. Method: The World Health Organization (WHO) handbook for guideline development was utilized. Systematic reviews were conducted on studies which measured the effectiveness of a quality improvement intervention on surgical, obstetric and trauma mortality, and infection rates in LMICs. The GRADE approach was used to assess the quality of evidence. The current guidelines were proposed by the G4 Alliance and International Society of Surgery International Standards and Guidelines for Quality Safe Surgery and Anesthesia (ISG-QSSA) Working Group. Results: Three systematic reviews screened 44,129 articles, yielding 107 studies

which were included in a qualitative synthesis, and 69 studies were included in a meta-analysis to produce a pooled estimated effect size of reduction in mortality and infection across nine interventions. The final 11 recommendations included: three targeting surgical infection and mortality, four targeting trauma mortality, and four recommendations targeting the improvement of maternal and perinatal mortality. Conclusion: These best practice recommendations aim to improve mortality and morbidity in LMIC SOTA systems by providing a list of effective, evidence-based and achievable quality improvement processes that can serve as a guide to policymakers, government stakeholders and hospital administrators currently undergoing surgical scale-up on the path to improving the safety, quality, and accessibility of surgical care in LMICs.

5:40 am
POSTVenTT (POST operative Variations in anaemia treatmenT and Transfusions) study: A student- and trainee-led collaborative audit of 2730 patients undergoing major abdominal surgery in Australia & New Zealand
Miss Laure Taher Mansour
Introduction: Anaemia among is common in patients undergoing surgery and negatively impacts perioperative morbidity. We aimed to assess compliance with Patient Blood Management guidelines and the impact on patient outcomes after major abdominal surgery. Methods: The POSTVenTT Collaborative study was a student- and trainee-led, prospective, multicentre, cohort study run over two fortnight periods in 2021. Data included patient demographics, operation and Hb levels, any blood transfusion and follow up to 30 days. Patient Blood Management (PBM) audit standards were: 1. Preoperative anaemia management. 2. Operative Tranexamic acid. 3. Restrictive blood transfusion 4. Post-operative anaemia management. Results: Complete datasets (>95%) were returned for 2730 patients, mean age 56.7 ± 17.3 years; 57.1% were female. 1. Preoperative anaemia was present in 28% (689/2461), 244 (35.4%) had iron studies (128 ferritin <100 µg/L) and 41 (32.0% of 128) received IV iron. Audit standard compliance was associated with a lower risk of blood transfusion (4.1% vs. 10.9%, p<0.001), complications (5.9% vs. 9.0%, p=0.01), and hospital stay (3 vs. 4 days, p=0.005). 2. Tranexamic acid was used in only 128 patients (4.7% of 2728) predominantly by gynaecology. 3. Pretransfusion Hb averaged 73.9 (SD 11.6) g/L with audit compliance in 57.5% (96/167). 4. Postoperative anaemia was common 59.3% (1227/2069). 9.9% (121/1227) received oral, and 11.1% (136/1227) intravenous iron. Severe anaemia (Hb < 100 g/L) was associated with higher 30-day readmission (20.2% vs. 9.4%, p<0.001). Conclusion: PBM remains variable and attention to anaemia management remains a target for patient care.

5:50 am
Impact of COVID-19, Gender, Race, Specialty and Seniority on Mental Health during Surgical Training: An International Study
Dr Joshua Kovoor
Background: We conducted an international, prospective, cross-sectional study determining relative impacts of COVID-19, gender, race, specialty and seniority on mental health of surgical trainees. Method: Trainees across Australia, New Zealand and UK enrolled in a program accredited by the Royal Australasian College of Surgeons or Royal College of Surgeons were included. Outcomes included the short version of the Perceived Stress Scale, the Oxford Happiness Questionnaire short scale, the Patient Health Questionnaire-2, and non-validated measures. Predictors included trainee characteristics and local COVID-19 prevalence. Multivariable linear regression analyses were conducted to assess association between outcomes and predictors. Results: 205 trainees were included. Stress was associated with number of COVID-19 patients treated (p=0.0127), gender (p=0.0293), race (p=0.0012), seniority (p=0.001), and COVID-19 prevalence (p=0.0122). Happiness was associated with country of training (p=0.0026), race (p=0.0258), and seniority (p<0.0001). Depression was associated with seniority (p<0.0001). Greater COVID-19 prevalence at the trainee's location was associated with greater reported loss of training opportunities (p=0.0038), poor working conditions (p=0.0079), personal protective equipment availability (p=0.0008), relocation to areas of little experience (p<0.0001), difficulties with career progression (p=0.0172), loss of supervision (p=0.0211), difficulties with pay (p=0.0034), and difficulties with leave (p=0.0002). Conclusion: This is the first study to specifically describe the relative impacts of COVID-19 community prevalence, gender, race, specialty, and seniority on trainee stress, happiness, and depression internationally.

6:00 am
Liver Splitting During Normothermic Machine Perfusion: Development of a Novel Method to Combine the Advantages of Both Ex-Vivo and In-Situ Techniques
Dr Ngee-Soon Lau
Purpose: Split liver transplantation addresses donor shortages by permitting the transplant of two recipients using a single donor liver. Liver splitting can be performed in an ice-bath using the ex-vivo technique, or during the procurement operation using the in-situ technique. Normothermic machine perfusion could allow these livers to be split ex-vivo while being continuously perfused which combines the advantages of both the traditional ex-vivo (convenience) and in-situ techniques (shorter cold ischaemic time). Methods: Human livers declined for transplantation were perfused using a red-cell based perfusate under normothermic conditions (36°C) using a modified commercial liver perfusion machine. We developed a six-step method for the splitting of whole livers into a left lateral segment graft and an extended right graft. Both partial livers were then perfused on separate machines and individually assessed using biochemical markers of liver function. Results: Using our novel method, 10 whole livers were perfused and successfully split during

normothermic perfusion resulting in 20 partial grafts. Apart from a single partial graft which failed due to a technical error, all grafts survived for 24 hours after splitting. Stable liver function was demonstrated by lactate clearance, bile production and synthesis of coagulation factors in both grafts. Conclusion: Liver splitting during normothermic machine perfusion has the potential to revolutionise split liver transplantation. We describe a novel technique that reliably achieves 2 viable grafts from a single donor liver. This raises the potential for semi-elective day time liver transplantation and sophisticated graft assessment prior to implant.

6:10 am
In-hospital survival after pancreatoduodenectomy is greater in high-volume hospitals versus lower-volume hospitals: a meta-analysis
Dr Joshua Kovoor
Background: Variation in cut-off values for what is considered a high volume (HV) hospital has made assessments of volume-outcome relationships for pancreaticoduodenectomy (PD) challenging. Accordingly, we performed a systematic review and meta-analysis comparing in-hospital mortality after PD in hospitals above and below HV thresholds of various cutoff values. Method: PubMed/MEDLINE, Embase and Cochrane Library were searched to 4 January 2021 for studies comparing in-hospital mortality after PD in hospitals above and below defined HV thresholds. After data extraction, risk of bias was assessed using the Downs and Black checklist. A random-effects model was used for meta analysis, including meta-regressions. Registration: PROSPERO, CRD42021224432. Results: From 1855 records, 17 observational studies of moderate quality were included. Median HV cut-off was 25 PDs/year (IQR: 20–32). Overall relative risk of in-hospital mortality was 0.37 (95% CI: 0.30, 0.45), that is, 63% less in HV hospitals. All subgroup analyses found an in-hospital survival benefit in performing PDs at HV hospitals. Meta-regressions from included studies found no statistically significant associations between relative risk of in-hospital mortality and region (USA vs. non-USA; p = 0.396); or 25th percentile (p = 0.231), median (p = 0.822) or 75th percentile (p = 0.469) HV cut-off values. Significant inverse relationships were found between PD hospital volume and other outcomes. Conclusion: In-hospital survival was significantly greater for patients undergoing PDs at HV hospitals, regardless of HV cut-off value or region. Future research is required to investigate regions where low-volume centres have specialized PD infrastructure and the potential impact on mortality.

5:30 am - 6:00 am
THE HAMILTON RUSSELL MEMORIAL LECTURE

Keynote Lecture - Surgical Education - Sky Level Meeting Room S1

5:30 am
A complete doctor
Professor Teik Oh
All of us surgeons and specialists are first and foremost, doctors. The answer to the question “What makes a complete, good doctor?” will vary depending on who answers – patient or doctor. The Australian Medical Council listed attributes of a good doctor as Medical Expert, Communicator, Collaborator, Manager, Health Advocate, Scholar and Teacher, and Professional. Personality traits are overlooked, and clinical competence is not a specific focus because of the high quality of training. Perhaps more illuminating, may be qualities that patients frequently complain about, such as “not listening”, a “bad bedside manner”, and perceived wrong treatment. These are consequences of not respecting patient autonomy and poor communication. We should reappraise our vision on autonomy and how we communicate with patients, to be more likely to be labelled a good, complete doctor.

5:30 am - 6:00 am
THE HERBERT MORAN MEMORIAL LECTURE

Keynote Lecture - Surgical History - Plaza Level Meeting Room P4

5:30 am
Saving Colonel Ryan
Robert Likeman, Dr Robert Likeman

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04 May 2022

6:00 am - 7:30 am

ADDRESSING DISRESPECTFUL BEHAVIOURS: THE CHALLENGES OF SPEAKING UP

Scientific Session - Younger Fellows, Trainees Association, Women in Surgery, Indigenous Health - Boulevard Level Meeting Room B1

6:00 am
Microaggressions: not very 'micro' after all
Dr Prathyusha Nakka

6:15 am
The work of addressing unconscious bias
Dr Justin Cain

6:30 am
Reporting and repercussion
Dr Jamie-lee Rahiri

6:45 am
Strategies from Operating with Respect
Mrs Jenny Wagener

7:00 am
Discussion

6:00 am - 7:30 am
COMPLEX PROBLEMS, COLLABORATIVE SOLUTIONS

Scientific Session - Cardiothoracic Surgery, Vascular Surgery - Plaza Level Meeting Room P3

6:00 am
Complete endovascular approach to arch repair
Dr Adib Khanafer

6:30 am
Contemporary aortic arch surgery - indications and outcomes
Professor Sean Galvin, Professor Sean Galvin

6:50 am
Aortic arch management in type A aortic dissection
Dr Shoane Ip

7:10 am
Vascular and Cardiothoracic, a mutually beneficial relationship
Doctor Nicholas Boyne

6:00 am - 7:30 am
FIREARM INJURY

Scientific Session - Trauma Surgery, General Surgery - Plaza Level Meeting Room P6

6:00 am
A day in the life of emergency response team (police) / police ballistics
Sergent Warren Cooley

6:15 am
Integrated medical teams
Senior Constable David Healy

6:30 am
Pre-hospital management
Dr Stephen Rashford

6:45 am
Clinical and mlitary
Dr David Read

7:00 am
Stop the Bleed program
Professor Kenji Inaba

7:15 am
Discussion

6:00 am - 7:30 am
INTERESTING CASES IN ENDOCRINE SURGERY

Scientific Session - Endocrine Surgery - Plaza Level Meeting Room P2

6:00 am
Discussion

6:00 am - 7:30 am
LEADERSHIP, CULTURE AND INFORMATION

Scientific Session - Surgical Directors - Mezzanine Level Meeting Room M4

6:00 am
Joining the Dots - The Task for Leadership
Sanjeev Naidu

6:30 am
Disruption with Information, Transformational Change in the Digital Age
Professor Keith McNeil

7:00 am
Panel discussion
Professor Keith McNeil, Sanjeev Naidu, Dr Mark O'Brien

6:00 am - 7:30 am
LESSONS FROM THE HISTORY OF MILITARY MEDICINE

Scientific Session - Military Surgery, Surgical History - Plaza Level Meeting Room P4

6:00 am
The British Army's Walcheren Campaign (1809) - The catastrophic outcome of failed medical planning
Mr Campbell Miles
In early 1809, at the request of the Austrian Emperor, Britain agreed to the dispatch of an amphibious expeditionary force to capture Walcheren Island in the mouth of the River Scheldt and the port of Antwerp where Napoleon was rebuilding his fleet after the disaster at Trafalgar (1805). From the outset there was no clear direction of the political aspects of the planning and secrecy was such that the Army Medical Board was not consulted until a week before embarkation. Despite protestations by the senior commanding medical officer that the medical facilities were grossly inadequate for 39,000 men the force departed on 28 July without additional supplies. After heavy bombardment the islands were occupied on 15 August for the loss of 106 killed. The sickness return for 3 August was 688 but with the sudden emergence of 'Walcheren fever' a week later the returns jumped: 28 August-1,600; 22 September- 8,700. On 27 August the campaign was aborted and a 16,000 strong garrison left on Walcheren where deaths mounted. A commission of inquiry recommended complete withdrawal. Total dead from the fever was 3,969 and survivors suffered continuing relapses for years thereafter. The disaster led to an overhaul of the Army Medical Board that again proved ineffectual and failed to prevent the medical mismanagement of the Crimean Campaign 50 years later.

6:20 am

"3" Percy, Larrey and Letterman, Triage and Care
Dr Peter Sharwood
The concept of Triage is well known but barely understood by students and many more senior medical practitioners. A few will say sorting, many will say assessing but cannot explain just what they are actually assessing beyond basic vital signs. This interesting historical concept is described in this paper which sets out to examine the concept and offer some insights as to the importance of Triage historically and in our modern practice and explain the significance of “three” in Military and Civilian emergency surgery. The importance of Larrey, Percy and during the Revolutionary wars and the Napoleonic Campaigns is discussed. The changes brought about by the reforms recommended by Larrey are addressed and then the effect of the breaking out of peace, leading to the loss of expertise and lessons learnt. This is compared with the situation which developed during the American War between the States where the problems of casualty evacuation and distribution came to the fore and the effects of employment of surgeons untrained in matters of military surgery. The work of Letterman is discussed in the development of the Three Role System of Hospitalization still used worldwide in Surgery for wounded and victims of natural disasters.

6:40 am
Failure of antiseptic therapy in World War I wounds. Ideas leading to antibiotics.
A/Prof Graham Stewart
The tidy progression from antisepsis to asepsis and finally to triumph of the development of antibiotics is reality a rather ragged and disjoint process, often with strongly contentious ideas clashing. The conflict of ideas of pre-Listerian surgery and the introduction of Antiseptic techniques, in the 1870s is well appreciated. What is less well appreciated is the conflict of ideas and techniques concerning the treatment of infected wounds in the First World War. I would contend that ideas that developed at this time led to the beginning of the development of Penicillin. At the commencement of the First World War, there was little appreciation of the biology of a contaminated wound. The clinical and basic surgical investigations carried out by Alexander Fleming (1881 -1955) with his mentor Almroth Wright (1861 – 1947) contradicted many of the dictums of then current military surgery based on precepts of listerian techniques. These researchers proved that the application of antiseptics agents to contaminated traumatic wounds would at best be ineffective and, in some cases, deleterious. They suggested that successful management was not to rely on antiseptics alone as they did not adequately penetrate the deep tissues and also ultimately could inhibited wound healing. Rather they encouraged irrigation with hypertonic saline and emphasise surgical debridement, followed by early wound closure. The importance of these concepts was slowly appreciated and accepted, but as importantly, primed Fleming’s later interest in lysosome (1922) and then Penicillin Notatum secretions (1928) that prefigured the work of Florey and Chain in developing antibiotics.

7:00 am
Title: A review of the history of honey for wound healing in the Covid-19 pandemic era
Dr Mia Jung
Purpose: Honey is the oldest sweetener and health food with a rich history as a wound healing agent since the times of ancient civilisations ever since the Egyptians in 5500BC. With modern studies continuing to prove its clinical efficacy, a literature review is performed to assess honey as a wound care agent in the current Covid-19 pandemic era. Method: A literature review was performed on MEDLINE on 'honey' and 'wound healing'. Result: A total of 261 articles were reviewed. Results describing the history of honey as a wound healing agent were collated. Studies comparing honey versus other dressings were analysed, as well as studies in the last 3 years describing novel uses of honey as a biomaterial. Discussion: Honey has been used in various ancient civilisations as a medicinal product. It has a well-established pharmacological basis as a wound healing agent with antibacterial and anti-inflammatory properties. It has been used for a wide range of acute and chronic wounds, supported by several meta-analyses. Honey has debridement effect on wound surfaces and it is associated with decreased pain during dressing changes and shortened time of wound healing. Recent studies have also demonstrated its effects as an immunomodulator and honey is also investigated as a biomaterial with focus on easier application. Conclusion: Honey is an extensively researched wound healing agent. It has potential to resurface as a simple, effective wound care agent in the Covid-19 pandemic era where clinicians are anticipated to review an increased number of chronic wounds. With a higher percentage of patients requiring isolation, honey has a great advantage in its application frequency and ease of use.

6:00 am - 7:30 am
MANAGING COMPLICATIONS POST BARIATRIC AND UPPER GI SURGERY

Scientific Session - Upper GI Surgery, General Surgery, Bariatric Surgery - Great Hall Q1 (Use Door 6)

6:00 am
Managing sleeve leaks. Can staging systems be used to guide management?
A/prof Michael Talbot
Laparoscopic Sleeve gastrectomy (LSG) has become the default “standard of care” bariatric surgical

procedure worldwide, however, despite more than 15 years' experience with the operation, management of post-sleeve complications remain less-than well standardised. The LSG creates disruptive physiologies that defy traditional methods of leak management, and while traditional "bowel rest and drainage" strategies are now recognised as being a less than acceptable way of managing many of these patients, the best choice of therapy remains "disputed space". While there are many methods, surgical, radiologic and endoscopic, proposed to assist in the management of LSG leaks, confusion abounds as to the most suitable technique for a patient when a clinician is presented with a patient who has experienced a leak. Use of staging systems to classify leaks allows better description of a patient's pathology at presentation, however application of these staging systems to help select the most appropriate treatment modality is rather more complex. We describe a staging system based on CT and endoscopic findings, to determine whether these can be applied to a systematic review of published literature on sleeve leak management. Methods. Description of staging system and various treatments based on the underlying pathophysiology's. Systemic review of literature. Results. Classifying sleeve leaks based on their underlying pathophysiology makes selection of treatment algorithms reasonably straightforward for clinicians, however published data poorly represent the nature of leaks treated and future publications should aim to better describe treatment decisions.

6:15 am
Role of roux en y gastric bypass for management of sleeve leaks
Dr George Hopkins

6:30 am
Managing stomal ulcers
Dr Chung-Kwun Won

6:45 am
Management of internal hernias
Dr Robert Finch

7:00 am
Endoscopic management of GORD post gastric sleeve surgery
Dr Patrick Walsh, Dr Patrick Walsh

7:15 am
Discussion

6:00 am - 7:30 am
PANCREAS CANCER - GETTING THE BASICS RIGHT

Scientific Session - HPB Surgery - Sky Level Sky Room

6:00 am
Formalising the approach to pancreas cancer MDT
Dr William Mcgahan
Introduction: We hypothesised that clinician-lead synoptic data capture, standardised across health districts, would benefit patients with pancreatic cancer. Methods: An electronic data capture system was implemented for the pancreatic MDTM at two separate tertiary referral centres in Brisbane. The first component was a synoptic referral form completed by the treating clinician during the patient's first encounter with the service. The second component was a linked MDTM discussion pro forma, displayed and completed during MDTM. We evaluated the availability of key data points prior to and following implementation of this intervention. Results: 51 patients with pancreatic cancer were referred to the MDT at either hospital using the electronic referral form. Compared to documentation audited for 144 patients prior to system implementation, there was significantly greater odds of ECOG performance status, BMI, family history, clinical frailty score, smoking and alcohol history being available. OR and 95%CI was 29.7 (12.3-84.0), 7.60 (3.76-16.2), 7.87 (3.88-16.8), 219 (65.2-1040), 5.58 (2.76-12.0) and 2.5 (1.26-5.15) respectively. To date 81 patients have had their MDT consensus recorded on the electronic pro forma. Compared to documentation audited for 137 historical patients, resectability according to anatomical, biological, and conditional classifications, as well as clinical stage (AJCC 7th), were more likely to be available. OR and 95% CI was 6.55 (3.30 – 14.1), 32.8 (12.6-104), 4.5 (2.28-9.41) and 3.02 (1.68 – 5.55) respectively. Conclusion: We have found that a formalised approach to documenting the MDTM facilitates capture and storage of vital clinical parameters which are otherwise poorly recorded.

6:17 am
SCANPatient: Synoptic reporting of CT scans assessing cancer of the pancreas
A/prof Charles Pilgrim
Whilst patients with locally advanced or metastatic pancreatic cancer (PC) have an extremely poor prognosis

those with operable disease have a median survival of 20–28 months with 25% of patients alive at five years. Thus, accurately diagnosing patients suitable for surgery is of paramount importance. In a recent pilot study, we found the use of a structured, synoptic radiological report in the assessment of pancreatic CT scans demonstrated clinically significant improvement in accuracy of reporting localised PC. This stepped wedge randomised clinical trial will formally test the use of the standard radiological approach to the synoptic report, to determine if this approach results in a more accurate diagnosis of localised PC to improve delivery of care. Specifically, this trial will determine the role of implementing the synoptic report template embedded into routine care, to assess whether this approach increases institutional accuracy in defining surgical resectability (or operability) of non-metastatic PC. The diagnostic algorithm incorporated into the synoptic template design will provide a uniform assessment of tumour operability, based on the recently published, international consensus criteria regarding tumour resectability. Better classifying patients with non-metastatic PC as having tumours that are either clearly resectable, borderline or locally advanced, will improve patient outcomes - significantly reducing the chances of patients undergoing initial surgery when the tumour is more advanced and critically, ensuring patients whose tumours are (inaccurately) reported as borderline resectable (or even locally advanced), do receive surgery if the tumours are in fact clearly operable.

6:34 am
Minimum standards of care and how to achieve them
Dr Julie Hallet

6:51 am
PROMs in pancreas and UGI cancers

6:00 am - 7:30 am
RECOGNISING STRENGTH IN REFLECTIVE PRACTICE

Scientific Session - Surgical Education - Sky Level Meeting Room S1

6:00 am
Reframing failure for success
Miss Raquel McGill

6:15 am
Learning from regret
Associate Professor Fran Boyle
Regret is commonly experienced as a consequence of health care decisions made or not made. Most studies focus on patients' decisional regret but it is also common for health care professionals to experience regret when reflecting on clinical decisions that result in an adverse outcome. Although associated with a range of negative outcomes, the concept of regret can also have a positive function and form the basis for learning and practice. We analysed data from the Queensland Audit of Surgical Mortality where surgeons reflect on factors surrounding the death of patients in their care and respond to the open-ended question: in retrospect, would you have done anything differently? We explored the extent to which regret was present in these responses and gained insights into how experiences of regret might inform future practice.

6:40 am
Psychosocial impact of surgical complications on the operating surgeon
Dr Manjunath Subramanya, Dr Manjunath Siddaiah-Subramanya, A/Professor Catherine Haigh

7:10 am
Discussion

6:00 am - 7:30 am
RESEARCH PAPERS

Scientific Session - Surgical Oncology - Mezzanine Level Meeting Room M2

6:00 am
Immune cell infiltration of the tumour microenvironment in metastatic colorectal cancer
Mr Michael Flood
Background Patients diagnosed with colorectal cancer (CRC) have a 50% incidence of developing metastatic disease, in either a synchronous or metachronous fashion. Little is known about how the immune microenvironment of CRC evolves during disease progression. Understanding the role of the tumour

microenvironment in establishing distant metastases is essential for developing new immunological agents. In this study, we aimed to characterize the immune microenvironment of metastatic colorectal lesions, specifically metastases to the liver and the peritoneum, and to compare these with the corresponding primary colorectal cancer. Methods We compared tumour-infiltrating lymphocyte (TIL) count, both programmed death protein 1 (PD-1) and programmed death-ligand 1 (PD-L1) protein expression by multiplex immunohistochemistry (mIHC), and mRNA levels of 780 immune-based genes using Nanostring barcode technology in matched, synchronously resected primary and metastatic colorectal cancer samples. Results Sixteen patients had synchronous resections of colorectal primaries, liver and peritoneal metastases in various combinations. TIL counts and PD-L1 positivity were significantly lower in metastases, particularly in the liver. Immune cell metagene expression corresponding to angiogenesis, stromal factors, NK cell activity and matrix remodelling were significantly higher in peritoneal metastases. Liver metastases displayed differentially expressed genes responsible for myeloid cell activity of the immune system. Conclusion Metastatic colorectal cancers are immunologically more inert than their corresponding primary tumours. Targetable immune-based cells do, however, exist, showing promise for immunotherapy.

6:10 am
When teams disagree: Investigating the incidence and causes of dissent occurring in patient case discussions at cancer multidisciplinary team meetings
Xiuling Jasmine Wong
Objectives Multidisciplinary teams (MDT) are commonly involved in the care of patients with cancer. How frequently dissent occurs within these teams has not been previously studied. This study aimed to determine how frequently dissent was documented in cancer MDT at our institution, the reasons for this, and the opinions of MDT members on how dissent should be documented and communicated. Methods A retrospective review of records from cancer MDT at our institution from 2016 to 2020 was performed to identify cases where dissent was documented and the reasons for this. MDT members were invited to complete an online survey assessing their perceptions of how frequently dissent occurred, how comfortable they felt voicing dissenting opinions, and how dissent should be documented and communicated. Results Dissent was recorded in 30 of 7737 MDT case discussions (0.39%). The incidence of dissent varied from 0 to 1.2% between cancer streams. The most common reason for dissent involved the role of surgery. Only 8% of survey respondents reported that dissent had not occurred in their teams in the past 12-months. Few respondents held the opinion that dissent should not be documented (3%) or communicated (0%) in some way, although there was a wide range of views on how this should occur. Conclusions Dissent was rarely documented within the cancer MDT at our institution, likely due to underreporting. Measuring the incidence of dissent within an MDT may be a useful performance metric. MDT should develop policies for how dissent should be managed, documented, and communicated

6:20 am
Nodal metabolic response to chemoradiotherapy is a more powerful prognostic marker than primary tumour pathological response for oesophageal cancer – a long term follow up study
Dr Michael Wu
PURPOSE: Chemoradiotherapy (CRT) with or without oesophagectomy is routinely used for patients with locally advanced oesophageal cancer (OC). The assessment of response to CRT has focused on the PET metabolic response (MR) and pathological response (PR) of the primary tumour. However, emerging studies demonstrate that pathological nodal regression following CRT is a more accurate predictor of long-term outcome. Hence, we hypothesized that in node positive patients, nodal MR on re-staging PET is a superior prognostic indicator than primary tumour MR or PR. METHODOLOGY: Patients who had 18FDG-PET/CT pre & post-CRT to assess the primary tumour & nodal MR were identified from a retrospective database from 2002–2014. Primary tumour PR was also assessed following oesophagectomy. Survival estimates and clinico-pathological predictors were calculated using log-rank and Cox regression analysis. RESULTS: 143 patients with locally advanced OC received curative intent CRT +/- surgery, of which 58% were node positive on pre-CRT PET. Following CRT, 63% (50/79) had a complete/near complete MR while the remaining patients had stable or progressive nodal disease. With mature follow-up (median 5.7 years; 2.5-18.5 years), nodal MR was a more significant prognostic marker (HR 0.55, p =0.03) compared to primary tumour MR (HR 0.70, p = 0.08) and PR (HR 0.44, p=0.09). Median disease-specific survival (DSS) was significantly higher for those with a good nodal MR compared to non-responders (3.56 vs. 1.39 years). CONCLUSION: The nodal MR on restaging PET is a more powerful predictor of DSS than the primary tumour MR/PR, providing clinicians with additional prognostic information to individualise treatment.

6:30 am
Management of regional lymph node metastasis in Merkel Cell Carcinoma: The Westmead Hospital experience
Dr Alireza Moghadam
Merkel Cell carcinoma (MCC) is an aggressive skin cancer. It has a high tendency to metastasize to regional lymph nodes (LN). Traditionally, LN dissection was the treatment of choice. Radiotherapy has shown to be as effective as surgical excision of LN in recent studies. The objectives of this study are to assess the OS and DFS of patients with Stage III MCC and to compare survival with regards to treatment modalities. Data extracted from a prospectively maintained data base from 1990 to 2020. All patients with metastatic nodal disease i.e clinically evident (macro-)and sentinel node involvement (micor-) were included. Results We

identified 97 patients with regional LN metastasis with 76 of them having macro- disease. The OS of patients with macro- disease did not differ from that of patients with micro- disease, 72.4% and 81.0% respectively (Chi square 0.08,p= 0.76). The OS also did not differ when comparing different treatment modalities: surgery alone, adjuvant RT and definitive RT (Chi square 2.50,p= 0.28). The DFS did not differ significantly between patients with macro- and micro-metastasis (Chi-Square 1.07, p= 0.30). The DFS is statistically different between the patients who underwent surgery alone (23.1%), adjuvant radiation (46.8%) and definitive radiotherapy (59.1%) (Chi-Square 6.1, p= 0.013 and Chi-Square 7.02, p= 0.008). The DFS was not significantly different between definitive and adjuvant radiotherapy (Chi-Square 0.56, p= 0.45). Conclusions Consistent with other studies, we found that in patients with Stage III MCC, the modality of treatment used did not appear to impact OS. However, the use of radiation appeared to be associated with a more favourable DFS and is a viable alternative to surgery in these patients.

6:40 am
Limb perfusion service at Peter Mac
Dr Hayden Snow

6:00 am - 7:30 am
RESEARCH PAPERS

Scientific Session - Colorectal Surgery - Great Hall Q4 (Use Door 5)

6:00 am
Survival outcomes following diagnosis of colorectal cancer in patients with Lynch Syndrome: systematic review and meta-analysis
Dr Nicholas Hui

6:07 am
The longitudinal course of low anterior resection syndrome: an individual patient meta-analysis
Mr Chris Varghese
Background: Low anterior resection syndrome (LARS) describes disordered bowel function after rectal resection that significantly impacts quality of life. However, the current understanding of the longitudinal course of LARS is insufficient. Methods: Databases were systematically searched for studies that enrolled adults undergoing anterior resection for rectal cancer and used the LARS score to assess bowel function at >2 post-operative time points. De-identified patient-level data were analysed. Baseline LARS scores were taken from 3- or 6-month assessments. Regression analyses were undertaken to identify predictors of change in LARS score from baseline to 12 and 18-24-months. Results: Eight studies with a total of 701 eligible patients were included. The mean LARS score improved over time, from 29.4 (95% CI 28.6 – 30.1) at baseline to 16.6 at 36 months (95% CI 14.2 – 18.9%). On multivariable analysis, a greater improvement in mean LARS score between baseline and 12 months was associated with no ileostomy formation (mean difference (MD) -1.7 vs 1.7, p<0.001), and presence of LARS (major vs minor vs no LARS) at baseline (MD -3.8 vs -1.7 vs 5.4, p<0.001). Greater improvement in mean LARS score between baseline and 18-24 months was associated with partial vs total mesorectal excision (MD -8.6 PME vs 1.5 TME, p<0.001) and presence of LARS (major vs minor vs no LARS) at baseline (MD -8.8 vs -5.3 vs 3.4, p <0.001). Conclusions: LARS improves by 18 months postoperatively then remains stable for up to 3 years. TME, neoadjuvant radiotherapy, and ileostomy formation negatively impact bowel function recovery. These data will aid perioperative decision-making by helping to inform patient and clinician expectations.

6:14 am
Mechanical Bowel Prep with Oral Antibiotics in Elective Colorectal Surgery: An Australian Single Institution Experience.
Dr Amos Nepacina Liew
Background Surgical-Site infections (SSI) and anastomotic leaks (AL) remains a problem following colonic resection. Studies have shown positive results with the use of pre-operative oral antibiotics (OAB) as part of mechanical bowel preparation (MBP). However, this concept has not been widely accepted in Australia. We aim to examine our experience with OAB as part of MBP in patients undergoing elective colonic resection, and the risk of post-operative SSI and AL. Method A retrospective review of a colorectal surgery database from January 2019 to November 2021 was conducted. Patient undergoing elective colonic resection at Monash Health were included and group into MBP and MBP with OAB. Our department’s unit policy has always been to institute mechanical bowel preparation for elective colectomies. From August 2020, Neomycin and Metronidazole were included as part of unit policy. Results 520 patients were included in our study (248 with MBP, 272 with MBP + OAB). Although there was higher rate of SSI in the MBP group, this was not clinically significant (MBP 16/248 (6.5%) vs MBP + OAB 9/272 (3.3%), P-value = 0.094). However, there was a clinically significant reduction in superficial/deep fascial infections in the MBP + OAB group (MBP 11/248 (4.4%) vs MBP + OAB 4/272 (1.5%), P-value = 0.043). Furthermore, there was a clinically significant reduction in AL in patients receiving MBP and OAB (MBP 7/231 (3%) vs MBP + OAB 1/243 (0.4%), P-value =

0.027). Conclusion The use of OAB as part of MBP has shown its benefits in elective colonic resection in reducing superficial/deep fascial SSI as well as AL. However, further, prospective blinded research in the Australia context is required to delineate the potential benefits of OAB and MBP.

6:21 am
The utility of CT colonography and/or PET-CT pre-operatively in obstructing left-sided colorectal cancers – a systematic review
Dr Jennifer Mc Garry
Purpose 15-20% of patients present with near obstructing left-sided colorectal cancer. CT colonography (CTC) or PET-CT has been used to detect synchronous lesions which may alter pre-operative planning of colonic resection. We aim to synthesise the usefulness of CT colonography and/or PET-CT in detecting synchronous proximal colon carcinomas in patients who have undergone an incomplete colonoscopy due to a stenosing or obstructing distal colorectal cancer. Methodology A systematic review was performed through the search of the databases up to December 2021. Data collected included demographics of study population, rate of detection of synchronous carcinomas and impact on management of detection of synchronous carcinomas. Results A total of 23 studies were included: 19 studies focused on CTC, 2 on PET-CT, and 2 integrated PET-CT with CTC. 2816 patients were included. CTC detected synchronous carcinomas in 2-23% of patients. PET-CT was useful in detecting synchronous carcinomas 4-5.5% of patients. Integrated PET-CT and CTC detected synchronous carcinomas in 2-15% of patients. The surgical plan was changed in 2-16% of patients after the use of CTC, and between 0.5 and 15% using CTC and PET-CT combined. No complication was reported by the use of CTC. Conclusion CT colonography is an effective and useful adjunct to colonoscopy in assessing the proximal colon when colonoscopy fails to do so. More evidence is needed in relation to the use of PET-CT for this patient population.

6:28 am
‘Rescue’ from complications drives variation and improvements in postoperative mortality following colorectal cancer surgery: a national population based study
Dr Cameron Wells
Purpose Wide variation in outcomes exists following colorectal surgery. Failure to rescue (FTR) is defined as the rate of death after complications, and internationally has been shown as a driver of hospital-level variation in mortality. We examined variation in FTR, mortality, and complications between District Health Boards (DHBs) and over time for patients undergoing colorectal cancer surgery in Aotearoa New Zealand. Method All patients undergoing colorectal cancer resection from 2010-2019 were identified from the New Zealand Cancer Registry and National Minimum Dataset. Rates of 90-day FTR, mortality, and complications were calculated overall, and for surgical and nonoperative complications. DHBs were ranked into quartiles by risk- and reliability-adjusted 90-day mortality. Variation between DHBs and trends over the 10-year study period were examined. Results Overall, 15,686 patients undergoing colorectal resection were included. Increased postoperative mortality at high-mortality DHBs (OR 2.4, 95% CI 1.8-3.3) was driven by higher rates of FTR (OR 2.0, 95% CI 1.5-2.8), and complications (OR 1.4, 95% CI 1.3-1.6). These trends were consistent across operative and nonoperative complications. From 2010 to 2019, postoperative mortality halved (OR 0.5, 95% CI 0.4-0.6), associated with a greater improvement in FTR (OR 0.5, 95% CI 0.4-0.7), than complications (OR 0.8, 95% CI 0.8-0.9). Conclusion Mortality following colorectal cancer resection has halved over the past decade, driven by improvements in ‘rescue’ from complications. Differences in FTR also drive DHB-level variation in mortality, highlighting the importance of ‘rescue’ as a target for surgical quality improvement.

6:35 am
A single centre audit: Repeat pre-operative colonoscopy
Dr Michelle Zhiyun Chen
Background Repeat colonoscopy may be required for tumour localisation.1 The aim of the study is to explore the clinical settings in which it was used and benchmark the quality of initial colonoscopy against standardised guidelines for tumour localisation, tattooing and colonoscopy reporting amongst clinicians.1, 2 Methods A retrospective study has been performed on patients who underwent colorectal cancer resections at the Northern Hospital from 2016 to 2021. Patient demographics, colonoscopic and surgical operative details have been retrospectively retrieved from the Bi-National Colorectal Cancer Audit (BCCA) Registry database and hospital medical records. Emergency colorectal resections and intra-operative sigmoidoscopy for the purpose of checking the anastomosis were excluded from this study. Primary outcomes: any changes in operative approach and delays to operation. Secondary outcomes: reasons for a repeat colonoscopy and complications from repeat colonoscopy. Results A total of 339 patients were included in this study. 94 (28.6%) underwent a repeat colonoscopy. Re-scoping rate was 29.6% for surgeons, and 26.2% for non-operating endoscopists. Surgeons had a 5.9% localisation error rate, and non-operating endoscopist 6.95% ($p=0.673$). Surgeon as initial endoscopist was not associated with a lower rate of repeat colonoscopy ($p=0.462$). Repeat colonoscopy for tattooing purposes was 5.3%. Repeat endoscopy was associated with a longer time to definitive operation ($p<0.001$). No complications were associated with a repeat colonoscopy. Conclusion There was found to be no difference in localisation error rates or rate of repeat colonoscopy amongst surgeons and non-operating endoscopists. Repeat endoscopy was associated with a longer time to definitive operation.

6:42 am
Rate of Sphincter Repair Failure Following Definitive Immediate Repair of Obstetric Injury
Dr Kaushik Thungathurthi
Introduction Australia has one of the highest rates of obstetric anal sphincter injury (OASIS), with all detected injuries repaired acutely. However, the outcome of such repair has not been objectively evaluated in the past. In this study, we aim to identify the rate of failure of primary sphincter repair in a cohort of postpartum women using endoanal ultrasound. Methods This is a retrospective cohort study of postpartum women with third or fourth degree OASIS between February 2018-2020. Descriptive statistics and percentages were calculated. The failure rate of primary sphincter repair was estimated. Results 150 patients were analysed (mean age 31 years). 38%, 50% and 12% had grade 3A, 3B and 3C tears respectively. Endoanal ultrasounds were performed at a median of 16 (1-108) months from the last delivery, which demonstrated in 41%, 11% and 3% deficiencies in external, internal and both sphincters, respectively. Importantly, 31% had associated symptoms of faecal or flatal incontinence. Overall, 39% had breakdown of primary sphincter repair. The only statistically significant factor that correlated with failure of repair was an unsupervised repair by a trainee (p=0.035). Conclusion Almost half of the women post OASIS injury and repair will have ultrasound evidence of repair breakdown postpartum with 31% symptomatic. This study provides further evidence for the importance of ultrasound surveillance postpartum and the significance of supervision during acute repair. Although not all patients with breakdown of their repair are symptomatic, such a finding can have future implications on safety of further vaginal delivery and may serve as a risk factor for postmenopausal pelvic floor symptoms.

6:49 am
Can targeting sphincter spasm reduce post-haemorrhoidectomy pain? A systematic review and meta-analysis
Dr James Jin
Purpose: Haemorrhoidectomy is often complicated by significant postoperative pain. Spasm of the internal anal sphincter is thought to contribute to post-haemorrhoidectomy pain. This study aims to appraise the evidence behind interventions aimed at lowering sphincter spasm to relieve post-haemorrhoidectomy pain. Method: A Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) compliant systematic review was conducted from September 2021 to January 2022. Medline, EMBASE and CENTRAL databases were systematically searched. All RCTs which compared interventions targeting the internal anal sphincter to relieve pain post excisional haemorrhoidectomy were included. The primary outcome measure was pain on the visual analogue scale (VAS). PROSPERO registration: CRD42021288125 Results: Of the initial 10221 search results, 45 articles were included in a qualitative synthesis, and 20 studies were included in a meta-analysis. Four studies show that botulinum toxin injection significantly reduces pain on postoperative day two, with a mean difference (MD) of -0.55 (95%CI, -1.02; -0.068), p= 0.036, I2= 5.7%. Five studies show topical diltiazem significantly reduced pain at day three: MD -1.74 (-2.86; -0.61), p= 0.013, I2=88%. Seven studies demonstrate topical glyceryl trinitrate (GTN) significantly reduced pain at day seven: -0.89 (-1.76; -0.01) p= 0.048, I2=89.1%. Four studies show lateral internal sphincterotomy did not significantly reduce pain: MD -1.40, (-4.69; 1.89) p= 0.27, I2=94%. The results are limited by high heterogeneity and the risk of bias. Conclusion: Evidence suggests that the administration of botulinum toxin or the application of diltiazem or GTN can reduce postoperative pain after haemorrhoidectomy.

6:56 am
Functional outcomes of cytoreductive surgery and hyperthermic intraperitoneal chemotherapy – a prospective cohort study
Dr Preet Makker
Purpose: Physical status and its association with surgical outcomes is poorly understood in patients with peritoneal malignancy who are candidates for cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC). The aims of this study were to characterise preoperative function in CRS-HIPEC patients and determine whether physical function is associated with postoperative outcomes. Method: Patients undergoing CRS-HIPEC between 2017 and 2021 were recruited at a quaternary referral hospital in Sydney, Australia. The primary measures were six-minute walk test (6MWT), and five-times sit to stand test (5STS). Data were collected at preoperative and postoperative day 10 time points and were analysed according to preoperative patient characteristics and postoperative outcomes such as length of hospital stay (LOS) and complications. Results: This study included 234 CRS-HIPEC patients, with a median age of 56 years. These patients performed worse on the 6MWT preoperatively compared to the general Australian population (p<0.001). Postoperatively, CRS-HIPEC patients experienced a further deterioration in 6MWT and 5STS performance and the degree of the postoperative decline in function was associated with postoperative morbidity. A higher level of preoperative physical function was associated with shorter LOS and minor postoperative complications. Conclusion: CRS-HIPEC patients are functionally impaired preoperatively compared to the general population and experience a further deterioration of physical function postoperatively. A higher level of preoperative physical function is associated with reduced postoperative morbidity; a finding which is highly relevant for preoperative optimisation of CRS-HIPEC patients.

7:03 am
Total Neoadjuvant Therapy vs chemotherapy during the ‘wait period’ vs standard chemoradiotherapy for locally advanced rectal cancer.

Mr Sergei Bedrikovetski
Purpose: Personalised total neoadjuvant therapy (pTNT) has been used routinely at our institution for the treatment of locally advanced rectal cancer since 2019. This study aimed to compare current treatment response rates with pTNT versus chemotherapy in the 'wait period' (xCRT) or standard chemoradiotherapy (sCRT). Method: This was a multicentre retrospective cohort analysis. Prospective data of all patients with rectal cancer that were considered for treatment with pTNT over a 2 year period were compared to a historical cohort of patients that had xCRT or sCRT in the WAIT Trial. pTNT patients received 8 cycles mFOLFOX6 or 6 cycles CAPOX in the neoadjuvant setting. Patients in WAIT Trial received either 3 cycles 5-FU/LV during the 10 week wait period after CRT (xCRT) or standard chemoradiotherapy (sCRT), followed by adjuvant chemotherapy. The primary outcome was complete clinical response (cCR), and secondary outcome was complete pathological response (pCR). Results: Of 189 patients with rectal cancer in the 2-year period, 72 received pTNT. Forty eight of these were matched with 49 patients from the WAIT Trial (25 had xCRT and 24 had sCRT). There was a significant difference in cCR in between the groups (pTNT n=18 (37.5%), xCRT n=3 (12.0%), sCRT n=2 (8.3%), P=0.006). Fewer patients in the pTNT group had surgery (pTNT n=27 (56.3%), xCRT n=25 (100%), sCRT n=24 (100%). Of the patients that underwent surgery, pCR occurred in 13 patients with no significant difference between groups (pTNT n=3 (11.1%), xCRT n=4 (16.0%), sCRT n=6 (25.0%), P=0.415). Conclusion: pTNT results in a significantly higher complete response rate in patients with locally advanced rectal cancer and may facilitate NOM and organ preservation.

7:10 am
Tissue slice assays as an intact colorectal microenvironment for next-generation drug development
Dr Simon Wilkins
Purpose: Immunotherapies are a new and effective class of drugs for many cancer. However, immunotherapy does not work in most colorectal cancer patients for reasons that are poorly understood. Cancer-associated fibroblasts (CAFs) suppress T cells which allows the tumour to evade the immune response. The aim of this study was to develop a new tumour microenvironment laboratory assay to identify and modulate the mechanism by which CAFs suppress T cells. Method: Freshly resected colorectal tumour samples were sliced on a vibratome into 0.5mm slices, and cultured in the presence or absence of immunotherapeutics and/or fibroblast inhibitor (COX2) cocktail. 72 hours later, T cells were isolated from slices and examined for their activation state using flow cytometry and imaging. Results Early work in in vitro T cell stimulation assays showed COX2 inhibitors restored T cell proliferation and T cell function and cytotoxicity. Lymphocytes from tissue slices cultured with Anti-PD-1 and a COX2 inhibitor contained significantly higher ($p<0.05$) numbers of proliferating CD8 T cells than untreated controls when analysed by flow cytometry. Results showed COX inhibitors and an anti-PD-1 immunotherapy checkpoint inhibitor reactivated T cells producing synergistic effects when used in combination. Conclusion Results suggest that this tissue slice assay will be a valuable addition to the human research landscape, enabling researchers to test candidate drug efficacy amidst a clinically relevant interplay of cancer cells, immune cells and stromal cells, each of which can alter a drug's efficacy. Further work will explore whether this method can detect personalised sensitivity to immunotherapy.

7:17 am
Depression After Stoma Surgery: A Systematic Review and Meta-Analysis
Dr Joshua Kovoor
Background: Depression is the lead cause of global disability and can develop due to change in body image and functional capacity associated with stoma surgery. However, reported prevalence across the literature is unknown. Accordingly, we performed a systematic review and meta-analysis aiming to characterise depressive symptoms after stoma surgery. Methods: PubMed/MEDLINE, Embase, CINAHL and Cochrane Library were searched to 19 June 2021 for studies reporting rates of depressive symptoms after stoma surgery. Risk of bias was assessed using the Downs and Black checklist and Cochrane RoB2 tool. Meta-analysis incorporated meta-regressions and a random-effects model. Registration: PROSPERO, CRD42021262345. Results: From 5,742 records, 73 studies of low to moderate methodological quality were included. Overall prevalence of depressive symptoms in stoma patients was 41% (95%CI: 33-49%). Across longitudinal studies, 6-month postoperative prevalence was 39% (95%CI: 32-47%) and 12-month postoperative prevalence was 42% (95%CI: 33-52%). Stoma groups had significantly higher rates (standardised mean difference: 24%; 95%CI: 15-32%) and risk (risk ratio: 1.49; 95%CI: 1.37-1.61) of depressive symptoms vs non-stoma groups. Overall mean Hospital Anxiety and Depression Score was 9.36/21 (95%CI: 9.12-9.65); in the borderline abnormal range. Overall mean Beck Depression Inventory score was 9.02/60 (95%CI: 7.92-10.13); in normal range. Conclusions: Depressive symptoms occur in almost half of stoma surgery patients. However, validated measures suggest this is mostly at a level of clinical severity below major depressive disorder. Stoma patient outcomes and postoperative psychosocial adjustment may be enhanced by increased psychological evaluation and care in the perioperative period.

6:00 am - 7:30 am
RESEARCH PAPERS

Scientific Session - Burn Surgery - Plaza Level Meeting Room P1

6:00 am
Burn and Wound Care Alternatives in the Current Pandemic
Dr Justin Yousef
Background: The WHO released guidance for maintaining essential health services during a pandemic (1). These can be adapted to meet the needs of burns and wound care. We review its implementation in our institution. Methods: 1 Establish simplified purpose-designed governance and coordination mechanisms to complement response protocols. 2. Identify context-relevant essential services 3. Identify mechanisms to maintain availability of essential medications, equipment and supplies. Results: 1. Designated managers in ambulatory care and surgical departments were appointed to direct their teams in line with changes to institutional responses to COVID-19. Triggers and thresholds that changed mode of care were monitored. Telehealth services were increased, and face-to-face contact reserved for whom it was absolutely necessary. Photography and video telemedicine allowed clinicians to obtain a detailed history, visually assess wounds and answer questions in a similar fashion to a face-to-face visit. 2. Non-essential surgery was cancelled. Surgical staff were trained in the appropriate use of PPE and rostered in a way that minimised staff rotations and contamination of personnel. 3. Suppliers and pharmacies were networked to allow dynamic inventory assessment and coordinated redistribution of stock. Conclusions: Healthcare workers have been forced to adapt their practices but have maintained the same standards of pre-pandemic care. The expansion of telehealth has had wider benefits beyond the care of wounds, being successful in the treatment of depression, anxiety and PTSD. 1 World Health Organization. COVID-19: operational guidance for maintaining essential health services during an outbreak: interim guidance, 25 March 2020.

6:15 am
The Role of Thromboprophylaxis for Line Associated Thrombus in Major Paediatric Burns
Dr Ashlee Kimball
Purpose: Major burns are associated with multiple risk factors for thrombosis including immobility, systemic inflammation, and prolonged use of central venous lines. Thromboprophylaxis is not routinely prescribed in the paediatric population due to the inherent lower risk of thrombotic events. This study follows the introduction of thromboprophylaxis in one centre with the aim to establish guidelines for thrombosis prevention in major paediatric burns. Method: A retrospective audit of all major paediatric burns, defined as % Total Body Surface Area (%TBSA) ≥30%, at the WCH between 1st January 2000 and 31st December 2020, pre and post introduction of thromboprophylaxis use in 2017. Coding data and the local burns database were used to identify participants with subsequent review of case files and online records. Results: Of the pre-thromboprophylaxis cohort (n=23), 6 cases (26%) were complicated by major thrombotic events. All thrombotic events were significant, involving deep vessels and required enoxaparin therapy for 3 to 6 months. Of the 6 events, 5 were secondary to Central Venous Catheters (CVC) or Peripherally Inserted Central Catheter (PICC) and 1 was diagnosed clinically as a DVT to the left calf. Following the introduction of thromboprophylaxis, none of the further 6 participants had a thrombotic event. Conclusion: The incidence of line associated thrombotic events in our study was significant albeit in a small population. Whilst further research is required, this study demonstrates targeted thromboprophylaxis may be required for major paediatric burns, especially in the setting of CVC requirement.

6:30 am
A Single Centre Retrospective Cohort Study of Paediatric Hand and Feet Burns
Dr Emma Lumsden
Purpose Death in paediatric burns is rare, morbidity is more common. This is observed particularly with hand and feet (HAF) burns. Management of these burns needs optimisation to reduce morbidity. A retrospective cohort study was performed to describe the characteristics and assess the burden of HAF burns. Methodology This is a single centre study using local burns registry data from 2014 – 2015. Patients were categorised based on the location of their burn: hands, feet, general. Descriptive data and comparative analysis was performed using Stata. Burden was assessed using: days in hospital, number of clinic presentation, length of follow up, number of operations and repeat ED presentations. Results The overall proportion of HAF burns was 37% and 13% respectively. Hands were 71% superficial partial thickness (SPT) whereas feet were 52% SPT and 41% deep PT; statistically deeper than general burns (0.0001). The median time to epithelialisation was 11 days (IQR 8 -17) for hands and 14 days (IQR 10-23) for feet. The median number of dressing changes was 1 (IQR 1-3) for hands and 2 (IQR 1-4) for feet. The median clinic presentation was 2 (IQR 2-3) for hands and 3 (IQR 2-4) for feet. 24% of hands and 42% of feet were referred to scar management clinic. Foot burns statistically had greater associated burden (<0.01) in all parameters other than number of repeat ED presentations. Conclusion Foot burns have greater associated morbidity, likely due to being statistically deeper. It is pertinent that initial management of these burns is optimised to prevent long term morbidity.

6:00 am - 7:30 am
RESEARCH PAPERS

Scientific Session - Rural Surgery - Great Hall Q3 (Use Door 9)

6:00 am
Rurality is associated with significantly higher mortality for patients with cerebral gunshot wounds
Dr Victor Kong

6:10 am
A pilot study: Where are Australia's rural and regional Female General Surgeons?
Dr Jessica Paynter
Purpose: This study aimed to explore the geographical distribution of female general surgeons in rural and regional Australia compared to their male peers, and to determine whether gender bias influences this. Secondly, to determine why Female General Surgeons' work in these areas, and how further retention and recruitment can occur. Methodology: Participants were recruited from their enrolled membership with General Surgery Australia who identified as female, and practising in rural or regional Australia. A ten minute anonymous survey was distributed with an explanatory statement assessing respondents location of practice and reasons for working where they did in rural and regional Australia. Results: The survey is currently in the distribution phase with results currently being collected. Results will be available for presentation at RACS ASC 2022. Conclusion: Rural Australian patients suffer from less access to general surgical services than their metropolitan counterparts. Recruiting general Surgeons to work in rural and regional locations has always been a challenge, and with an increasing number of female general surgeons qualifying one needs to ensure that gender specific barriers are dismantled by understanding them.

6:20 am
Rural General Surgeons perceived skills of managing vascular emergencies.
Dr Jessica Paynter
Purpose: To determine the prevalence of rural General Surgeons' managing vascular emergencies which present emergently at rural or regional location. Secondly, to determine which vascular emergencies rural general surgeons' feel competent managing, and whether we are adequately equipping trainees for such. Methodology: Participants were recruited from their enrolled membership with General Surgery Australia who and practising in rural or regional Australia. A 10 minute anonymous survey was distributed with an explanatory statement assessing respondents location of practice, location of nearest vascular surgeon, Intensive care Unit services, if they received any vascular training, which vascular conditions they managed and, what they felt competent managing and whether they believed their general surgical training equipped them with the competence for managing such. Results: The survey is currently in the distribution phase with results currently being collected. Results will be available for presentation at RACS ASC 2022. Conclusion: Rural Australian patients suffer from less access to vascular surgical services than their metropolitan counterparts. Training general surgeons to manage vascular surgical emergencies in rural and regional Australia, where nil vascular support is available is important to ensure that hospitals can provide emergency surgical services.

6:30 am
Rural General Surgical Fellows: Who is recruited, returns and remains?
Dr Jessica Paynter
Purpose: Recruiting and retaining general surgeons in rural areas is a long-standing issue. This project was used to determine the number of Rural General Surgeons who remained long-term in their rural fellowship location, and why they chose to remain. Method: A retrospective data collection at a single regional hospital occurred from 2011-2021 reviewing the rural General Surgical Fellows. These individuals were emailed a ten-minute optional survey analysing their background (age, history, location of childhood), general surgical training, fellowship experience (surgical exposure, income, housing, research and teaching opportunities), rural surgical outreach provision and long term career goals. Results: An eighty percent response rate occurred. Fifty percent of rural General Surgical Fellows from 2011-2021 continue to work at the regional centre as General Surgeons. Fifty percent of the rural General Surgical Fellows continue to provide rural surgical outreach services to the regional catchment. Forty percent of the Fellows chose to return to the regional centre based upon their rotating registrar experience to the regional centre. Only 20% of the rural General Surgical Fellows had a rural background. The primary reasons attributed for recruitment without registrar experience at the centre included rural lifestyle, surgical centre reputation and remuneration. The main motivation to remain or return as a rural General Surgeon included surgical diversity and business opportunities. Conclusion: A single regional centre's review of of their Rural General Surgical Fellowship program revealed reputation and previous exposure positively influences recruitment, however business and lifestyle opportunities alongside surgical diversity are critical to retention.

6:40 am
Intraoperative ultrasound guided wide local excision of breast cancer – a cost effective option with comparable oncological outcomes in a rural setting.
Dr Christo Joseph
Purpose: Assess oncological outcomes and utility of use of intra-operative ultrasound in breast cancer wide local excision when compared with other localisation methods such as hook wire guidance, palpation guided and radio-guided excision. Methodology: All patients who underwent ultrasound guided wide local excision of

breast lesions for breast cancer at a rural hospital in New South wales between January 2019 and January 2022 were recruited. Indication for surgery was breast screen detected, biopsy confirmed breast cancer. All patients had their breast lesions marked with ultrasound prior to incision following the induction of anaesthesia. Retrospective review of prospectively collected data from each of the patient's hospital records were performed including age, sex, BMI, size of lesion, tumour grading and pathology on the lesion. Outcomes were reviewed based on the pathological diagnosis and the resection margin identified as well as the weight of the operative specimen as recorded in the pathology report. Results: A total of 79 patients were recruited with all patients being female. The average lesion size was 17.9mm with an average excision weight of 59.2g. Of the 79 patients, 69 had complete excisions (87.3%) with ultrasound guided wide local excision. Of those 10 patients with positive margins, 7 had re-excision surgery (Re-excision rate 8.9%) after discussion with the patients and Multidisciplinary review. Positive margin rates by pathological diagnosis were 5 (8.3%), 0, 4 (50%) and 1(50%) for IDC, ILC, DCIS and Papillary carcinoma respectively. Conclusion: Intra-operative Ultrasound guided Wide local excision is a safe, more comfortable and cost-effective local treatment for breast cancer in a rural setting.

6:50 am
Outcomes of the overweight and obese trauma patient in the rural setting
Dr Rachel Colbran
Purpose: Overweight and obese patients are more prevalent in rural and remote areas, and are of major public health concern in Australia. We aimed to evaluate the mortality and morbidity of overweight and obese trauma patients in the rural Australian context. Method: This was a retrospective cohort study on 207 major trauma patients (injury severity score [ISS] > 12) treated at the Mackay Base Hospital between 2018 – 2021. Data was extracted from the Mackay Base Hospital trauma database. Outcomes were compared between body mass index (BMI) groups (healthy weight BMI < 25, overweight BMI 25 – 30 and obese BMI > 30). Results: There were 164 males (79.2%) and 43 females (20.8%). The average BMI was 27.09 ± 5.46. 77 (37.2%) of patients were in the healthy weight category, 79 (38.2%) were overweight and 51 (24.6%) were obese. The majority of trauma was blunt (n=202, 97.6%). Compared to patients with lower BMI, patients with higher BMI were significantly more likely to require intubation pre-hospital or in emergency, required a longer ventilator time, and were more likely to suffer from cellulitis ($p<0.05$). There were no significant differences in need for ICU admission, length of ICU stay, requirement for surgery, duration of surgery, hospital length of stay, or mortality ($p>0.05$). Conclusion: The majority of trauma presentations in our rural community are in overweight or obese patients. There are no major differences in mortality or morbidity, although overweight and obese patients are more likely to require intubation and longer ventilation times than healthy counterparts.

7:00 am
Emergency Neurosurgery Performed by General Surgeons: A Systematic Review
Dr Joshua Kovoor
Background: In under-resourced settings, general surgeons may be called upon to perform emergency operations within other specialties. Accordingly, we aimed to characterise patient outcomes after emergency neurosurgery performed by a general surgeon or general surgery trainee. Methods: PubMed, Embase and the Cochrane Library were searched to 30 May 2021 for observational studies reporting outcomes after emergency neurosurgery performed by a general surgeon. Study screening, data extraction, and risk of bias using the Downs and Black checklist were performed in duplicate. Data on setting, operation undertaken, mortality rates and complications were extracted. Meta-analysis was planned but not possible due to heterogeneity. This study is registered with PROSPERO, CRD42021258097. Results: From 632 records, 14 retrospective observational studies were included, covering a total sample of 1,988 operations. Four studies were from Australia, and the remaining 10 were, respectively, from 10 other countries. Most common operations performed were decompressive surgery with burr holes or craniectomy for head trauma and insertion of intracranial pressure monitors. Rural hospitals were the most common settings. Mortality rates for procedures performed by general surgeons at latest follow-up were heterogenous, ranging from 5% for evacuation of chronic subdural haematoma in Kenya to 81% in head injured patients in a Hong Kong study. Conclusions: This is the first systematic review that synthesises the literature to characterise patient outcomes after neurosurgical operations performed by a general surgeon. Findings from this study may benefit global surgery performed in rural, remote, military or humanitarian settings.

7:10 am
A series of the first 13 combined Magseed and Magtrace cases in a single centre in Regional Victoria.
Dr Jessica Wynn
AIM The standard journey for a regional patient with impalpable breast cancer wishing to undergo breast conserving surgery involves placement of a hookwire and lymphoscintigraphy pre-operatively. These procedures are limited in the regional centres, can delay theatre, increase patient distress and require overnight stays away from home. The Sentimag technology uses magnetism for localisation of preoperatively inserted Magseeds (for impalpable lesions) and Magtrace (for sentinel node biopsy). This avoids hookwire placement and nuclear medicine, and can be placed up to one month prior to surgery. This study evaluates the first thirteen cases using this combined technique by a single specialist breast surgeon in a regional centre. METHODS Thirteen consecutive patients were enrolled with ethics approval. Magseeds were placed under image guidance preoperatively, and Magtrace injected at time of pre-operative

consultation. RESULTS The median age of patients was 60 (range 27-78). Average distance from hospital is 81.63km (2.8-238 km). The average operating time was 1:54 (range 1:17-2:39) and mean total journey time 8:54 (6 hours - 23 hours). Earliest time-out 8:40 am. Re-excision rate was 23% (n=3), however in each re-excision case the Magseed was near the axilla in the upper outer quadrant and therefore technically difficult. There were no significant adverse outcomes. CONCLUSION In this preliminary study Sentimag localisation appears to be safe and reliable when used in combination. Re-excision rates were only slightly higher than reported in the literature and predicted to downtrend with ongoing learning curve.

6:00 am - 7:30 am
RESEARCH PAPERS

Scientific Session - Orthopaedic Surgery - Boulevard Level Meeting Room B3

6:00 am
Publication rate of abstracts presented at the Australian Orthopaedic Association Annual Scientific Meeting
A/Prof Nicole Williams
Purpose: Presentations at scientific conferences are an important method of research dissemination, with abstracts often used to inform clinical practice. Abstract to publication ratio is a commonly used tool for determining meeting quality. The aim of this study was to determine the publication rate for abstracts presented at the Australian Orthopaedic Association Annual Scientific Meeting (AOA ASM) between 2012 and 2015 inclusive and identify reasons for non-publication. Methodology: MEDLINE, PubMed and Google Scholar were searched to determine whether each abstract presented at AOA ASMs between 2012 and 2015 was associated with a full text publication in a peer-reviewed journal. Where a publication could not be located, the presenter was contacted to confirm the reason for non-publication. Results: A total of 1130 abstracts were submitted (951 oral and 179 posters), and 573 resulted in full-text peer-reviewed publications (51%). The majority of publications (73%) were published within two years of presentation. There was no difference in likelihood of publication for oral presentations compared to posters, nor in the rate of publication across the four years of meetings. Common reasons for non-publication were lack of time (32%), publication considered low priority (27%) and journal rejections (22%). Conclusion: The overall publication rate for abstracts presented at the AOA ASM is 51%, which is an increase from the 1998 ASM (31%). This publication rate is higher than many similar Australian meetings and on par with other international orthopaedic and subspecialty meetings. Future research should investigate potential publication bias and methods to minimise barriers to publication.

6:15 am
Clavicle fixation to reduce analgesic requirements and improve respiratory function in trauma patients with associated chest wall injuries
Dr Helena Franco
The association between clavicle fractures with concomitant rib fractures with higher rates of pain and respiratory complications indicates the requirement for further research as to whether traumatic clavicle fractures with concomitant rib fractures should be treated operatively or non-operatively. A retrospective matched cohort study was conducted on 62 patients who sustained a clavicle fracture and ipsilateral rib fracture/s between January 2014 and June 2020. Patient matching was conducted based on age, sex, year of injury and injury severity score. The analysis sought to quantify the differences between the study group (operative clavicle fixation) and the matched control group (conservative management) with respect to number of analgesic modes used, and respiratory function. The large effect sizes estimated using GLMM indicated clinically relevant differences between the groups with respect to the temporal decrease in the number of required analgesic modes (R2=95%) and the temporal improvement in oxygen saturation (R2=79.2%) as well as the temporal decline in the daily supplemental oxygen requirement (R2=92.2%). A moderate degree of clinical relevance was found in the difference with respect to the temporal improvement in the daily respiratory rate (R2 = 46.9%), but this effect size was considered potentially not clinically significant. This study supported the hypothesis that operative fixation will reduce in-patient analgesia requirements and improve respiratory parameters in patients with chest wall injuries.

6:30 am
The Burden of Fracture Related Infection: a 10-Year Population-Based Epidemiological and Health Economic Study
Dr Andrew Foster
Purpose: Fracture related infections (FRI) are post-operative complications following trauma surgery with a significant burden to the individual patient and healthcare system. There’s a paucity of epidemiological and health economic data describing the burden of FRI to guide resource allocation. We aim to use a patient-linked dataset of trauma patients in Queensland over a 10-year period to describe the prevalence and inpatient cost of FRI. Methods: We performed a secondary analysis of a prospectively collected administrative database (Queensland Hospital Admitted Patient Data Collection) between 01/01/2007 and 31/12/2016. Operation codes were used to identify a cohort of trauma patients who had an orthopaedic

device implanted, with ICD-10-AM diagnosis codes used to identify patients that developed a related infection in the subsequent 24-months. Inpatient treatment costs were estimated using diagnosis-related groups (DRGs). Results: There were 111,438 trauma patients surgically treated with internal fixation or arthroplasty, of which 2,781 (2.5%) developed a FRI. The overall median length of stay for patients with FRI was 15 days versus 3 days for uninfected patients. Total inpatient costs were $36,000 per patient with an FRI compared to $11,000 without infection. FRI cost Queensland Health $133 million over 10 years for inpatient care alone. Conclusions: There is a large burden of FRI, which has a significant personal and health economic cost. Future work will identify demographical and clinical predictors of infection. Endeavours to innovate the prevention and treatment of FRI will have a large upside potential.

6:45 am
Outcomes of early versus delayed weight-bearing with intramedullary nailing of tibial shaft fractures: A systematic review and meta-analysis
Dr Ameya Bhanushali
Purpose Early weight bearing (EWB) is often recommended after intramedullary nailing of tibial shaft fractures, however the risks and benefits have not been critically evaluated in a systematic review or meta-analysis. Therefore, the aims of this study were to perform a systematic review and meta-analysis comparing EWB and delayed weight-bearing (DWB) after intramedullary nailing of tibial shaft fractures and assess the relationship between weight-bearing, fracture union and healing. Method This review included studies comparing the effects of EWB, defined as weight-bearing before 6 weeks, and DWB on fracture union and healing. PubMed, Embase, CINAHL, and the Cochrane Library were searched from inception to 9 May 2021. Risk of bias was assessed using the Down's and Black Checklist and Cochrane Risk of Bias Tool 2.0. Data were synthesised in a meta-analysis, as well as narrative and tabular synthesis. Results Eight studies were included for data extraction and meta-analysis. The analysis produced mixed results and found a significant decrease in mean union time (-2.41 weeks, 95% confidence interval: -4.77, -0.05) with EWB and a significant Odd's Ratio (OR) for complications with DWB (OR: 2.93, 95% CI: 1.40, 6.16). There was no significant difference in rates of delayed union, non-union, re-operation and malunion. Conclusion The included studies were of moderate risk of bias and demonstrated shorter union time and fewer complications with EWB. However, current evidence is minimal and has significant limitations. The role of EWB in high-risk patients is yet to be examined. Further well-designed, randomised studies are required on the topic.

7:00 am
Return to sport after forearm fractures in children: a scoping review and survey
Dr Ameya Bhanushali
Purpose The question about earliest return to sport (RTS) after paediatric forearm fractures is frequently asked to treating doctors. Despite this there are few published recommendations on the topic and fewer that are supported by evidence. Therefore, the aims of this study were to summarise existing published recommendation for RTS after paediatric forearm fractures, and to conduct a survey to report what recommendations are routinely given in practice. Methods A scoping review was performed on Ovid MEDLINE, Cochrane Central Register of Controlled Trials, Embase, Scopus and Google Scholar, in accordance with the Joanna Briggs Institute guidelines. Sixty-four orthopaedic surgeons were anonymously surveyed asking for recommendations regarding RTS after paediatric forearm fractures. Results Twenty-three publications informing recommendations for RTS were retrieved. Distal radius buckle fractures safely returned to sport by four weeks after initial injury, while survey respondents recommended over six weeks. Survey respondents scored fracture stability, age, treatment method and level of competition highly for relevance to RTS recommendations. Australian respondents prescribed longer RTS intervals. Diaphyseal and complete fractures were also prescribed longer RTS intervals. Conclusions Distal radius buckle fractures may RTS by four weeks after initial injury, sooner than commonly allowed. Diaphyseal and complete fractures should abstain from sport for longer than otherwise comparable fractures. However, evidence informing recommendations for RTS after paediatric forearm fractures is limited. Further detailed studies are required to inform these recommendations.

7:15 am
Osseointegration after Limb Lengthening
Mr Anuj Chavan
Purpose Osseointegration (OI) improves quality of life and mobility for amputees discontent with their traditional socket prosthesis (TSP). Some amputees desiring OI have residual bone much shorter than marketed implants, posing risk for failure to integrate. Limb Lengthening Nails (LLNs) can increase bone length to accommodate OI. This study provides the first report of patient outcomes of OI after lengthening. Methodology 4 males 3 females age 39.4±15.9 years, with transfemoral amputation 23.1±20.6 years prior, underwent lengthening and OI. Questionnaire for Persons with Transfemoral Amputation (Q-TFA) assessed use, mobility, problems, and global health. Medicare functional class levels (K-levels) quantified benefit of prosthesis. Lengthening was performed with 14×130 mm Freedom Nail. Two press-fit OI implants were utilized, 140 and 160mm. Fisher's Exact Test compared frequencies and Student's t-test compared means. Significance was set as $p<0.05$. Results Residual femurs started at 97.6±42.7 mm and were lengthened 49.0±16.3 mm, 98±45% of goal. All patients had OI performed, at 382±83 days after the initial LLN surgery. 6 patients exhibited improved K-levels at least >2 after OI. Patient self-rating of prosthesis function, problems, and amputee situation did not significantly change. 4 patients required additional surgery during

lengthening and 6 following OI. Conclusion Short residual femurs which make TSP use troublesome can be lengthened using LLNs and successfully achieve OI. However, it is imperative to counsel patients that additional surgery to address inadequate regenerate or to remove painful hardware may be necessary. This may improve the amputee's expectations before beginning on a potentially arduous process.

6:00 am - 7:30 am
RHINOLOGY

Scientific Session - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

6:00 am
Sinister lesions in the sinuses: radiological differentiation between inflammatory disease and tumours
Dr Jennifer Gillespie
Paranasal sinus CTs are commonly ordered by both GPs and specialists for the investigation of symptoms such as facial pain, post-nasal drip or nasal obstruction. In the vast majority of cases the findings are normal or related to benign sinonasal inflammatory disease. Rarely, there may be an alternative process that is important to recognise at the time of imaging. These include sinonasal tumours, encephaloceles, aggressive infections and pathology elsewhere, such as the teeth or brain. A series of cases will be presented as well as some pearls and pitfalls to consider when reviewing your patient's imaging.

6:20 am
Difficult to treat CRS, what to do when guideline therapy doesn't work
Professor Anders Cervin

6:40 am
Minimal vs. extensive sinus surgery?
Professor Darlene Lubbe

7:00 am
Aesthetics in functional septorhinoplasty
Dr Martin Hanson

7:20 am
Discussion

6:00 am - 7:30 am
SUSTAINABLE BREAST IMAGING - WHAT IS ENOUGH?

Scientific Session - General Surgery, Breast Surgery - Great Hall Q2 (Use Door 8)

6:00 am
Sustainable breast imaging in post COVID Australia
Adj Professor Thomas Lloyd

6:20 am
MR spectroscopy in breast imaging
Dr Fuquan Jeremy Khoo

6:40 am
How do we tackle density
Associate Professor Karin Steinke

7:00 am
Field Cycling MRI
Mr Yazan Masannat

7:20 am
Discussion

6:00 am - 7:30 am
THE PAIN CLINIC AND MANAGEMENT OF CHRONIC PAIN

Scientific Session - General Surgery, Pain Medicine & Surgery - Plaza Level Meeting Room P5

6:00 am
Optimising post trauma pain, including the appropriate use of opioids
Dr Malcolm Hogg

6:20 am
What surgeons should know about addiction
Assoc Prof Paul Clark

6:40 am
Multidisciplinary pain management: past and future directions
Dr Gunjeet Minhas

7:00 am
Can surgeons prevent chronic post operative pain?
Associate Professor Andrew Zacest

7:20 am
Discussion

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04 May 2022

6:15 am - 7:30 am
JAW SURGERY

Scientific Session - Craniomaxillofacial Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

6:15 am
Craniofacial features and treatment outcomes in patients with Robinow Syndrome
Dr Andrew May
Robinow Syndrome (RS), originally described in 1969, is an inheritable condition with craniofacial features as part of its wide spectrum of presentation. Due to the rarity of this syndrome, there is a paucity of literature to document the nature of these craniofacial features, and the outcomes of surgical management have not previously been described. This study aimed to highlight the craniofacial features and treatment outcomes for patients with Robinow Syndrome. A retrospective cohort study was performed by identifying patients with Robinow Syndrome reviewed at a tertiary cleft and craniofacial unit over the period 1991 to 2021 inclusive. Demographics, craniofacial features and treatment strategies were recorded and summarised. Five patients with a clinical diagnosis of RS were identified. The most common craniofacial abnormalities were orbital hypertelorism and midface hypoplasia, which were present in all patients. One patient presented with a cleft palate, which was repaired as per unit cleft protocol. Functional issues commonly included skeletal malocclusion, while aesthetic issues were also reported. Two patients underwent maxillary advancement surgery at skeletal maturity to improve occlusion with no complications. Patients with Robinow Syndrome have common presentations of midface hypoplasia and hypertelorism, which can result in both functional and aesthetic issues. Because RS also presents with dental, orthodontic, orthopaedic, developmental and urogenital features, treatment should be as part of a multi-disciplinary team. Principle aims of craniofacial surgical management are likely to involve achieving good dental occlusion and acceptable facial balance.

6:25 am
Palatal length and shape change following maxillary advancement in the cleft patient
Dr Andrew May
Background: Cleft palate patients are often considered for advancement at skeletal maturity given the relative maxillary growth restriction caused by the cleft and by cleft surgery. VPI is an adverse outcome following maxillary advancement and has been reported in 20-84% of cases. This study aimed to define the change in palatal length and shape following maxillary advancement in order to understand how movement of the maxilla changes the structure of the soft palate. Methods: This was a retrospective cohort study of lateral videofluoroscopy imaging for cleft palate patients undergoing Le Forte I maxillary advancement. The length of the velum and the genu angle were measured in the open and closed position using key landmarks and compared between pre- and post-operative imaging. Results: Ten patients were identified. The mean distance of maxillary advancement was 10.5mm. The average gain in velar length was 3.6mm (p

6:35 am

Mandible fractures in patients with dental braces: treatment options and literature review
Dr Mia Jung
Purpose: Pre-existing orthodontic brackets ('braces') provide an interesting challenge for fixation of mandibular fractures. A literature review was performed to assess the correlation between mandible fractures and orthodontic brackets. Case report: A 20-year-old male patient presented with left-sided facial swelling after a boxing injury. CT facial bones revealed a minimally displaced left angle of mandible and an undisplaced right parasymphyseal fracture. The patient had no significant past medical history apart from orthodontic brackets for class II malocclusion. The patient underwent operative fixation of the mandibular fractures: fixation was only required for the angle of mandible fracture with two 4-hole plates, while the parasymphysis fracture remained undisplaced. Occlusion remained baseline and no intermaxillary fixation was required. Discussion: There were no studies that examined the effect of orthodontic brackets on mandibular fracture patterns. The existing literature focuses on the use of orthodontic brackets as an alternative to intermaxillary fixation in certain patient groups including paediatric fractures. Studies since 1998 show good results in maintaining occlusion and aligning fracture patterns in select adult and paediatric groups. Conclusion: Orthodontic brackets could be considered a protective factor for mandibular fracture patterns, minimising fracture displacement and replacing intermaxillary fixation to a certain degree. Given that a considerable percentage of adolescent patients wear braces, this is an interesting point to consider in the surgical planning of any mandible fractures they may sustain.

6:45 am
Subcondylar Fractures of the Mandible: A Comparative Costing Study
Dr Isobel Yeap
Purpose Despite subcondylar fractures accounting for between 20 – 40% of all mandibular fractures, controversy regarding their ideal management remains. There are three accepted methods of surgical treatment for such fractures: open reduction internal fixation (ORIF), closed reduction with mandibulo-maxillary fixation (MMF) and endoscopic fixation. To date, no studies exist that compare the cost-effectiveness of these three methods. Method We conducted a retrospective audit of patients with subcondylar fractures treated surgically over the past two years at a tertiary trauma centre in Sydney, Australia. Using activity-based funding data, we compared the total cost of patient's initial admissions. Clinical outcomes such as length of stay, planned re-operation, unplanned re-operation, malocclusion, infection and facial nerve palsy were also compared. Results 17 patients were identified: 4 with isolated subcondylar fractures (subcondylar group) and 13 with a subcondylar fracture and a parasymphyseal fracture (combined group). In the combined group, average cost of initial admission was $11,351 for the ORIF group, $11,165 for the MMF group and $12,926 for the endoscopic group. Average length of stay was 1.35 days for the MMF group and 1.5 days for the ORIF group. Average number of clinic visits was 2.9 for the MMF group and 2.3 for the ORIF group. 3/4 ORIF patients developed a temporary facial nerve palsy. Conclusion The average cost of initial admission for MMF, ORIF and endoscopic fixation were similar. Patients undergoing MMF almost always required a second procedure for removal of MMF. However, ORIF patients had a high risk of temporary facial nerve palsy and required almost as many post-operative clinic visits.

6:55 am
Impact of Le Fort I Osteotomy on Velopharyngeal Function in an Australian Cleft Lip and Palate Population
Dr Hamish Moore
Purpose: Cleft lip with or without cleft palate (CLP) is a common group of congenital malformations, affecting 1 in 700 live births globally. Maxillary hypoplasia is seen in up to 40% of affected patients, which may have both functional and aesthetic implications for the individual. Le Fort I Osteotomy and Maxillary Advancement (LFI) has been used to correct maxillary hypoplasia for almost 60 years, with velopharyngeal insufficiency (VPI) a recognised adverse outcome of the procedure. This study examines the impact of LFI on velopharyngeal function in an Australian CLP population. Methods: A retrospective cohort study was performed. CLP patients undergoing LFI since 2002 were identified from the medical records. Those with non-syndromic CLP, and satisfactory pre- and post-operative Nasoendoscopic (NE) assessment were included in the study. Pre-and post-operative velopharyngeal (VP) function was assessed via NE using a simplified 5-point Golding-Kushner scale. The presence of a Passavant's ridge was also noted. Results: 40 patients who underwent LFI were identified, with 16 (40%) of these satisfying the inclusion criteria. 10 were male (62.5%) and 6 female (37.5%). A positive correlation was found between pre- and post-operative VPI ($z=2.802$, $p=0.0078$). Females were found to be at greater risk than males ($p=0.013$), but the presence or absence of a Passavant's ridge was not associated with deterioration in VP function ($p=0.069$). Conclusion: LFI had an overall negative impact on VP function in CLP patients, with female patients being at greater risk. These findings add to the limited published data in the area, and highlight the need for appropriate patient selection and counseling prior to this surgical intervention.

7:05 am
Point-of-care 3D printed surgical guides for facilitating transoral mandibular reconstruction
Dr Aaron Kovacs
Purpose: Application of load-bearing osteosynthesis plates is the current gold-standard management for complex mandibular fractures. Traditionally, this has required a transcutaneous submandibular approach, carrying with it the risk of damage to the facial nerve and obvious extraoral scarring. The existing literature describes the use of computer-assisted design and manufacturing (CAD/CAM) technology through external

vendors to aid transoral mandibular reconstruction. However, the reliance on third-party manufacturers comes with significant drawbacks, notably increased financial costs and manufacturing delays. Methods: We describe our experience in using point-of-care 3D printed surgical models to aid with the application of mandibular reconstruction plates. Utilising a virtual 3D reconstruction of the patient's pre-operative CT facial bones, we fabricate a custom model of the patient's mandible with the department's in-house 3D printer. Stock plates are subsequently pre-bent and adapted to the 3D model, with plate and screw position marked and screw lengths measured with callipers. Results: By using a custom 3D-printed surgical model to pre-contour the plates, we are able to position stock reconstruction plates via a transoral approach. Moreover, our unit's utilisation of in-house CAD/CAM software and hardware allows us deliver a same-day turnaround for both surgical planning and performing the operation. Conclusion: Patient-specific surgical planning guides can facilitate the safe and efficient transoral application of mandibular reconstruction plates. Moreover, the use of point-of-care CAD/CAM technology ensures timely and cost-effective manufacturing of the necessary biomodel.

7:15 am
Minimally delayed scaffold-based reconstruction of mandibular defects: the Goldilocks option for bony reconstruction?
Dr Henry Beem
Traditionally an all-in-one resection and definitive reconstruction is considered gold standard where oncological margins can be guaranteed, efficient healing of a functional and aesthetic reconstruction can be achieved such that the patient can go directly on to receive life prolonging (or disease limiting) adjuvant therapies. Oral squamous cell carcinoma invading the mandible presents several challenges to the reconstructive surgeon, particularly in the setting of inadequate oncological margins. A recent review of local data has indicated that there is potentially a patient cohort in this population that would benefit from a reconstructive protocol that deviated from the standard one-stop-shop approach. Comorbid patients are high risk for complications due to longer operative times and wound healing problems that compound length of stay and delay adjuvant treatment. This cohort may benefit from a primary soft tissue reconstruction that sees them get off the operating table and out of hospital with less complications that are associated with longer procedures and without the morbidity of a bony reconstruction donor site while permitting certainty around oncological margins. This can be followed by a minimally delayed scaffold-based reconstruction that addresses the long-term issue of function without the added traditional donor site morbidity. We describe here the case of a patient who underwent primary soft tissue reconstruction, received adjuvant radiation, and went on to receive a novel patient specific scaffold-based composite reconstruction that has shown early osteogenesis that may mitigate some of the aforementioned issues.

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04 May 2022

7:00 am - 7:30 am
KEYNOTE LECTURE - MR ANDREW HART (GLASGOW, UK)

Keynote Lecture - Hand Surgery - Mezzanine Level Meeting Room M9

7:00 am
Nerve regeneration on the horizon
Mr Andrew Hart

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04 May 2022

8:00 am - 9:30 am
ADVANCED SQUAMOUS CELL CARCINOMA

Scientific Session - General Surgery, Surgical Oncology - Mezzanine Level Meeting Room M2

8:00 am
How to identify and approach the large or at-risk primary SCC
Dr Gerard Bayley

8:20 am
The emerging trend of regionally recurrent SCC and how is the approach to surgery altered

Professor Andrew Barbour

8:40 am
What is the role for radiotherapy in advanced SCC
Professor Sandro Porceddu

9:00 am
Step aside my surgeon and radiation oncology colleagues, immunotherapy for advanced SCC is about to make you redundant!
Dr Rahul Ladwa
Cutaneous Squamous cell carcinoma (cSCC) is the second most common non-melanoma skin cancer worldwide. Although cure is frequent with the use of surgery and post-operative radiotherapy in cSCC, it can be complex in locally advanced disease requiring major soft tissue reconstruction leading to significant morbidity and deformity in an ageing population with complex comorbidities. Response to PD-1 immune checkpoint inhibitor has been impressive (47%) and durable in locally advanced/ metastatic cutaneous SCC. Earlier use in the neoadjuvant setting has shown a high complete pathological response (55%). We explore using immunotherapy earlier in the treatment paradigm of resectable cutaneous SCC to eliminate the need for surgery and post-operative radiotherapy.

9:20 am
Discussion

8:00 am - 9:30 am
BIOFABRICATION IN HAND SURGERY

Scientific Session - Hand Surgery - Mezzanine Level Meeting Room M9

8:00 am
Bone
Dr Marie-Luise Wille

8:20 am
Ligament
Professor Randy Bindra

8:40 am
Biofabrication Strategies for Skin Reconstruction in Burn Patients
Dr Abbas Shaifee
Non-healing wounds and skin loss are major healthcare problems around the world costing billions of dollars and impacting the quality of life of many per year. Recent technologies such as tissue engineering, biomaterial science, and in situ 3D printing have significantly advanced the development of skin tissue substitutes with great clinical potential. The Burns, Skin & Wounds Program at Herston Biofabrication Institute, aims to utilize advanced biofabrication strategies across all stages of severe burn injury treatment journey, from patient assessment through to surgery and scar management. Additionally, this program is focused on optimizing skin culture techniques and developing bioengineered skin substitutes as alternatives to autologous skin grafts for patients with skin loss. These emerging techniques have the immense potential to radically revolutionize therapies for patients with large non-healing wounds and skin loss.

9:00 am
Vessels
Dr Christoph Meinert

9:20 am
Discussion

8:00 am - 9:30 am
COMPLEX REGIONAL PAIN SYNDROME AND NEUROMODULATION

Scientific Session - Pain Medicine & Surgery - Plaza Level Meeting Room P5

8:00 am
Neuromodulation for pain - where have we come from and where are we going?
Associate Professor Marc Russo

8:25 am
What is CRPS and underlying concepts of management?
Dr Peter Georgius

8:40 am
Management of CRPS with neuromodulation - evidence and outcome
Associate Professor Matthew Keys, Associate Professor Matthew Keys

8:55 am
Sacral Neuro-modulation: treating chronic pelvic pain and voiding dysfunction (evidence and outcomes)
Dr Anthony Kiosoglous

9:10 am
Discussion

8:00 am - 9:40 am
HEAD AND NECK ONCOLOGY CONTINUED / OTHER

Scientific Session - Otolaryngology Head & Neck Surgery - Mezzanine Level Meeting Room M3

8:00 am
Robotics in head and neck surgery
Dr Ryan Sommerville
Transoral robotic surgery (TORS) has a place in the treatment of oropharyngeal squamous cell carcinoma (SCC), with multiple large studies striving to find that place. Critical outcome measures of cure, effect on swallow and quality of life are central to that discussion. Outcomes of the major studies and their teaching points will be discussed. Within that, there are objective measures such as extent of clear margins and nodal burden that guide treatment philosophies, and which are evolving. TORS may also be of use in less routine situations, allowing it to further find its place in head and neck surgery. The Royal Brisbane and Women's Hospital TORS outcomes and philosophies of management in oropharyngeal p16 positive and negative SCC, unknown primary assessment and salvage surgery will form part of that discussion.

8:20 am
Liquid biopsy and P16 tumours; a novel approach in tumour diagnostics
Dr Sarju Vasani

8:40 am
Surgical approaches to the neck, and the deep neck spaces
Sarah Peña

9:00 am
Laryngopharyngeal reflux: contemporary research
Dr Nathan Quigley

9:20 am
Orbit-preserving resection for large-nerve perineural spread: an anatomical study
Dr Lachlan Crawford
Purpose To describe the surgical anatomy relevant to an orbit-preserving resection of perineural spread, to quantify the maximal extent of resection via orbit-preserving techniques, and to discern the advantages and disadvantages of different visualisation aids. Methodology Five embalmed cadaveric heads (ten orbits) were prepared via latex vascular injections to the internal carotid artery, vertebral artery and internal jugular vein. Illumination and visualisation were facilitated using a 4mm rigid zero-degree endoscope or a 3D-VITOM operating exoscope (both devices: Karl Storz, Tuttingen, Germany) and a display monitor in alternating fashion. After the orbital rim was reached, the supraorbital and supratrochlear nerves were identified and dissected posteriorly aided by malleable retraction until no further dissection could be achieved without disruption of the orbital bones or musculature. Results The overall mean resection length in this study was 40.9mm, with a range from 38-45mm. Mean resection length was 40.4mm for endoscopic cases and 41.4mm for exoscopic cases. Exoscopic visualisation offered the advantage of a less cluttered operating field. Endoscopic visualisation was advantageous in the posterior orbit due to the broader field of view. The supraorbital and supratrochlear nerves unified an average of 18.2mm posterior to the orbital rim. No aberrant deep branching patterns were identified which would render such a resection oncologically unsound. Conclusion This study supports the technical feasibility of orbit-preserving resection of the frontal nerve and its branches. The mean extent of resectability achieved in this study of 40.9mm would likely allow for resection of most Williams Zone 1 disease.

8:00 am - 9:30 am
KEYNOTE LECTURE - DR ANGELA LAMARCA (SPAIN)

Keynote Lecture - HPB Surgery - Sky Level Sky Room

8:00 am
Molecular targeted therapies: Ready for prime time in biliary tract cancers?
Dr Angela Lamarca

8:30 am
Discussion

8:00 am - 9:30 am
MEDICAL EDUCATION: CURRENT AND EMERGING LINES OF ENQUIRY

Scientific Session - Surgical Education - Sky Level Meeting Room S1

8:00 am
Stressors for trainees in the OT and impact on learning
Dr Jeremy Simcock

8:20 am
Embracing diversity in surgical training: A qualitative study of underrepresented minorities in SET
Dr Claudia Villanueva
Background The Royal Australasian College of Surgeons (RACS) provides surgical care to a diverse patient population across Australia and New Zealand (ANZ). To improve the quality-of-care individuals receive, the surgical workforce must reflect the population it serves. Achieving diversity within RACS will strengthen therapeutic relationships with patients and promote an inclusive culture. This study investigates the perspectives of underrepresented minority (URM) trainees to highlight barriers and enablers for the selection and completion of the RACS Surgical Education and Training (SET) program. Methods This qualitative study used online, semi-structured, in-depth interviews of URM trainees. Participants were recruited by self-identification and were invited to participate based on inclusion criterion. Interviews took place between August and October 2020, were transcribed and de-identified. Framework analysis was used to identify themes. Findings Barriers were grouped into eight broad areas: discouragement; structural racism, discrimination and unconscious bias; language barriers; policies and procedures; lack of role models; homophobia; sexual harassment and women in surgery. The enablers that facilitate their training experience were identified as support (families, friends and mentors), self-belief, representation, opportunity and balance. Conclusion The findings offer guidance to RACS and the surgical community to explore new strategies to improve the experience of URM SET trainees. While on a small scale, the study draws directly on the URMs' experiences to inform strategies addressing equity, diversity and inclusion. The aim is to produce a diverse surgical workforce that better delivers healthcare services to a diverse population.

8:40 am
Surgeon: Superhero or mere mortal
Dr Amiria Lynch
Introduction There is a prevalent stereotype of a surgeon that is certain, decisive, and confident. The lived experience of a surgeon does not always match this stereotype, leading to personal and professional identity dissonance. There is little known about the effects of deviation from the stereotype, such as showing vulnerability. Aims This study explored how deviation from the surgical stereotype by surgical trainers showing vulnerability is perceived by surgeons in training. Methods This was a qualitative study using semi-structured individual interviews with ten surgical trainees from three surgical specialities within a major teaching hospital network. The interviews explored their experiences of displays of vulnerability by surgical trainers. The interviews were audio recorded, transcribed, and then analysed using thematic analysis. Findings Four main themes were identified: The Imperfect-Perfect Surgeon Paradox; Vulnerability Is a Superpower; Risks with Hiding Imperfection; and Navigating the Tension Between Vulnerability and Credibility. Conclusion Displays of vulnerability by surgical trainers are viewed positively by surgical trainees in most circumstances. Sharing of imperfections and uncertainly improves learning and leads to increased respect. There are opportunities to develop an environment where honesty about imperfection, uncertainty, and the emotional effects inherent in being a surgeon is welcomed and encouraged. This will allow surgical trainees and their trainers to provide the best surgical care whilst maintaining a balanced professional identity.

9:00 am
Differences of operating experience in SET trainees
Dr Fiona Reid

9:20 am
Discussion

8:00 am - 9:30 am
MULTI-FACETTED SURGICAL PIONEERS

Scientific Session - Craniomaxillofacial Surgery, Surgical History - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

8:00 am
3D imaging as a patient education tool in craniofacial surgery
Dr Emily Horan
Background: Three-dimensional photography and surface imaging using stereophotography is an increasingly popular tool used in clinical settings for surgical planning and outcome evaluation (1). The Vectra H1 system is a handheld, readily portable camera that creates high-resolution 3D images designed for face, breast, and abdominal areas. The image can be used for 3D biomechanical analysis and altered to demonstrate different degrees of stretch, compression, lift, and volumization. The Vectra system is commonly used to simulate outcomes from breast augmentation, however there is increasing application for use in other areas like craniofacial surgery. People with craniofacial anomalies often require several operations throughout their lifetime to improve breathing, eating, and their facial profile. Surgery for CFAs manipulate segments of the facial skeleton and mandible to achieve this. The facial profile of patients after recovering from these operations can be markedly different and this affects cosmetic and psychological outcomes for patients. 3D imaging can be used for operative planning for the surgeon; however, it has potential to serve as an education tool for patients to gain a better understanding of the expected changes to their appearance after an operation by simulating potential surgical results, and the limitations of such procedures. It can improve patient engagement with treatment, set appropriate expectations, and improve their understanding as part of the informed consent process (2). Overall, 3D imaging has potential benefits to improving patient expectations and understanding of operative outcomes which can lead to higher patient satisfaction and reduced levels of anxiety.

8:10 am
Orbital Tissue Expanders for the Management of Anophthalmos
Dr Jessica Kierath

8:20 am
The Recent Theory of Bone Remodelling Surrounding the Dental Follicle
Dr Amir Fahimipour
Purpose: Finite Element Analysis (FEA) technique is now commonly used to address a variety of important biological questions including assessment of stress and strain distribution in bone, medical implants, orthopaedics, and bone formation. This study is based upon finite element analysis (FEA) that was used to study tooth eruption sequelae. Methodology: The computer modelling approach (ANSYS Workbench V 18.2), applying software to investigate stress and strain of dental follicles, which comprises soft tissues that surround the developing tooth. Different stages for tooth and soft tissue are defined, and the current study examines changes in soft and hard tissues relevant to necessary bone remodelling for tooth eruption to occur. Results: The association of tooth eruption with root formation, leads to the presence of the root generating compressive and tensile hydrostatic strain in the coronal and apical follicle, as per the Dental Follicle Functional theory. It is shown that there would be compression of coronal DF, and tension of apical DF of the simulated teeth, with inferred bone remodeling leading to tooth eruption. Conclusion: This new model has appreciable clinical significance. In the first instance, this would account for the static behavior of unerupted impacted teeth, that have lost their polarizing soft-tissue pathway. Further, it should be possible to guide the eruption of teeth, by surgically creating a narrow soft-tissue path.

8:30 am
Evolution of gender affirmation surgery
Dr Bharti Arora

8:50 am
Jean Civiale (1792–1867): Pioneer of minimally invasive surgery and father of evidence-based medicine
Dr Darshan Sitharthan
While Jean Civiale began his medical education late in life, his fascination with the problems of bladder stone removal was present from the start. Until then, the cruel malady of the bladder stone necessitated an equally

painful, bloody and, dangerous lithotomy (cutting for stone). Inspired by Marjolin and mentored by Dupuytren, as a medical student he conjured a ‘lithotrite’ to help crush the stone inside the bladder, avoiding the need for the brutal lithotomy. However, his initial model submission to the ministry was rejected summarily - “the ideas and propositions of the young student were chimerical, and deserved no notice whatever." Undeterred, he continued to work on cadavers with implanted hard stones and modified his lithotrite. As this technique was blind, Civiale would walk the streets of Paris with his lithotrite in hand, constantly grabbing nuts inside his coat pocket in order to hone his new craft. In 1824, he successfully performed the first lithotrity in the presence of Commissioners appointed by Académie des Sciences, altering history forever. Civiale’s greatest contribution however remains his presentation of his work to the Académie; the first use of ‘big data’ and evidence base in medicine. To prove the superiority of lithotrity, Civiale compared his data of 257 patients with 5715 lithotomies from all over Europe. Through this, he demonstrated his remarkable 2.3% mortality rate versus the 20% of lithotomy. The Académie responded with a landmark report on the use of statistics in medicine that remains relevant to this day. Through Civiale, this paper explores not just the advent of lithotrity but also the very foundations of minimally invasive surgery and evidence-based medicine as we know them today.

9:10 am
History of Dr Jacques Maliniac and the establishment of the American Society of Plastic Surgeons
Dr Emily Horan
Background: Dr Jacques Maliniac was an integral part in the development and foundation of plastic surgery as a recognised surgical specialty in the mid 1900’s. He immigrated from Europe to the United States of America after World War I with his fellow colleague Dr Gustave Aufricht. Dr Maliniac was born in Poland in 1889 and received his medical degree from the University of Paris in 1914. He served in the Russian army, an experience which drew his interest in plastic surgery. He travelled to the United States in 1923 and opened a private practice in New York City as well as establishing the first division of plastic surgery at a public hospital. He worked alongside Dr Aufricht and Dr Joseph Safian, a general practitioner from New York, to create an influential establishment in plastic and cosmetic surgery (1). Dr Maliniac was a founding member of The American Society of Plastic Surgeons (ASPS), launched alongside the 10 charter members of the society in 1931. He was the president from 1932-1933. The ASPS established the American Board of Surgery recognised American Board of Plastic Surgery in the late 1930s and was under the jurisdiction of the American Board of Medical specialties in 1941 (2). He became the author of ‘Reconstructive surgery of the Breast’ and ‘Sculpture in the living: Rebuilding the Face and Form by Plastic Surgery.’ He was a consulting plastic surgeon at the Polyclinic and Sydenham Hospitals, as well as a clinical professor of reparative surgery at Polyclinic Medical School.

8:00 am - 9:30 am
RACS AND RCSED BUSINESS MEETING

Business Meeting - *Cross Discipline* - Great Hall Merivales Boardroom 1

8:00 am - 9:30 am
RESEARCH PAPERS

Scientific Session - Trauma Surgery - Mezzanine Level Meeting Room M4

8:00 am
Damage Control Laparotomy in Critically Injured Patients: Less is More
Dr Anoosha Aslam
Purpose Damage control laparotomy (DCL) has been an accepted technique for managing severely injured patients since 1990. Over the last decade, significant changes in resuscitation and haemorrhage control have occurred. The corresponding decrease in DCL rates has also been reported. This study aims to assess the DCL rates when haemostatic resuscitation has become standard, and haemorrhage control techniques have improved. We hypothesise that the rate of DCL has decreased during this period. Methodology A retrospective review was carried out on all patients who underwent a trauma laparotomy from January 1, 2012, to December 31, 2019, at Westmead Hospital. The total number of laparotomies performed on each patient throughout admission was analysed, in addition to blood products and crystalloids administered within 24 hours of admission. The cohort was analysed in two groups, early (2012–2015) and late (2016–2019). Results 428 patients were included (mean age 39.81 +/- 17.78 years). 309 were male and 119 were female. The mechanism of injury was blunt for 249 patients and penetrating for 179 patients, respectively. 11% of patients needing any DCL in the early group required ≥ 4 DCL compared to 0% in the late group ($p=0.015$). The use of blood products was associated with DCL ($p<0.001$, odds ratio 9.45). The median injury severity score for the early group was 29 (IQR 22-36) and 27 (IQR 20-38) for the late group, respectively ($p=0.893$). Overall mortality between both groups was unchanged ($p=0.637$). Conclusion DCL rates have not

changed over time and thus remain an essential management tool for severely injured patients. However, the number of laparotomies performed before definitive closure has decreased. This may be due to changes in resuscitation strategies.

8:10 am
Foley Catheter Balloon Tamponade for life threatening bleeding following penetrating neck injury – A South African experience
Dr Victor Kong
Introduction Foley Catheter Balloon Tamponade (FCBT) has been widely employed in the management of trauma. This study reviews our cumulative experience with the use of FCBT in the management of patients presenting with a penetrating neck injury (PNI). Methods: A retrospective study was conducted at a major trauma centre in South Africa over a 9-year period from January 2012 to December 2020. All patients who presented with a PNI who had FCBT were included. Results: A total of 1581 patients with a PNI were managed by our trauma centre, and 44 (3%) patients had an FCBT. Of the 44 cases of FCBT, stab wounds (SW) accounted for 93% (41/44) and the remaining 7% were for gunshot wounds (GSW). Seventy-five percent of all FCBT (33/44) were inserted at a rural hospital prior to transfer to our trauma centre; the remaining 25% (11/44) were inserted in our resuscitation room. The success rate of FCBT was 80% (35/44), allowing further CT with angiography (CTA) to be performed. CTA findings were: 10/35 (29%) positive, 18/35 (51%) negative, and 7/35 (20%) equivocal. Twelve patients required additional intervention (open surgery or endovascular intervention). The overall morbidity was 14% (6/44). Eighteen percent required intensive care unit (ICU) admission. The median length of stay was 1 day. The overall mortality rate was 11% (5/44). Conclusion: FCBT is a simple and effective technique as an adjunct in the management of major haemorrhage from a PNI. In highly selective patients, it may also be used as definitive management.

8:20 am
Angioembolisation in Splenic Trauma Improves Spleen Salvage: A 5-year Review in Auckland City Hospital
Dr Keith Teo
Introduction: Splenic trauma is common in polytrauma and splenic angioembolisation (SAE) has assumed a role in treating splenic injury non-operatively. At Auckland City Hospital (ACH), a guideline for interventional radiological assessment and SAE has been developed. This requires all stable patients with splenic injury of grade IV and above to have an angiogram. We hypothesised that increased use of the guideline would see higher grade splenic injuries undergo SAE and improve spleen salvage. Methods: A 5-year retrospective review of trauma admissions with splenic injury to ACH from 1 July 2016 to 30 June 2021 was performed. Data on all splenic trauma from the ACH Trauma Registry was analysed, focusing on the grade of splenic injury, adherence to the guideline and outcomes. Results: A total of 126 splenic injuries were reported over the 5-year period. Blunt trauma was the predominant type of injury at 92.1%. In patients with grade V splenic injury, 14 (73.7%) had a splenectomy and 5 (26.3%) had SAE in keeping with the guideline. In patients with grade IV splenic injury, 10 (29.4%) had a splenectomy, and 14 (41.2%) had SAE. Splenic salvage in grade V and grade IV injuries were 26.3% and 70.6% respectively. In grade IV patients, 20.6% of patients were not managed according to the guideline. Overall, 85 (67.5%) patients had non-operative management of their splenic injury. Conclusion: Most splenic trauma patients have successful non-operative management. Despite the presence of a guideline, 20.6% of patients with grade IV splenic injury were managed at variance to the guideline. Efforts to further educate surgical and radiological teams will potentially improve outcomes for patients by identifying those who need intervention.

8:30 am
Recurrent pneumothorax following chest tube removal in thoracic stab wounds: a comparative study between end inspiratory versus end expiratory removal techniques at a major trauma centre in South Africa
Dr Victor Kong
Background: Tube thoracostomy (TT) insertion is a commonly performed procedure in trauma that is standardised, but the optimal removal technique based on the timing in relation to the respiratory cycle remains controversial. Methods: A prospective study was undertaken at a major trauma centre in South Africa over a 4-year period from January 2010 to December 2013, and included all patients with pneumothorax secondary to thoracic stab wounds. TTs were removed by either end of inspiration technique (EIT) or end of expiration (EET) technique and the rate of recurrent pneumothorax (RPTX) following removal was compared. We hypothesized that there is no difference in the rate of RPTX between the end inspiratory (EI) and end expiratory (EE) removal technique. Results: A total 347 patients were included. Of the 184 TTs removed by EIT, there were 17 (9%) RPTXs. Of the 163 with EET, there were 11 RPTXs (7%), (9% versus 7%, chisquared, P = 0.395). Of the total 28 (9%) patients with RPTXs following removal of chest tubes, two (7%) required reinsertion of chest tube (0.5% (1/184) in EIT and 0.6% (1/163) in EET, P = 0.747). Conclusions: Timing of TT removal in relation to the respiratory cycle does not appear to influence the incidence of RPTX in patients with thoracic stab wounds. Technique of removal may well be a more important consideration and more attention must be focused on refining the optimal technique.

8:40 am
Chest trauma and pulmonary embolism: how severe is the risk?
Dr Daniel Marascia
Purpose: Pulmonary embolism (PE) is a major cause of morbidity and mortality in trauma patients. Data

suggests PE is occurring earlier in trauma patients with attention being turned to possible de novo events. Here, we examine the incidence of early PE at a level 1 trauma centre, and examine the relationship with chest injury severity. Method: A retrospective analysis was performed from a prospective trauma registry at a level 1 trauma centre. All patients admitted from 1-January-2010 to 30-June-2019 diagnosed with PE following trauma were included. Early PE was considered as diagnosis within 72-hours of admission. Severity of chest injury was determined by the Abbreviated Injury Score. Analysis of severe chest injury and incidence of early PE was performed using chi-square analysis. Sub-analysis on timing of PE and PE location was also performed using chi-square analysis. Results: Chest injury was present in 125 of 184 patients diagnosed with PE. Early PE occurred in 28% (n=35) of patients with chest injury, including 24.39% (n=10) with severe chest injury. Neither chest injury or severe chest injury determined the presence of early PE (p=>0.05). Sub-analysis showed trend towards central clot in early PE (37.14%, n=13) compared to late (27.78%, n=25), however this was not found to be significant (p=>0.05). Conclusion: PE occurs early in trauma patients with almost one third being diagnosed before 72 hours. This analysis does not support the paradigm that chest injury, nor severe chest injury, result in statistically significant higher rates of early PE. Interestingly, a trend toward early central PE was noted in those suffering chest trauma.

8:50 am
Blunt Thoracic Aortic Injury: A Case Series
Dr Emily Overton
Blunt thoracic aortic injury (BTAI) is an uncommon, yet catastrophic injury, and is the second leading cause of death in trauma patients with non-penetrating injuries, behind intracranial haemorrhage. There is a pre-hospital mortality rate of 80% and of those that survive, in-hospital mortality approaching 50% (Mouawad et.al. 2020). Currently, there is very little Australian data regarding BTAI. This retrospective observational study describes the presentations, management and clinical course of patients with BTAI who presented to a major trauma centre in Brisbane Australia. Methods Using our institution’s Trauma Database, we identified 19 patients with BTAI between 1/1/16, and 31/10/21. We assessed patient variables, including demographics, co-morbidities, mechanism of injury, time to surgery, mortality rates, length of stay (both ICU and acute bed), and morbidity. Results 16 of the patients were male (89%) with a mean age of 44 years. Their average Injury Severity Score was 27 (range of 16-43). Three patients died (16.6%), and short-term survival at 30 days was 83.4%. Eight patients underwent surgery, seven of these being Thoracic Endovascular Aortic Repair (TEVAR). 100% of these patients were alive at 30 days. 14 patients were admitted to ICU, and the mean total length of stay in an acute hospital bed was 13.8 days. Conclusions Thoracic aortic injury is still a leading cause of death in blunt trauma, however patients who reach specialised tertiary trauma centres and undergo TEVAR can have excellent results. However, long-term outcomes of TEVAR in this setting requires further research. References Mouawad, N. J., Paulisin, J., Hofmeister, S., & Thomas, M. B. (2020). Blunt thoracic injury - concepts and management. Journal of Cardiothoracic Surgery, 1-8.

9:00 am
The walking wounded: rib fixation in non-critically ill patients
Dr Nima Yaftian
Purpose Surgical stabilisation of rib fractures (SSRF) has become increasingly prevalent in the management of thoracic trauma in the non-ventilated, non-critically ill population. We present our data on 4 years of SSRF among this group. Methods A review of institutional thoracic surgical database was performed. Results 37 patients underwent SSRF. 28 (75.7%) of the patients were male. There was a total of 10 patients (27%) who were in the intensive care unit (ICU) at the time of admission. There were no patients in ICU immediately prior to surgery. Mean age was 52.5 +/- 16.6 years. Mean length of stay (LOS) was 12.3 +/- 5.6 days. Mean time from admission to SSRF was 5.2 +/- 3.5 days. Mean time from SSRF to discharge was 7.1 +/- 3.8 days. Mean number of ribs repaired was 3.6 +/- 1.4. Right sided surgery was performed in 20 (54%) patients, left sided surgery was performed in 16 (43.3%) patients and bilateral surgery was performed in 1 (2.7%) patient. Mechanism of injury was fall from height in 13 (35.1%), motor vehicle accident in 10 (27%), motorbike accident in 9 (24.3%), animal attack in 3 (8.1%) and pedestrian vs. car in 2 (5.4%). Mean ISS score was 17.3 +/- 8.1. Surgery for other injuries during the same admission occurred in 16 (43.3%) patients. Conclusion SSRF has a role in the management of non-critically ill patients with rib fractures. Randomised control and propensity matched data to assess its impact on LOS and pain in this population is warranted.

9:10 am
Antibiotic hydrogel demonstrates preclinical efficacy for the prevention of infection in Orthopaedic surgery
Dr Andrew Foster
Infection complicates elective arthroplasty in 1-2% of cases, and significantly higher in trauma with associated soft tissue injury. Orthopaedic device-related infections (ODRI) have a profound patient morbidity and burden on the healthcare system. Systemically administered perioperative antibiotic prophylaxis (PAP) is currently used to mitigate infection. Local antibiotic therapy is increasingly being recognised as a potential treatment option but lacks supporting evidence. Our aim was to compare the efficacy of a locally administered antibiotic hydrogel to systemic PAP alone for the prevention of ODRI in a preclinical model. Twelve Swiss Alpine Sheep were randomised to receive either gentamicin-loaded hydrogel or no local therapy at the time of insertion of an intramedullary (IM) nail to the tibia with inoculation of methicillin-sensitive Staphylococcus aureus (MSSA). All sheep received a single dose of intravenous cephazolin prior to skin incision. Sheep were euthanised as three weeks postoperatively and bone, soft tissue and sonicate fluid

samples from hardware underwent quantitative microbiological analysis. The median quantitative burden of MSSA was significantly reduced in the bone, soft tissue and sonicate fluid from hardware with the use of antibiotic hydrogel ($p < 0.001$). Four of six sheep in the hydrogel group were culture-negative while all six sheep in the control group were infected. Systemic exposure to gentamicin was minimal following application of the hydrogel with an average serum concentration of 613.0 (±424.4)ng/ml. This is the first large animal model to demonstrate the superiority of locally delivered antibiotic hydrogel over systemic PAP alone for the prevention of ODRI.

9:20 am
'The Armour Phenomenon' in Obese Patients with Penetrating Thoracoabdominal Injuries: A Systematic Review and Meta-Analysis
Dr Andy Chen
Background Obesity represents a growing global health threat, which portends increased morbidity and mortality in the context of traumatic injuries. We hypothesised that there may exist a protective effect related to increased weight and truncal girth provided for obese patients in penetrating torso injuries, although this may not exert a significant positive impact overall upon clinical outcomes. Methods A comprehensive review of the literature was conducted across five databases up to March 2021 (Medline, Pubmed, Embase, Web of Science and the Cochrane library) to examine the effect of obesity on penetrating thoracoabdominal injuries. The primary outcome was to determine the rate of non-significant injury and injury patterns. Secondary outcomes examined were lengths of stay, complications, and mortality. Comparisons were drawn by meta-analysis. The study protocol was registered with PROSPERO under CRD42020216277. Results 2,952 publications were assessed with twelve meeting the inclusion criteria for review. Nine studies were included for quantitative analysis including 5,013 patients sustaining penetrating thoracoabdominal injuries, of which 29.6% were obese. Obese patients that sustained stab injuries underwent more non-therapeutic operations. Obese patients that sustained gunshot injuries had longer intensive care and total hospital length of stay. Obese patients suffered more respiratory complications and were at an increased risk of death. Conclusion The 'armour phenomenon' does not truly protect obese patients, a population that experiences increased morbidity and mortality following penetrating thoracoabdominal injuries.

8:00 am - 9:30 am
RESEARCH PAPERS

Scientific Session - Paediatric Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

8:00 am
High resolution impedance manometry pre- and post- oesophageal dilatation in children with oesophageal atresia
Dr Sharman Tan Tanny
Purpose Oesophageal atresia (OA) is a significant congenital anomaly, and most survivors demonstrate oesophageal dysmotility. High resolution impedance manometry (HRIM) has been utilised to study oesophageal dysmotility but has yet to be applied to compare findings pre- and post-oesophageal dilation in this group of patients. Method As part of a prospective longitudinal cohort study design, this study focused upon OA patients < 18 years. Utilising HRIM, oesophageal motility patterns were studied. A sub-group of patients who had HRIM pre- and post-oesophageal dilatations was analysed. Results A total of 75 patients (M:F = 43:32, median age 15 months [3 months – 17 years]) completed 133 HRIM studies. Seventeen patients had pre- and post-oesophageal dilatation studies for comparison. The majority (14/17, 82.4%) of comparison pairs demonstrated maintenance of the predominant motility pattern. When quantitative assessment was undertaken, no significant differences in HRIM metrics were detected. Conclusion In the largest international study of its kind, we have investigated high resolution impedance manometry findings pre- and post-oesophageal dilatation in patients with oesophageal atresia. We have identified motility patterns which remain consistent over time, and independent of oesophageal dilatation.

8:09 am
A Bi-National Needs Assessment to Identify and Prioritise Procedures in Paediatric Surgery for Simulation-Based Training
Dr Damir Ljuhar
Purpose Simulation-based medical education (SBME) has led to significant changes in health care education. However, the development of simulation-based training programmes has often been based on available resources and local expertise. The aim of this study was to perform a bi-national needs assessment to identify and prioritise procedures in paediatric surgery that can be integrated in a simulation-based curriculum. Method A modified 3-round Delphi technique was used to gather consensus from educational leaders and trainees in paediatric surgery in Australia and New Zealand (ANZ). Round 1 identified all procedures a newly specialised paediatric surgeons should be able to perform. In Round 2, each procedure

was explored for the need for simulation training using the Copenhagen Academy for Medical Education and Simulation need assessment formula (CAMES NAF). This pre-prioritised list from Round 2 was sent back to participants for final exclusion and ranking in Round 3. Results 88 participants were identified and invited. From 174 procedures in Round 1, 71 procedures were grouped and categorised for Round 2 using the CAMES NAF. In Round 3, 17 procedures were eliminated resulting in 54 procedures. Appendicectomy, inguinal herniotomy, and central venous access were the highest rank procedures after prioritisation in Round 3. There was a strong correlation (r=0.99) between the CAMES NAF score and the prioritised ranking, as well as between consultants and trainees (r=0.92 in Round 2 and 0.98 in Round 3). Conclusion The prioritised list represents a consensus document decided upon by educational leaders and stakeholders in paediatric surgery. These procedures should be an integral part of the SBME of paediatric surgeons in ANZ.

8:18 am
Outcome of surgically managed spontaneous isolated perforation (SIP) and necrotising enterocolitis (NEC): a single institution experience.
Dr Talia Abelman
Purpose: We aimed to review the clinical presentations, management and outcomes of surgically managed spontaneous isolated perforation (SIP) and necrotising enterocolitis (NEC) at our Institution. Methodology: We conducted a retrospective review of neonates with SIP and NEC (intraoperatively/histologically confirmed) from 2010-2020. Data were reported as number of cases (%), median (range) were analysed using GraphPad Prism 9.3. Results: 54 patients were identified; 9 (16%) SIP [7/9 (77%) males], 45 (84%) NEC [26/45 (58%) males]. Gestational age was 25.6 (29.4-39.4) weeks in SIP vs 27.2 (23.2-37.2) weeks in NEC (p=0.2). Birth weight was 743 (602-3470) g in SIP vs 926 (432-2920) g in NEC (p=0.4). Post-natal age at surgery was 5 (2-16) days in SIP vs 28 (1-83) days in NEC (p=0.0002). There were 2/9 (22%) deaths in the SIP group vs 12/45 (26%) in the NEC group. Length of hospital stay was 113 (18-370) days in SIP vs 125 (56-359) days in NEC (p=0.5). Intestinal involvement was: 8 (89%) small, 1 (11%) large bowel in SIP; 30 (66%) small, 5 (11%) large, 10 (23%) small + large bowels in NEC. Resection and primary anastomosis was performed in 4 (44%) of SIP vs 5 (11%) of NEC (p=0.03). Forty-five (83%) patients were managed with resection and stoma formation. Conclusion: Neonates with SIP present at a younger post-natal age than neonates with NEC. SIP predominantly involves the small bowel and can be managed with resection and primary anastomosis in almost 50% of cases. Mortality is 25% and similar in both groups.

8:27 am
Antibiotic stewardship in urethral stenting after hypospadias repair
Miss Aini Su
Purpose: Prescribing antibiotic prophylaxis after hypospadias repair with urethral stenting (HRUS) is controversial, balancing infection risk against good antimicrobial stewardship. We evaluated the practice at a tertiary hospital in New Zealand, over a ten-year period to determine whether prophylaxis is indicated. Methodology: 143 patient medical records spanning the period from January 2011 to December 2020 were reviewed. The rates of post-operative presentation with surgical site and urinary tract infections with and without prophylaxis were assessed. Results: Overall 95.1% of HRUS cases were prescribed prophylactic antibiotics. The infection rate in the antibiotic group was 8.8% compared to 42.9% in the no antibiotics group (P=0.026). There was no significant difference in the rate of UTI in the antibiotic group compared to the no antibiotic group (5.1% vs 14.3% respectively, P=0.338). SSI occurred in 3.7% of antibiotic group vs 28.6% in the no antibiotic group (P=0.039). Conclusion: The prescription of prophylactic antibiotics was near ubiquitous for HRUS at Waikato DHB during the study period. The rates of overall infection and SSI demonstrated statistically significant difference with antibiotic prophylaxis. No statistically significant benefit was shown for UTI. These results support continuation of current department practice of antibiotic prophylaxis post HRUS.

8:36 am
An International Multicenter Observational Study of Patient and Process Outcomes among 3302 Pediatric Patients Undergoing Appendicectomy During the COVID-19 Pandemic
Dr Timothy Greer
Purpose To investigate if the COVID-19 pandemic has adversely impacted timely access to care, perioperative processes, and clinical outcomes for paediatric patients undergoing primary appendicectomy Method We conducted a retrospective, observational, international, multicenter study using matched cohorts within the international PEdiatric Anesthesia COVID-19 Collaborative (PEACOC). We included patients <18 years of age undergoing primary appendicectomy. Mixed-effects median regression modeling with a random-effect for matched sets was performed. Analyses comparing pre-pandemic (Apr-May 2019) versus during the COVID-19 pandemic (Apr-May 2020) were stratified by center and geographical region. Results The study included 3302 patients from 28 centers: 1684 patients in the pre-pandemic cohort and 1618 in the pandemic cohort. The primary outcome, hospital length of stay (HLOS), was 29 hours in the pandemic cohort versus 28 hours in the pre-pandemic cohort (adjusted coefficient, 1; 95% confidence interval [CI] 0.39 to 1.61, P<0.001). Time to appendectomy was also longer in the pandemic period (median 648 vs 540 minutes) (adjusted coefficient, 108; [95% CI, 106 to 110]; P <0.001). Total operative time, total anesthesia time, and PACU length of stay changed from the pre-pandemic to the pandemic period across individual institutions and geographical regions. During the pandemic period, there was also an increase in patients with complicated appendicitis (adjusted odds ratio, 1.32; [95% CI 1.1 to 1.59]; P=0.003). Conclusion For children

undergoing appendectomy, the COVID-19 pandemic has been associated with delayed access to care, process changes, and worsened patient outcomes when compared to the pre-pandemic period.

8:45 am
Review of recent experience in delays in the investigation and management of midgut malrotation and volvulus in children
Doctor Aimee Gibson

8:54 am
Assessment of Pressure Delivery by Negative Pressure Wound Therapy utilising A Deceased Porcine Model and the Implications on Paediatric Patients
Dr Emma Lumsden
Purpose Negative Pressure Wound Therapy (NPWT) is broadly used in surgical wound management; however, there remains debate around the mechanism of action. Working in a paediatric surgery unit, it is important to understand this to ensure it is safe regarding distal perfusion when considering applying the dressing to small hands and feet. This study was done to help understand the tissue pressure gradient established under NPWT. Methodology Utilising porcine models, a Codman intracranial pressure (ICP) ExpressTM monitor and MicrosensorTM transducer was used to assess the pressure. The transducer was sited at the skin, dermis, subcutaneous or muscular layer using a cannula under ultrasound guidance. Smith and Nephew's MepitelTM, ActicoatTM, varying applications of KerlixTM and the NPWT (Smith and Nephew Renays TouchTM) were then applied. Each set of results is indicative of the ICP probe reading when the NPWT device was delivered at -40, -60, -80, -100 and -120mmHg. Results The median pressure recordings were skin: -42, -61, -80, -98mmHg (consistent with the NPWT reading); dermis: 1, 2, 3, 4, 6mmHg (a slight but significant positive pressure) and muscle: 0, 0, 0, 0, 0 mmHg. The subcutaneous layer had marked variation with each repeat measure. Conclusion It seems that NPWT does not exert substantial pressure much further than the skin and dermis, which is reassuring when considering the application on paediatric hands and feet. These data also suggest negative pressure paradoxically exerts a positive pressure on the dermis. The limitation of this study is the deceased model, a live model is required for future studies.

9:03 am
Pitfalls of the acute surgical triaging system
Dr Thomas Hockey
Purpose Acute surgeries make up a significant proportion of the work of a paediatric surgery department. In a resource-constrained system, it is crucial to triage them appropriately and fairly. The urgency of an operation should reflect the physiological state of the patient and the disease process. This study aims to assess the efficacy of the current booking system in a tertiary hospital and the paediatric surgery department's performance in achieving timely operations. Methodology All acute operations under paediatric surgery from May 18th 2020 to May 17th 2021 were included. Patient demographics were collected. Booking form urgency and time submitted, date, time into OT, diagnosis and operation description were collected and analysed. Utilising Microsoft Excel, actual time to surgery (aTTS) was calculated from "booking time" to "into OT". The ideal time to surgery (iTTS) was calculated from the urgency category. A validated tool of aTTS/iTTS was generated for each patient. An aTTS/iTTS ratio greater than 1 represents failure to achieve the time advised by the booking form. Results 491 acute operations were included in the study. The aTTS/iTTS calculations of <20min, <6hr and <48hr acute operations are 3.69, 1.08, and 0.32 respectively. This demonstrates a failure of operations to take place within their expected time-frame that is worse with higher acuity categories. Conclusion The current booking system is flawed, with an unaddressed need for categories in-between those of <20min, <6hr, and <48hr. In tertiary hospitals the last line of defence for critically ill adults competes with paediatric emergency surgery, and a validated, discipline-specific, and more efficient acute surgical triaging system is needed.

9:12 am
Proposal for Australasian acute surgical booking guideline for paediatric emergency operations
Mr Sam Kim
Background: Paediatric acute surgical booking system is in need of a formal review. A literature search identified similar reviews of acute surgical triaging systems such as NCEPOD, TAC and NEST (Non elective surgical triaging). NEST was identified as a potential alternative to the current urgency classification system in place. Method: Acute paediatric operations performed in a tertiary hospital over one year were included. The 491 operation data sets were retrospectively given NEST categories according to their booking urgency, modelling an artificial re-categorisation. The validated tool of aTTS/iTTS (actual time to surgery/ideal time to surgery) was applied to each operation in NEST categorisation. A value of 1 or less is considered as satisfactory outcome. Results The aTTs/iTTs improved from 0.98 to 0.59 overall. The category-specific aTTS/iTTS also notably improved, with NEST 2 only being marginally over 1 (1.23, as opposed to 3.69 with the current system) and NEST 3, 4, 5 and 6 under 1. The NEST categories have suitable time intervals and clear and well-communicated criteria for types of operations under each category. NEST also allowed the lower acuity operations a finite time frame. Conclusion: The current booking category system sets unreasonable time restrictions for acute cases and provides an inadequate selection of triage categories to accurately communicate the urgency. The surgery needing to take place between 20 minutes and 48 hours has variable urgency. NEST is a viable and easily implementable alternative, which would lead to more

efficient acute surgery and better outcomes.

9:21 am
Can we increase the threshold for open rectal biopsy without compromising diagnostic yield
Dr Stacey Caldwell
Purpose This review aims to determine the role of suction rectal biopsy (SRB) and open rectal biopsy (ORB) in the diagnosis of Hirschsprung's disease (HD) to determine how to correctly select patients for ORB, reducing demand on operative services and cost. Methodology A retrospective review of all patients who had an SRB or ORB performed at Waikato Hospital between Jan 2018-May 2020 was performed. Primary outcome measured was patient diagnosed with HD based on indications for biopsy (low, medium, high suspicion). Each of these categories had pre-determined criteria. Secondary outcomes included histopathology results. Results Data from 55 patients undergoing biopsy at WDHB was analyzed. Two patients had both biopsies completed. 51.7% of patients were low/moderate suspicion. 48.3% of patients were high suspicion. Overall in the past 2.5 years 16.4% of patients have been diagnosed with HD. 100% of these patients were high suspicion. Conclusion This review supports the need for further investigation of alternative first-line investigations in children considered to be low or moderate suspicion of HD. Consideration of SRB in children under three years of age which does not require anaesthesia or a more selective approach to offering ORB should be considered as the yield rate for moderate and low suspicion cases in the older age group is low.

8:00 am - 9:30 am
RESEARCH PAPERS

Scientific Session - Vascular Surgery - Plaza Level Meeting Room P4

8:00 am
Variables that affect thrombosis in autogenous arteriovenous fistulae amongst haemodialysis patients: a systematic review
Dr Abhishekh Srinivas
Purpose Autologous arteriovenous fistula (AVF) is the current gold-standard of maintaining haemodialysis amongst patients with end-state renal disease. However, complications related to vascular access account for nearly 25% of all hospitalizations in dialysis patients worldwide, with thrombosis being the leading cause of AVF failure. Our goal was to perform a systematic review to analyse currently known variables that impact the formation and rates of thrombosis within AVFs, resulting in their primary failure. Methodology A systematic literature search was conducted using the Cochrane Database and OVID Medline databases in accordance with the PRISMA statement, on the 31st of August, 2021. We identified 1989 articles, of which 31 (2 randomized controlled trials, 5 case-control studies, 1 case report, 1 cross-sectional and 22 observational cohort studies) were included in our analysis. Results In total, 100,242 patients were included in this study. Due to heterogeneity in study type and results presented, a meta-analysis was not feasible and results were narratively described instead. Known thrombophilia preoperatively was shown to be a statistically significant risk factor for thrombosis (adjusted OR 1.87; $p < 0.0001$). Intraoperatively, absent or attenuated AVF thrills were strongly associated with thrombus development ($p < 0.006$). Postoperative considerations included blood flow surveillance techniques, with Doppler scans at regular three-monthly intervals showing a reduction in AVF thrombosis ($p < 0.011$). Conclusion Native AVF thrombosis is a common issue faced by the practising surgeon when treating patients with kidney disease, and consideration must be given to the multifaceted pre-, intra- and post-operative variables which contribute to this.

8:10 am
Mid Term Outcomes to Evaluate Endovascular Repair of Complex Aneurysms Using Fenestrated-Branched Endografts – Single Centre Experience
Dr Sinead Gormley
Introduction The management of para-renal and thoraco-abdominal aneurysms has shifted from open surgery to endovascular repair in the last decade. The majority of studies have demonstrated that fenestrated or branched grafts are favourable compared to open repair in terms of early mortality. However, they are also associated with earlier re-intervention rates which are often related to bridging stent grafts. The aim of this study was to report the mid and long term outcomes of fenestrated and branched grafts. Methodology Consecutive patients undergoing endovascular treatment for complex aneurysms using the Cook fenestrated/branched devices between 2010 and 2020 in a single centre were included. End points included freedom from 30 day mortality and major adverse events, freedom from aortic related mortality, target vessel patency and secondary re-intervention. Data was gathered prospectively from operative databases and cross checked with the Australasian Vascular Audit. Results There were 100 patients that had a complex EVAR, 85 were fenestrated and the remaining were branch devices. Total target vessels were 286 – 226 fenestrated and 60 branched. There were 28 (9.7 %) target vessel occlusions Of those 14 were salvaged and 13 of those remained patent. One patient went on to require an ilio-femoral bypass and one developed a large aorto-caval fistula secondary to a type 3 endoleak from dislodged SMA stent. The overall 30 day mortality was 2%. 93 patients were alive at one year. Conclusion The mid-long term patency of target

vessels remain acceptable, and the majority of those that occluded were salvaged with a good secondary patency. Further analytical work to determine predictors of target vessel occlusion requires multi-centre collaboration.

8:20 am
Angiojet a Fiscally Responsible Consideration
Dr Gurkirat Singh
Angiojet is a device that allows catheter directed pharmacochemical thrombolysis which can be used not only for venous thrombosis but also arterial and Arteriovenous Fistulas (AVF) occlusions. We aim to explore how this multifunctional minimally invasive device not only has favourable outcomes with short length of stay with minimal morbidity and mortality. As a result, this not only is favourable for patient outcomes but can be a fiscally responsible purchase for any Vascular Department. Method Retrospective review of all the patients that underwent Angiojet for any indication at Nepean Hospital between 2018 and 2021. We collated the data and looked at primary endpoints being outcomes, major complications, reintervention rates and Length of Stay (LOS). Results 100 cases were identified on 95 patients, 93 of which had technical success. There was a median LOS of 6 days including long-stay admissions under medical teams. There was a reintervention rate of 19 percent (19/100) and 8 of the 100 cases had complications. 6 acute kidney injuries (AKI), 1 Cardiac event and 1 Upper GI bleed. Of the cohort 2 patients died, neither of which was directly rated to the angiojet process. Conclusion Having assessed the above the Angiojet not only has a short LOS but an acceptable reintervention and complication rate most of which is in the form of a reversible AKI. In this context investment in the Angiojet not only allows for a minimally invasive intervention with a high technical success rate but is not limited to one aspect of Vascular surgery.

8:30 am
Wall rupture index is associated with the prognosis of abdominal aortic aneurysms
Dr Tejas Singh
Objective: The aim of this study was to assess whether aortic peak wall stress (PWS) and peak wall rupture index (PWRI) were associated with the risk of AAA rupture or repair (defined as AAA events) among participants with small abdominal aortic aneurysms (AAA). Methods: PWS and PWRI were estimated from computed tomography angiography (CTA) scans of 210 participants with small AAAs (≥30 and ≤50 mm) recruited between 2002 and 2014. Participants were followed for a median of 2.0 (inter-quartile range 1.9, 2.8) years to record the incidence of AAA events. The associations between PWS and PWRI with AAA events were assessed using Cox proportional hazard analyses. The ability of PWS and PWRI to reclassify the risk of AAA events compared to initial AAA diameter was examined using net reclassification index (NRI) and classification and regression tree (CART) analysis. Results: After adjusting for other risk factors, PWS (Hazard ratio, HR, 1.56, 95% Confidence intervals, CI 1.19, 2.06; p=0.001) and PWRI (HR 1.74, 95% CI 1.29, 2.34; p<0.001) were associated with a significantly higher risk of AAA events. According to CART analysis, PWRI was identified as the best single predictor of AAA events. PWRI, but not PWS, significantly improved the classification of risk of AAA events compared to initial AAA diameter alone. Conclusions: PWS and PWRI were independently predictive of AAA events. PWRI, but not PWS, improved the risk stratification compared to initial AAA diameter alone.

8:40 am
Cost-Utility Analyses in Chronic Limb-Threatening Ischemia: A Systematic Review
Dr Leonard Shan
Purpose: Cost-utility analysis (CUA) informs healthcare policy by identifying cost-effective treatments with patient-centred benefits. This review aims to identify a treatment hierarchy for chronic limb-threatening ischemia (CLTI) based on CUA data. Methods: A systematic review was performed on CUA studies evaluating revascularisation (open surgical revascularisation (OR) or endovascular revascularisation (ER)), major lower extremity amputation (MLEA), or conservative management (CM) in adult CLTI patients. MEDLINE, EMBASE, Scopus, International HTA database, NHS EED, and CEA registry were searched for English language articles up to August 2021. CUA outcome was quality-adjusted life years. Procedures were compared using incremental cost-effectiveness ratios (ICER) converted to 2021 US dollars. Study quality was assessed using the Drummond BMJ checklist. Protocol registered in PROSPERO (CRD42021273602). Results: Three trial-based and five model-based studies (good rating: n=5, fair rating: n=3) were included. Most studies evaluated infrainguinal disease and adopted a health care provider perspective. OR was not considered cost-effective over ER (ICERs: $254 448 and $239 817). OR (ICERs: $3 678, $58 828, and $72 937), ER (ICERs: $52 036, $125 329, and $149 123), and mixed OR or ER (ICER: $8 094) were preferred over CM. There was conflicting evidence on MLEA versus CM (either dominated by CM or ICER of $59 787). OR and ER were not directly compared with MLEA. Conclusions: The application of CUA in CLTI is in its infancy. Revascularisation in infrainguinal disease may be favoured over MLEA or CM. Future studies should focus on a societal perspective to treatment comparisons in multiple anatomical territories.

8:50 am
Factors Associated with Early Infrainguinal bypass graft failure – Binational Ten-Year Retrospective Study
Dr Mei Ping Melody Koo
Purpose: Early bypass graft failure(EGF) is associated with significant 30-day morbidity in infrainguinal arterial reconstruction surgeries. We aim to identify predictors of EGF in contemporary Australian-New

Zealand vascular surgical practice. Methodology: Data from the Australasian Vascular Audit by the Australian and New Zealand Society for Vascular Surgery were retrospectively reviewed. Patients who underwent infrainguinal bypass from 2011 to 2020 were selected. Demographics, operative details and associations were analysed by multivariate logistic regression. The primary endpoint was graft failure within 30 days. Results: A total of 18,575 open infrainguinal bypasses were performed, 1,065(6%) were complicated by EGF. 13,922 were male with mean age 69+/-12 years. Comorbidities included hypertension(84%),smoking(76%),IHD(52%),diabetes(37%) and significant renal impairment(9%). Indications for initial bypass included tissue loss(30%), claudication(26%) and rest pain(17%). Significant predictors of EGF included dialysis(Odds Ratio[OR],19.4; p=

9:00 am
Cohort Study Examining the Prevalence and Relationship with Outcome of Standard Modifiable Risk Factors in Patients with Peripheral Artery Occlusive and Aneurysmal Disease
Dr Tejas Singh

9:10 am
Association between abdominal aortic size and major adverse cardiovascular events in patients with aortic and peripheral occlusive and aneurysmal disease – a prospective cohort study
Dr Tejas Singh

9:20 am
Comparative In-Hospital Outcomes of Endovascular Fenestrated Abdominal Aortic Aneurysm Repairs and Open Abdominal Aortic Aneurysm Repairs in a Tertiary Teaching Hospital
Dr Madeleine De Boer
Purpose: Advancements in endovascular grafts over the past decade has increased the availability of fenestrated endoluminal grafts (FEVAR) for use in the repair of juxtarenal abdominal aortic aneurysms (jAAA). Literature suggests FEVARs result in reduced short-term morbidity and mortality compared to open repair (OR), however are also associated with increased costs and additional risks of radiation and contrast. There are few studies assessing short term outcomes in Australian cohorts, with this review seeking to address this paucity. Methodology: A retrospective review of consecutive patients undergoing FEVAR and OR of jAAAs confirmed on pre-operative imaging at a tertiary referral center between 2010–2021 was conducted. Clinical notes were reviewed to collect various surgical and clinical variables. Results: 112 patients were included, with 44 OR and 68 FEVARs performed. Whilst patients undergoing FEVAR demonstrated shorter lengths of stay (7 ± 9 vs 11 ± 9 days, p = 0.04), there was no difference in the length of ICU stay (2 ± 4 vs 4.5 ± 3 days, p = 0.116). There was no difference in operative times between FEVAR and OR groups (241 ± 132 vs 229 ± 125 mins, p = 0.4). Post-operative complications occurred more frequently in the OR group (77.5% vs 43.3%, p

8:00 am - 9:30 am
RESEARCH PAPERS

Scientific Session - Orthopaedic Surgery - Boulevard Level Meeting Room B3

8:00 am
Assessing the variation in diagnosis and treatment of paediatric distal radius fractures – a survey study.
Dr Nathaniel Huang
Aim The diagnosis and management of paediatric distal radius fractures demonstrates significant differences between surgeons. We aim to improve the understanding of how Australian orthopaedic surgeons diagnose and manage paediatric distal radius fractures. Methodology The study is comprised of an online questionnaire distributed to consultant orthopaedic surgeons practising in Australia whose scope of practice includes the management of paediatric forearm fractures. The questionnaire consists of 40 sets of paediatric distal radius radiographs, with multiple choice questions regarding the surgeon's diagnosis and treatment recommendations. Results Provisional results demonstrate variation in the length of immobilisation, follow-up and imaging protocols. The survey is currently ongoing and will complete accrual in 3 months. Conclusions This project will reinforce the strength of the Australian model of training if minimal variation in practice is detected, or conversely highlight an area where further research or education is needed if high levels of variation are demonstrated. This information will be beneficial to improving patient care and informing the Australian orthopaedic community of their current practice.

8:15 am
Long-term Bone Mineral Density Changes for Amputees Following Transcutaneous Osseointegration
Ms Elisabeth Vrazas
Purpose: Transcutaneous osseointegration (OI) is an emerging rehabilitation alternative for amputees who have difficulty with traditional socket prostheses. Direct skeletal loading facilitated by OI should improve bone health, but this has not been evaluated over the long term. This study compared the preoperative and

minimum five-year postoperative femoral neck bone mineral density (BMD) change in amputees, on the amputated and intact side, using dual-energy X-ray absorptiometry (DEXA). Methods: A retrospective cohort review identified 45 lower limb amputees with DEXA evaluation prior to transfemoral or transtibial OI implants. Six patients had follow-up DEXA performed at least five years postoperatively. Charts were reviewed for demographic data, and adverse outcomes which could have impacted time spent using the OI prosthesis. Bone density, T-scores, and Z-scores were evaluated for BMD measurements. Comparison of mean values was assessed using Student's t-test. Results: (Note: Data collection is ongoing and is expected to include at least 15 patients at study completion) This cohort includes three males and three females, five transfemoral and one transtibial, aged between 50 and 68 (mean = 51 ± 13) years at the time of implant surgery. For the amputated limb, there was a non-significant increase from 0.540 ±0.155g/cm2 to 0.707 ±0.094g/cm2 (p = 0.105). The Z-score increased -3.067 ±1.089g/cm2 to -1.200 ±0.540 g/cm2 (p = 0.024). The T-score increased from -3.933 ±1.193g/cm2 to -2.333 ±1.193g/cm2 (p = 0.049). Conclusion Although a small cohort, there were statistically significant increases of the Z-score and T-score when measured at least five years after osseointegration.

8:30 am
Staphylococcus aureus osteomyelitis of open tibia fractures is a strong indicator for progression to an amputation
Dr Ahmed Mahmoud
Aim: Infection after an open tibia fracture requires a prolonged course of treatment and can lead to limb amputation. This study aims to assess the types of bacteria causing infections of open tibia fractures that require flap coverage. Methods: Patients were recruited retrospectively from a tertiary trauma database between 2012-2020. Patients included were over 18years old and had an open tibia fracture that required flap coverage with at least 6months follow-up. Patients with osteomyelitis were further assessed for the type of organism and amputation rate. Results: Of the 126 patients recruited with an open tibia fracture requiring flap coverage, 31 developed an infection. The average age was 44 (Standard deviation [SD], 4) years and injury severity score was 17.6 (SD, 2.3). The most common type of infective organism was staphylococcus aureus (29%), followed by multi-organism infections (26%) and Serratia marcescens (13%). Of the multi-organism infections, two patients cultured Serratia marcescens. 17% of the patients with osteomyelitis progressed to having an amputation. All the patients progressing to an amputation had an infection with staphylococcus aureus. Conclusion: Patients infected with staphylococcus aureus have a high likelihood of progressing to an amputation. Serratia marcescens is naturally occurring organism in soil, therefore, infection with this organism can be avoided with thorough debridement.

8:45 am
Developing an Infection Criteria for Osseointegration
Mr Shafaf Alam
Purpose Osseointegrated prostheses offer amputees greater mobility and satisfaction compared to socket prostheses. Infection is the most common complication, however, the diagnosis remains dependent on the surgeon's judgment. This study aimed to establish objective clinical, laboratory, and radiographic criteria to improve diagnosis and management of infection following osseointegration. Methods A retrospective evaluation identified 792 osseointegration procedures between 2010 and 2021. Of this cohort, 90 patients had additional surgery requiring implant debridement or removal. These patients were stratified into infectious versus non-infectious etiologies by reviewing their clinical, laboratory, and radiographic data. The proposed infection criteria were based on the prosthetic joint infection criteria from the Musculoskeletal Infection Society (MSIS). Clinical signs of infection included the presence of sinus tracts, peristomal erythema, pain with loading, or visible implant instability. Laboratory data included serum erythrocyte sedimentation rate, C-reactive protein, and white blood cell count. Radiographic criteria included evidence of implant instability. Results Preliminary results indicate clinical signs such as the presence of purulence, pain and erythema serve as useful indicators of infection, whilst CRP and ESR are helpful discriminators. The most common organism discovered in cultures was Staphylococcus aureus. Conclusion Early findings suggest that clinical signs, laboratory markers and cultures can all be considered clinically useful tools for the detection of infection. The proposed infection criteria can provide a basis for a more standardised method of classifying infection after osseointegration.

9:00 am
Evaluation of the approach to animal bites
Mr Aiden Jabur
Purpose: Animal bites are a common aetiology of trauma in children and adults requiring hospital admission. We aim to evaluate current management of animal bites and compare common practices with guidelines published by the Royal Australian College of General Practitioners, BMJ Best Practice and UpToDate. Methodology: Patients presenting with a diagnosis of dog, cat or other animal bite to the emergency and orthopaedic surgery departments of a tertiary care hospital between September 1, 2018 and October 31 2019 were retrospectively identified from the hospital database. Descriptive statistics were performed. Results: Among the 346 patients evaluated, 193 (55.8%) were female and median age was 35 years old, range 0 to 91. The majority of patients presented on the day of the injury. 83.0% were dog bites from a variety of dog breeds, 15.6% were cat bites and 1.5% were bites sustained from other animals. Injuries were sustained on the upper limbs (65.0%), lower limb (19.6%) head and neck (19.0%), trunk and back (3.3%),

and multiple sites (11.5%). Oral amoxycillin-clavulanate was the most popular choice of prophylactic antibiotic (248 patients, 71.7%) with intravenous piperacillin-tazobactam being used less frequently (161 patients, 46.5%). 72 patients (40.7%) required wound closure. Some had nerve involvement (n = 22), tendon involvement (n = 6) and fracture (n = 8). Conclusion: The majority of animal bites presenting to hospital can be attributed to dogs. Trauma typically occurs on the upper limbs with occasional nerve involvement. Management of animal bites is largely in line with published guidelines.

8:00 am - 9:30 am
RESEARCH PAPERS I

Scientific Session - Breast Surgery - Great Hall Q2 (Use Door 8)

8:00 am
Closed Incision Negative Pressure Therapy vs Standard of Care in Breast Surgery: A Systematic Review
Dr Amos Nepacina Liew
Background The implementation of closed incision negative pressure therapy (ciNPT) has seen wide-spread usage in surgery over standard of care dressings (SOC). However, research on its use in breast surgery is still in its infancy. Hence, we conducted a meta-analysis, the first of its kind, on the use of ciNPT vs SOC in post-operative breast surgery wound management. Methods Literature review was conducted on PubMed, MedLine and Google Scholar using the keywords, Closed Incision Negative Pressure Therapy, Negative Pressure Wound Therapy, Breast Surgery and Surgical Site Infection. Studies that compared ciNPT against SOC were included. 5 studies were included in this meta-analysis Results 5 studies were identified for our meta-analysis, comparing a total of 626 ciNPT against 724 SOC subjects. The results of this meta-analysis have shown that the use of ciNPT as compared to SOC resulted in significantly fewer overall complication rates (RR = 0.73, 95% CI 0.63 – 0.86, P <0.01). Furthermore, subgroup analysis of post-operative patients showed that patients managed with ciNPT were half as likely to get a SSI in any time period (RR = 0.42, 95% CI 0.23 – 0.75, P <0.05). Conclusion The use of ciNPT in breast surgery is highly promising. It has many advantageous over SOC dressings, including better wound outcomes and cosmesis, and added cost savings for both patient and health institution.

8:10 am
Indocyanine green angiography versus clinical assessment for predicting mastectomy skin flap necrosis: a prospective trial
Dr Chu Luan Nguyen
Purpose: Indocyanine green angiography (ICGA) has been evaluated to predict mastectomy skin flap necrosis (MSFN) in breast reconstruction. Prospective trials that compare ICGA to clinical assessment are lacking. Method: Prospective trial of patients undergoing nipple- or skin-sparring mastectomy with implant-based reconstruction from February to December 2021. Upon mastectomy completion, the surgeon used clinical assessment alone to evaluate skin flap perfusion, performed ICGA, and intervened by delaying reconstruction if appropriate. Clinical assessment was determined as “well perfused”, “adequately perfused”, “marginal” or “poorly perfused”. Corresponding ICGA relative perfusion values were interpreted as: >35%(“well perfused”), 25-35%(“adequately perfused”), 12-24%(“marginal”), and <12%(“poorly perfused”). Patients were followed for 90 days. Results: 48 breasts underwent reconstructions with two complicated by MSFN. Twenty-four breasts had clinical assessment and ICGA interpretation of “well” or “adequately perfused”, with no cases of necrosis. Six breasts had clinical assessment and ICGA interpretation of “marginal” or poorly perfused”, with four cases having delayed reconstruction and no cases of necrosis. The last group of 18 breasts had clinical assessment of “well” or “adequately perfused” but were “marginal” or “poorly perfused” on ICGA. Ten of these had delayed reconstruction with no cases of necrosis. Two of the eight remaining breasts suffered MSFN after immediate reconstructions. Conclusion: Early trial data suggests that ICGA accurately predicts MSFN compared to clinical assessment. Two cases of necrosis may have been avoided if ICGA interpretation was weighted more heavily in the decision to intervene.

8:20 am
Patterns of ischemia and reperfusion in nipple-sparing mastectomy reconstruction with indocyanine green angiography
Dr Chu Luan Nguyen
Purpose: Intraoperative assessment of mastectomy flaps and nipple-areola complex (NAC) with indocyanine green angiography (ICGA) for decision-making in delayed breast reconstruction after nipple-sparing mastectomy (NSM) remains to be fully elucidated. We evaluated patterns of ischemia and reperfusion in NSM with delayed breast reconstruction. Method: Single-institution retrospective study of delayed implant-based breast reconstructions following NSM due to poor perfusion analysis on ICGA. Intraoperative ICGA perfusion values and fluorescence patterns during the delayed and subsequent reconstruction operations were analysed. Results: Fifty-six delayed breast reconstructions were performed. Median time to reconstruction was seven days (range, 4-21 days). 112 fluorescence images were reviewed. Four patterns of ischemia were identified during initial mastectomy (Type I, diffuse ischemia; Type II, geographic ischemia; Type III,

incisional ischemia; Type IV, NAC only ischemia). All, but 1 breast, had adequate reperfusion during delayed reconstruction. Obesity (BMI ≥ 30) was associated with Type I ischemia (p

8:30 am

In vivo Magnetic Resonance (MR) two dimensional COrrelated SpectroscopY (2D COSY) applied to breast cancer

Dr Fuquan Jeremy Khoo

Introduction MR-Spectroscopy (MRS) has been demonstrated to supplement the diagnostic accuracy of MRI by obtaining biochemical characteristics of breast tissue. We evaluated the utility of a new MRS two-dimensional (2D) COrrelated Spectroscopy (COSY) method applied in vivo on established breast cancer lesions. Methods All female patients over the age of 18 referred to the Division of Breast and Endocrine Surgery at the Princess Alexandra Hospital (PAH), Brisbane, between Feb 2019 to Jan 2020 with diagnosed invasive or in-situ breast carcinoma were invited to participate in this study. MR imaging was performed using a 3T PRISMA scanner (Siemens AG, Germany) using a 16-channel (RAPID Biomedical, Germany) or 18-channel breast coil (Siemens AG, Germany) Results 26 out of 59 recruited patients successfully completed both MRI and MRS research protocols. Correlation of 2D-MRS with histopathology showed significant differences in peak volume (PV) ratios of the Triglyceride Backbone metabolite, when comparing clinical phenotypes (Luminals vs HER2 +Triple negative, d = +177.2%, P = 0.007), hormone receptor status (ER+ vs ER-, d = +177.2%, p = 0.007). Comparing grade 3 with grade 2 lesions, statistically significant elevated mean PV ratios in the metabolites phosphocholine, methyl and inositol was detected. T3 and larger lesions also showed a 10-fold increase in mean PV ratios of choline/phosphocholine than smaller lesions (

8:40 am

Association between prognosis and tumour associated macrophages in molecular subtypes of breast cancer: A systematic review and meta-analysis

Dr Eleanor Allison

Purpose Tumour associated macrophages (TAMs) in breast cancer are associated with a poor prognosis. However, studies of TAM density, location, and phenotype in molecular subtypes of breast cancer have been inconclusive and thus form the rational for this study. Methods We performed a systematic literature search using MEDLINE, Embase, Google Scholar and citation chaining (1900 to August 2020). Studies reporting overall survival (OS) or progression-free survival (PFS), TAM phenotype and density were included. Survival data were analysed using hazard ratios (HRs) and meta-analyses were carried out using random effect model. Results Thirty-four studies with 8,622 patients were included. High TAM density was associated with decreased OS (HR 1.69, 95% CI 1.37 – 2.07) and reduced PFS (HR 1.64; 95% CI 1.35 – 1.99). This risk was higher in triple negative cases for both OS (HR 2.81, 95% CI 1.62 – 4.86) and PFS (HR 2.44; 95% CI 1.16 – 5.11). TAM CD163 expression was associated with decreased OS (HR 2.24; 95% CI 1.71 – 2.92) compared to CD68 (HR 1.5; 95% CI 1.12 – 2); and decreased PFS was similarly associated with CD163 (HR 2.03; 95% CI 1.51 – 2.73) compared to CD68 (HR 1.53; 95% CI 1.18 – 1.98). For OS, there was overlap in summary HR estimates for tumour nest versus tumour stroma, however PFS was lower for high density TAMs in the tumour stroma (HR 2.16; 95% CI 1.39 – 3.35) compared to the tumour nest (HR 1.37; 95% CI 1 – 1.89). Conclusion: High TAM density, particularly in the tumour stroma, and CD163+ TAMs in any location within the tumour tissue confers a poor prognosis. The association between TAM density and lower OS and PFS was higher in triple-negative breast cancer cases compared to other molecular subtypes.

8:50 am

Does prior breast irradiation increase complications of subsequent reduction surgery in breast cancer patients? - A systematic review of literature.

Doctor George Pappas

Purpose: The majority of early breast cancer patients undergo breast conserving surgery and radiotherapy. Some of them subsequently present for breast reduction (BR). The ideal timing for BR and whether prior radiotherapy could lead to increased complications are important considerations. Methods A systematic literature review was performed in Medline, PubMed and EMBASE from 1990-2021. Unpaired t- test analysis was performed using GraphPad Prism 9.3.1. Results Fourteen studies reported outcomes in 176 patients who underwent BR following unilateral breast conserving surgery and radiotherapy. The median age at BR was 50 years (range 39-60). The median time since radiotherapy was 44.65 months (range 11.7-86). Eighty five percent of patients had reduction mammoplasty and 15% had mastopexy (<100g resected). The outcomes for irradiated breast (IB) versus non-irradiated breast (NIB) were compared for each patient. The specimen weight was lower in IB (487g) compared with NIB (644g), but not significant (p= 0.13). Major complication rate was higher in IB (7.3%) compared with NIB (1.1%) but not significant (p= 0.14). Minor complication rate was higher in IB (39.2%) compared with NIB (5.7%) and was significant (p<0.0001) Conclusion The current literature on BR in breast cancer patients who had prior breast radiotherapy is limited to small case series. BR has been shown to be safe with small and acceptable risk of major complication rate, performed 12 months or more post- radiotherapy. However, patients need to be counseled of significantly higher minor complication rates in the IB.

9:00 am

Outcomes of DCIS treated with breast conserving surgery without radiotherapy on recurrence, survival, and health-related quality of life

Dr Siobhan Fitzpatrick
Introduction: DCIS is often treated with breast conserving surgery (BCS) and adjuvant radiotherapy (RT). BCS allows wide excision without compromising breast shape. There are concerns that RT for some DCIS after BCS is unnecessary and can reduce patient satisfaction, reduce health-related quality of life (HRQoL), and limit future reconstruction, without affecting survival. This study aimed to determine if pure DCIS can be managed safely with BCS without RT while assessing patient satisfaction and HRQoL. Methods: A retrospective study of patients who had BCS for DCIS without RT from 1992-2021. Tumour size, grade, necrosis, resection margins, follow-up and time to ipsilateral recurrence was recorded. All patients were posted a Breast-Q to assess satisfaction and HRQoL. Results: 138 patients were treated for pure DCIS from 1992-2018. 116 underwent BCS, 1 opted for RT, and 22 had mastectomy. 98.5% had clear margins on final resection. Average age at diagnosis was 60.8. Mean follow up was 9.14 years. After BCS recurrence rate was 18.97% and half were DCIS. Annualised recurrence rate was 2.07% on par with published trials of BCS with RT. Nil cancer related deaths. Breast-Q completion rate was 42.8%. Satisfaction and well-being scores were significantly higher than normative Australian values and scores did not significantly differ between women with and without recurrence. Conclusion: DCIS can be safely managed with BCS without adjuvant RT. This approach results in low annualised recurrence rates, high levels patient satisfaction and greater HRQoL outcomes regardless of recurrence rates. It should be considered as a safe alternative for patients with pure DCIS to minimise morbidity without affecting cancer survival or HRQoL.

9:10 am
The risk of breast cancer recurrence following breast reconstruction – analysis from single tertiary institution
Dr Yang Yang Huang
Purpose: to evaluate the risk of breast cancer recurrence following breast reconstruction between autologous vs alloplastic and smooth vs textured implants. Method: This is a single institution retrospective cohort study conducted from Peter MacCallum Cancer Centre. Patients from 1st January 2000 to 31st December 2020 were included in the study. Demographic, treatment, tumour, and reconstruction factors were collected and analysed comparing autologous versus alloplastic reconstruction. Further subgroup analysis was performed within the alloplastic reconstruction group comparing smooth (grade 1) versus textured implants (grade 2, 3 and 4). Results: a total of 426 patients were included in the analysis with 186 patients underwent autologous reconstruction (43.6%) and 240 patients underwent alloplastic reconstruction (56.3%); seventy-eight patients had smooth implants while 127 had textured implants, 7 patients had grade 3 implants and 13 patients had grade 4 implants. No cases of BIA-ALCL were reported within this cohort. Overall, 42 (9.86%) patients developed cancer recurrence, 18 patients (9.78%) in autologous and 24 (10%) in alloplastic group, with no statistically significant difference observed in local-regional recurrence-free-survival and disease-free survival (DFS). Three patients (23%) in the grade 4 implant group developed cancer recurrence. Multivariate analysis showed grade 4 textured implant use was associated with lower DFS (HR 14.62, 95%CI, 2.22-78.47; p=0.002). Conclusion: in this study cohort, there is no oncological difference between autologous and alloplastic reconstruction, however in the alloplastic group, heavily textured implants (grade 4) may be associated with reduced DFS.

9:20 am
The impact of liver resection on survival for patients with metastatic breast cancer – a systematic review and meta-analysis
Dr Gavin Calpin
Purpose: There is uncertainty surrounding the role of resection as an option for curative treatment of breast cancer with liver metastases (BCLM). We aimed to perform a systematic review and meta-analysis assessing the role of liver resection for isolated solitary BCLM. Method: A systematic review was performed as per PRISMA guidelines. Hazard ratio (HR) for overall survival (OS) and standard error was obtained from each study and expressed using the generic inverse variance method, with a corresponding 95% confidence interval (CI). Overall survival outcomes at 1- 3- and 5-years were expressed as dichotomous variables and pooled as odds ratios (OR) using the Mantel-Haenszel method. Results: Nine studies including 1,732 patients were included. Of these, 24.5% underwent surgical resection of BCLM (424/1,732) and 75.5% did not (1,308/1,732). Overall, OS was significantly better among those who underwent surgery versus controls (HR: 0.69, 95% CI: 0.59-0.80, P<0.00001). OS was significantly improved at 1-year (7.5% (10/134) vs 20.3% (79/390), OR: 0.25, 95% CI: 0.08-0.74, P=0.010) and 5-years (54.0% (190/352) vs 75.3% (940/1,249), OR: 0.46, 95% CI: 0.25-0.87, P=0.020) respectively for those undergoing surgery versus controls. Mortality rates at 3 years after surgery were lower than the control group (19.1% (29/152) vs 53.0% (222/419)), however this failed to achieve statistical significance at meta-analysis (OR: 0.32, 95% CI: 0.09-1.12, P=0.070). Conclusion: Liver resection may be considered at multidisciplinary meetings for those with BCLM and offers a potentially curative option. However, judicious patient selection is crucial prior to making decisions in relation to resection of BCLM.

8:00 am - 9:30 am
STRENGTHS-BASED INDIGENOUS HEALTH

Scientific Session - Indigenous Health - Boulevard Level Meeting Room B1

8:00 am
Perioperative Wellness check to reduce Indigenous surgery cancellations
Mr King Law, Mr Cory Williams, Ms Yashni Kander, Mr Geoffrey Binge, Ms Patricia Kennedy

8:15 am
Public health principles in Indigenous surgery
Dr Ngaree Blow

8:30 am
Setting the correct narrative for Indigenous Health
Dr Lisa Waia, Dr Lisa Waia, Professor Kelvin Kong

8:45 am
How Te Tai Tokerau Māori want their bowel screening program delivered – a kaupapa Māori approach.
Dr Emma Espiner, Dr Emma Espiner
The New Zealand National Bowel Screening program has been criticised as not being fit for purpose and at risk of potentially increasing bowel cancer inequities for Māori. A qualitative, kaupapa Māori (Māori world view centred) research study was performed which interviewed representatives from Māori health providers and iwi groups in Te Tai Tokerau to determine how Māori in Northland wanted the bowel screening program delivered. Six themes were identified – rangatiratanga, whanaungatanga, experiences of being Māori in the health system, communication, health knowledge and practical considerations of the bowel screening program. Experiences of racism influenced interaction with the health system and health behaviours. Cultural concerns regarding the collection and processing of the faecal occult blood samples were important barriers to participation in the program. The use of local services which were accepted and known to the community were favoured over a centrally implemented screening program. The value of relationships and connections were considered essential to achieving acceptance of the program. Communication about the program needed to use Te Reo Māori, be respectful of cultural sensitivities about the program, use humour and be delivered by local leaders. Participants also described significant experience with implementation of other screening programs and of interactions with the health system. This study is the first kaupapa Māori study to examine how Māori want their bowel screening program delivered. The recommendations differ significantly from the current national program which was not designed for or by Māori. Screening programs which are designed by Māori are more likely to be successful and equitable.

9:00 am
Discussion

8:00 am - 9:30 am
SURGEONS IN ENDOSCOPY

Scientific Session - General Surgery, Colorectal Surgery - Great Hall Q4 (Use Door 5)

8:00 am
Improving quality in colonoscopy in Australasia
Dr Iain Skinner
As surgeons we all take pride in how we perform. This presentation looks at some of the factors that contribute to quality in colonoscopy, how they can affect our practice and how they can be affected by our practices. Underlying themes such as training and education, mindset, and external factors are discussed. The aim of this presentation is to generate questions and answers for each individual within the audience around whether their colonoscopy practice provides the highest level of quality; and if not how that can be improved. It will also help direct those who wish to explore specific areas of quality colonoscopy practice more closely

8:15 am
The malignant polyp - the balance of undertreatment vs. overtreatment
Dr Andrew Riddell

8:30 am
Is there any consensus on the management of radiation proctitis?
Dr Andrew Luck
Radiation damage to the lower rectum is a common complication of the treatment of pelvic malignancy, most commonly prostate cancer. Symptoms range from mild rectal bleeding and tenesmus to refractory urgency, uncontrollable pain and gross haemorrhage. Treatment of radiation proctitis varies both with the severity of the symptoms and the preference of the treating surgeon, with non operative, endoscopic and

surgical treatments all considerations. This paper discusses the pathophysiology of radiation proctitis, details the treatment options in our armamentarium and aims to define the consensus view for the optimal management of this challenging condition.

8:45 am
Practical approaches to lower GI bleeding
Dr Nagham Al-Mozany
Lower gastrointestinal bleeding account for approximately 36 per 100,000 cases in the USA. Bleeding may be classified into major and minor depending on risk prediction scores. Patient management entails simultaneous assessment and resuscitation with the use of appropriate radiological and/or endoscopic diagnostics and intervention, while surgery may be considered for the haemodynamically unstable patient or those who have failed non-operative interventions. The objective of this presentation is to provide an overview of the practical management pathways in dealing with patients with rectal bleeding.

9:00 am
Discussion

8:00 am - 9:30 am
TECHNIQUES FOR UGI AND BARIATRIC SURGERY

Scientific Session - Upper GI Surgery, Bariatric Surgery - Great Hall Q1 (Use Door 6)

8:00 am
OAGB
Dr Craig Taylor

8:15 am
Collis gastroplasty
Professor David Gotley
The Collis Gastroplasty is a technique devised by John Leigh Collis in 1961 to create an increased intra-abdominal length of oesophagus. The aim is to facilitate a stable intra-abdominal fundoplication in the event of a “short oesophagus" due to hiatal hernia with chronic abnormal gastro-oesophageal reflux. There are two laparoscopic techniques in use: 1) A technique of wedge excision of the fundus and part of the gastric body approached from the left lateral side, devised in the United States. 2) Vertical staple/division of the fundus and upper gastric body from above via stapler access below the xiphisternum (Brisbane), and fundoplication in each case. The latter technique does not involve resection of the fundus and remains our preferred approach. Indication: Inadequate abdominal oesophageal length available after reduction of herniated stomach and hernial sac from the thorax and extended oesophageal mobilisation. Technique: A FG 44-48 oesophageal bougie is carefully introduced under GA and placed across the GOJ. A stapler is introduced via a substernal incision. The mobilised fundus is retracted left laterally, and the stapler is applied vertically from the angle of HIS inferiorly alongside the bougie. The first application/division is 2-3cm in length. The second application is 4-5cm in length. The bougie is withdrawn into the thoracic oesophagus. The hiatus is repaired using 1 or 2 posterior crural sutures as required. The fundus is drawn behind the oesophagus, pivoting at the inferior extent of the staple line with the staple line present on the inferior border of the wrap. A standard Toupet (or alternative) fundoplication is then fashioned with the bougie in place and the wrap attached laterally each side to the hiatal crura.

8:30 am
How I do MIS Gastrectomy
Professor Han-Kwang Yang

8:45 am
Robotic oesophagectomy
Professor Andrew Barbour

9:00 am
RYGB post fundoplication
Dr Reza Adib

9:15 am
Thoracoscopic OG anastomosis
Dr Shalvin Prasad, Dr Shalvin Prasad
Minimally invasive intrathoracic oesophagogastric anastomosis can be technically challenging, with several different techniques described in the literature. Here, we present a video to describe a nuanced technique to perform an intracorporeal anastomosis using a circular stapler during a two field MIO. In addition, early

outcome data using this technique at the Upper GI unit at Royal Adelaide Hospital is summarised.

8:00 am - 9:30 am
TELEHEALTH FOR EMERGENCIES

Scientific Session - Rural Surgery, Military Surgery, Burn Surgery - Plaza Level Meeting Room P1

8:00 am
The demise of the Ausburn Plan
Dr Michael Rudd

8:20 am
Civilian Fly away burn teams: the Queensland experience
Dr Jason Miller

8:40 am
Proposal for a military fly away burn team
Dr Keith Towsey

9:00 am
Discussion

8:00 am - 9:30 am
THORACIC SURGERY, WHAT'S NEW

Scientific Session - Cardiothoracic Surgery - Plaza Level Meeting Room P3

8:00 am
Mesothelioma systemic therapy: past, present and future
Associate Professor Bryan Chan

8:20 am
Lobectomy vs. sub-lobar resection in patients with NSCLC and good lung function
Dr Ben Dunne

8:40 am
Resuscitative Thoracotomy - Indications and Outcomes
Professor Kenji Inaba

9:00 am
The advantages of robotic lung resection over VATS
A/Prof Christopher Cao

9:20 am
Discussion

8:00 am - 9:30 am
TS REEVE PAPER SESSION 2

Scientific Session - Endocrine Surgery - Plaza Level Meeting Room P2

8:00 am
The prognostic impact of extent of vascular invasion in angioinvasive follicular thyroid carcinoma
Dr David Leong
Purpose Encapsulated angioinvasive follicular thyroid carcinoma (EAFTC) is associated with an increased risk of distant metastasis and reduced survival compared to minimally invasive follicular thyroid carcinoma (MIFTC). There is controversy however, regarding the extent of surgery and adjuvant radioactive iodine therapy for angioinvasive follicular thyroid carcinoma when stratified by number of foci. Method Follicular thyroid carcinoma cases were identified from a thyroid cancer database. Primary outcomes were distant metastasis and disease specific survival with factors of interest being age, gender, tumour size, treatment,

foci of angioinvasion and histological subtype. Data linkage with the NSW Registry of Births Deaths & Marriages was used to determine survival times. Outcomes were analysed using Kaplan Meier estimates and Cox proportional hazard regression. Results Over 28 years a total of 293 cases were identified. Encapsulated angioinvasive follicular thyroid carcinomas (EAFTC) with < 4 foci of angioinvasion are at increased risk of distant metastasis (6.3%) compared to MIFTC (2.9%) despite increased use of RAI therapy. The risk of metastasis in EAFTC with ≥ 4 foci of angioinvasion (31.7% HR5.4 p=0.003) approximates widely invasive tumours (50% HR9.39 p<0.001). A significant proportion (50%) of EAFTC present with metastasis. Increasing age (HR11.73) and tumour size (HR1.27) is highly significant for developing distant metastasis and decreased survival. Conclusion The extent of angioinvasion significantly predicts distant metastasis and survival. Larger tumours with < 4 foci of angioinvasion are intermediate risk and should be considered for a total thyroidectomy and adjuvant RAI therapy particularly in older patients.

8:12 am
Hypothyroidism after hemi thyroidectomy: A systematic review and meta-analysis
Mr Dominic Cooper
Purpose To determine the prevalence and risk factors for hypothyroidism and thyroxine supplementation following hemi thyroidectomy Methods A systematic search was conducted on MEDLINE, EMBASE, Scopus, and the Cochrane library up to July 2021. Meta-analysis of the pooled data was performed using Review Manager 5.4. Dichotomous variables were reported using a risk ratio (RR) and continuous variables by a weighted mean difference (WMD). Results Sixty-two studies were eligible for inclusion, with 33 reporting risk factors, and 24 reporting the post-operative course of hypothyroidism. Median follow-up was 28 months. The pooled prevalence of hypothyroidism was 30% (95% CI, 25-35%; P<0.00001) and overt hypothyroidism was 6% (95% CI, 4-8%, P<0.00001) with 83.3% of them developing hypothyroidism within 12 months. Transient hypothyroidism occurred in 34% of patients (95% CI, 20-48%; P<0.00001). The prevalence of thyroxine supplementation was 23% (95% CI, 19-28%; P<0.00001). Risk factors for the development of hypothyroidism included pre-operative thyroid stimulating hormone (WMD, 0.90; 95% CI, 0.78-1.03; P<0.00001), female sex (RR, 1.19; 95% CI, 1.07-1.33; P=0.001), age (WMD, 2.58; 95% CI, 1.44-3.71; P<0.00001), right sided hemi thyroidectomy (RR, 1.47; 95% CI, 1.21-1.79, P<0.0001), the presence of autoantibodies anti-TPO (RR, 1.82; 95% CI, 1.44-2.31; P<0.00001) and anti-Tg (RR, 1.47; 95% CI, 1.20-1.80; P=0.0002), and Hashimoto's thyroiditis (RR, 1.96; 95% CI, 1.53-2.51; P<0.00001). Conclusion The prevalence of hypothyroidism was 30% and that of thyroxine supplementation was 23%, which can be transient. An awareness of patient risk factors and postoperative thyroid function course will help in counselling patients on their individual risk.

8:24 am
Outcomes of papillary thyroid microcarcinoma presenting with clinically detected lateral lymphadenopathy
Dr Alexander Papachristos
Purpose The indolent behaviour of most Papillary Thyroid Microcarcinoma(PTMC) allows management with active surveillance (AS) protocols, however occasionally a more aggressive PTMC phenotype may result in poor outcomes. We aim to describe the prognosis of a cohort of patients with PTMC who presented with clinically significant lateral lymphadenopathy(PTMCcN1b). Methodology Outcomes of PTMCcN1b patients were collated and compared to two control groups' outcomes; patients with clinically detected PMTC without evidence of involved lymph nodes (PTMCcN0), and with PTC(>10mm) who presented with clinically significant lateral lymphadenopathy(PTCcN1b). Clinicopathological variables, post-operative risk-stratification, rates of disease recurrence, re-operative surgery, and structural disease-free survival were assessed. Results During the study period, a total of 1534 PTMCs were surgically treated, including 26 PTMCcN1b(1.7%) and 157(10%) PTMCcN0, and 138 patients in the PTCcN1b group. In comparison to PTCcN1b patients, PTMCcN1b patients had similar maximal nodal deposit sizes (23vs21mm,p=0.11), but a lower rate of re-operation (4%vs26%,p=0.002) and lower rates of persistent or recurrent disease (19%vs42%). All patients in the PTMCcN1b group who achieved an excellent response to initial therapy (85%) were disease-free at last follow-up, and compared to PTCcN1b patients, had superior 5-year survival (94% vs 59%,p=0.001). Conclusion PTMCcN1b patients perform better than PTCcN1b with respect to disease persistence and recurrence. Response to initial therapy provides accurate prognostication in PTMCcN1b disease: if an excellent response to initial treatment is achieved, patients in this series achieved long-term disease-free survival

8:36 am
Fear of Cancer Recurrence is a Common Concern with Unmet Needs in Australian Thyroid Cancer Survivors
Dr Ahmad Alam
Purpose: International literature suggests that despite a good prognosis, more than 50% of thyroid cancer survivors experience significant fear of cancer recurrence (FCR) and that this drives health-related quality of life detriments. The prevalence and impact of FCR in Australian thyroid cancer survivors is unknown. Methods: A mixed methods study investigating FCR was undertaken within a prospectively recruited cohort of thyroid cancer survivors, diagnosed between June 2020 and December 2021, in a single health district (mixed metropolitan and regional). Respondents completed the Assessment of Survivor Concerns (ASC) survey at baseline, 3-, 6- and 12-months following diagnosis. Semi-structured telephone interviews were undertaken with 20 survivors ensuring a diverse sample of age, gender, stage of disease and geographical location. Results: 54 baseline surveys were obtained (52% of eligible participants). Overall mean ASC scores were 16.5, SD 0.7; made up cancer worry scores (mean 11, SD 1.4) and general health worry scores (mean

5.5, SD 0.7). These scores are high compared to other published cohorts of thyroid cancer or mixed oncology survivors. Thematic analysis of interviews supported these data that FCR was common. Patients identified family and treating clinicians as the main sources of support. However, many felt that professional psychosocial support at the time of diagnosis would have been of benefit, but few were offered this and even fewer were able to access this. Conclusion: FCR is common in thyroid cancer survivors and disproportionate to true risk of recurrence. There is an unmet need for psychosocial support for newly diagnosed patients with thyroid cancer.

8:48 am
Artificial Intelligence for preoperative diagnosis of Malignant Thyroid Nodules based on sonographic features and cytology
Dr Karishma Jassal
Purpose More confident preoperative diagnosis of malignant thyroid nodules can reduce multistage or unnecessary surgery. The aim of this study was to determine the diagnostic performance of an artificial intelligence (AI) model incorporating FNAC and USG features. Methods Patients were recruited from the Monash University Endocrine Surgery Unit database (2010 - 2020) to either the training or testing groups. Age, sex, USG features and FNAC results were used. Training group USG images were reviewed by an Alfred radiologist. Testing group USG features were extracted from existing reports by surgical residents. Training and internal validation using k-fold cross validation were performed before applying classifier models (K nearest neighbour, Support vector machines, decision tree, naïve bayes) to determine performance. The trained model was then externally validated by application to a testing group. Results In the training group (n=563) 79% were female and 17% of cases were malignant. The testing group (n=727) consisted of 57% females and 33% malignant cases. Mean age was 52.3 years. The naïve bayes classifier model was found to perform best with an accuracy of 88%. When the predictive model was applied to subsamples by FNAC, accuracy was B1 76%, B2 92%, B3 100%, B4 57%, B5 100%, B6 100%. In the testing group, the naïve bayes classifier was also the best performing with an accuracy of 90%, sensitivity 95% and specificity 77%. FNAC result accuracy was B1 72%, B2 73%, B3 64%, B4 56%, B5 76%, B6 98%. Conclusion There is potential for AI driven predictive analytics to integrate multiple diagnostic methods. Its performance heavily depends on the quality of the input, which will be further explored in ongoing research.

9:00 am
Incidence of hypoparathyroidism post total thyroidectomy with selective parathyroid auto-transplantation
Dr Anita Niu
Background Reported rates of hypoparathyroidism following total thyroidectomy vary dramatically based on varying definitions of hypoparathyroidism, approach to auto-transplantation(AutoTx), post-operative prophylactic calcium supplementation protocols and quality of follow-up data. We aim to describe the incidence and predictors of postoperative HypoPT in a consecutive series of patients with prospective follow-up data. Methods We analysed operative data and outcomes of 445 consecutive patients who underwent total thyroidectomy between April 2018 and January 2020. Temporary HypoPT (tHypoPT) was defined as PTH <1.6 pmol/L at 24 hours or 48 hours postoperatively. Permanent HypoPT (pHypoPT) was defined as PTH <1.6 pmol/L at 12 months post-operatively, or an ongoing need for calcitriol supplementation to maintain normocalcaemia. Results tHypoPT occurred in 117 (26%) patients, but no patient required IV calcium replacement. pHypoPT occurred in 7 (1.6%) patients, including 4 patients with recovery of PTH levels but an ongoing supplementation requirement. Indication for surgery did not influence HypoPT. tHypoPT was associated with parathyroid AutoTx (OR 4.0, p<0.001), however failure to AutoTx was associated with an increased risk of pHypoPT (OR 13.5, p=0.004). Failure to identify all parathyroid glands (OR 9.7, p=0.008) and the presence of parathyroid tissue in the pathology specimen (OR 5.5, p=0.04) were associated with pHypoPT. Conclusion Supplementation requirement despite recovery of PTH levels at 12 months must be included in the definition of pHypoPara. AutoTx is an important technique in the prevention of pHypoPara. The thyroid gland must be carefully examined after excision to identify parathyroid tissue for AutoTx.

9:12 am
Next generation sequencing molecular testing on thyroid nodule aspirates: an Australian perspective
Dr. Andrew Shover
Purpose The utility of molecular testing on preoperative thyroid nodule aspirates remains controversial. We aimed to determine if multigene testing can improve preoperative diagnosis and surgical decision-making. Methods Patients with dominant nodules undergoing thyroid surgery were recruited between 2019 and 2021 from 4 Melbourne tertiary hospitals. Following induction of anaesthesia, prior to skin incision, an ultrasound-guided fine needle aspirate (FNA) sample was taken from the nodule of interest. The extracted DNA and RNA were tested for somatic mutations and fusions using a commercial panel. The sequencing results were correlated to histopathology findings and accuracies calculated. Results At present, 113 of 132 FNA samples have been sequenced and reported here. The 87 (77%) successfully sequenced samples from 75 patients (mean age of 52 years, 56% female) showed 33 somatic mutations and 4 RNA fusions. The cytology of these 87 nodules were benign in 13 (15%), indeterminate in 61 (70%), malignant in 11 (13%) and not done in 2 (2%). The mean tumour size was 34 mm. All BRAFV600E mutations and all fusions in the FNA were associated with papillary thyroid cancer (PTC, n=25) or poorly differentiated thyroid cancer (n=1). The overall positive predictive value (PPV) was 82% and the negative predictive value was 88%. There was a high rate of BRAF mutation in this cohort, and the PPV for BRAF alone was 100%. Conclusion With molecular

profiling, up to 26% of patients with indeterminate cytology would potentially avoid 2-stage thyroidectomy and had optimal lymph node surgery. Upcoming analysis of the remaining FNA samples and matching tumour tissue will further define the utility of this molecular panel.

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04 May 2022

9:30 am - 10:30 am
ANZAPS ANNUAL GENERAL MEETING

Business Meeting - Paediatric Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

9:30 am - 10:30 am
ENDOCRINE SURGERY SECTION ANNUAL BUSINESS MEETING

Business Meeting - Endocrine Surgery - Plaza Level Meeting Room P2

9:30 am - 10:00 am
HISTORY, HERITAGE AND ARCHIVES ANNUAL BUSINESS MEETING

Business Meeting - Surgical History - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

9:30 am - 10:30 am
MILITARY SURGERY SECTION ANNUAL BUSINESS MEETING

Business Meeting - Military Surgery - Plaza Level Meeting Room P1

9:30 am - 10:30 am
PAIN MEDICINE AND SURGERY ANNUAL BUSINESS MEETING

Business Meeting - Pain Medicine & Surgery - Plaza Level Meeting Room P5

9:30 am - 10:30 am
SURGICAL DIRECTORS SECTION ANNUAL BUSINESS MEETING

Business Meeting - Surgical Directors - Mezzanine Level Meeting Room M4

9:30 am - 10:30 am
TRAUMA QUALITY IMPROVEMENT COMMITTEE MEETING

Business Meeting - Trauma Surgery - Great Hall Merivales Boardroom 1

9:30 am - 10:30 am
UPPER GI / HPB / OBESITY SURGERY SECTION ANNUAL BUSINESS MEETING

Business Meeting - Upper GI Surgery, HPB Surgery, Bariatric Surgery - Great Hall Q1 (Use Door 6)

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04 May 2022

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Upper GI Surgery, HPB Surgery, Transplantation Surgery, Bariatric Surgery

Venue: Three Blue Ducks

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Endocrine Surgery, Breast Surgery

Venue: The Calile Hotel

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Burn Surgery, Paediatric Surgery

Venue: Chu the Phat

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Trauma Surgery, Surgical History, Surgical Education, Military Surgery

Venue: The United Service Club

11:00 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Vascular Surgery

Venue: Mezzanine Room, Donna Chang

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04 May 2022

11:45 am - 2:30 pm
SECTION DINNER (TICKETED EVENT)

Speciality Dinner - Colorectal Surgery

Venue: Greca

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05 May 2022

11:00 pm - 12:20 am
MASTERCLASS (MC13): NEOADJUVANT SYSTEMIC THERAPY IN 2022 - WHO, WHEN AND HOW? (TICKETED EVENT)

Masterclass - Breast Surgery - Mezzanine Level Meeting Room M2

11:00 pm
When not to, when to, appropriate imaging
Dr Melissa Bochner, Dr Kerry McMahon, Dr Maree Colosimo

11:00 pm - 12:20 am
MASTERCLASS (MC14): ROBOTIC COLORECTAL SURGERY - LEARNING CURVES AND FINDING ITS PLACE (TICKETED EVENT)

Masterclass - Colorectal Surgery - Mezzanine Level Meeting Room M3

Proudly supported by: Device Technologies

11:00 pm
Why I do robotic colorectal surgery
Dr Stephen Pillinger
This presentation will focus on moving past the "how I do it' style of talk that has been prominent in Robotic Colorectal sessions up to this point. We are at the point where results are available and can be critically assessed. There are indisputable advantages for patients, surgeons and hospitals with Robotic Colorectal surgery an this presentation will review these advantages with a focus on outcomes

11:15 pm
Why I don't do robotic colorectal surgery, yet...
Dr Damien Petersen
The Robot Systems currently available have allowed many surgeons to perform minimally invasive surgery to a high standard. Minimally invasive surgery (when possible) has significant advantages over open general and colorectal surgical procedures. High level minimal invasive surgery can be done laparoscopically with less cost, faster surgical times and with similar procedure specific outcomes.

11:30 pm
How I set up and developed my robotic surgical practice
Dr Carina Chow

11:45 pm
How I optimise my robotic outcomes
Professor Andrew Stevenson

12:00 am
Discussion

11:00 pm - 12:20 am
MASTERCLASS (MC15): MANAGEMENT OF BILE DUCT STONES AFTER BARIATRIC SURGERY (TICKETED EVENT)

Masterclass - General Surgery - Mezzanine Level Meeting Room M4

11:00 pm
CBD stones after bariatric surgery
Dr David Mitchell, Dr Mark Appleyard

11:00 pm - 12:20 am
MASTERCLASS (MC16): BUILDING COMPETENCE IN THE TENTH COMPETENCY (TICKETED EVENT)

Masterclass - Indigenous Health - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

Cultural competence and cultural safety was launched at the end of 2019 as the RACS 10th competency. But how do you assess if you are culturally competent or safe? What is cultural safety anyway? All welcome, no matter where you are in the cultural safety journey.

11:00 pm
The privilege walk
Associate Professor Richard Matthews

11:00 pm - 12:20 am
MASTERCLASS (MC17): MANAGEMENT OF SHORT BOWEL SYNDROME (TICKETED EVENT)

Masterclass - Paediatric Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

11:00 pm
Research
Associate Professor Colin Martin
Short bowel syndrome (SBS) is defined as loss of absorptive intestinal surface area resulting in inadequate caloric and electrolyte absorption. SBS incurs a major public health economic burden and many patients are on long term intravenous nutritional supplementation. The major causes of SBS are necrotizing enterocolitis, intestinal volvulus, and gastroschisis. The current presentation will include the management, current therapies, and controversies of SBS.

11:20 pm
An update of the medical management of short bowel syndrome
Dr Looi Ee

11:40 pm
What's new in lengthening procedures
Dr Gordon Thomas

12:00 am
Discussion

11:00 pm - 12:20 am
MASTERCLASS (MC18): LET'S TALK ABOUT UNDERPERFORMANCE - MEANINGFUL SUPPORT FOR TRAINEES (TICKETED EVENT)

Masterclass - Surgical Education - Mezzanine Level Meeting Room M9

11:00 pm
Skills for creation and implementation of development plans
Associate Professor Ramesh Nataraja, Associate Professor Ramesh Nataraja, Professor Debra Nestel, Dr Amiria Lynch, Dr Kathryn McLeod

11:00 pm - 12:20 am
WOMEN IN SURGERY BREAKFAST AND ANNUAL BUSINESS MEETING (TICKETED EVENT)

Breakfast Session - Women in Surgery - Sky Level Sky Room

11:00 pm
AGM
Dr Christine Lai

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05 May 2022

11:30 pm - 12:30 am
MEDICO LEGAL SECTION COMMITTEE MEETING

Business Meeting - Medico-legal Program - Great Hall Merivales Boardroom 1

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05 May 2022

12:30 am - 2:00 am
ACHALASIA AND MOTILITY DISORDERS: AN UPDATE

Scientific Session - Upper GI Surgery - Mezzanine Level Meeting Room M3

12:30 am
Manometry
Dr Salena Ward

12:50 am
Achalasia - Hellers myotomy
Associate Professor Sarah Thompson, Associate Professor Sarah Thompson
Treatment for achalasia is palliative and concentrates on relieving the obstruction at the gastro-oesophageal junction. The goals of treatment are to improve oesophageal emptying, alleviate symptoms, reduce the risk of developing end-stage achalasia, and improve quality of life. The operative principles for a Heller's myotomy will be discussed, and the importance of the addition of a partial fundoplication. The evidence to support a Heller's myotomy as first line treatment in selected individuals will be covered, as well as an algorithm for the management of patients with achalasia.

1:10 am
Achalasia - POEM
Dr Geoffrey Kohn
Achalasia is a disorder of oesophagogastric junction outflow, with elevated lower oesophageal sphincter (LES) relaxation pressures. Disruption of the LES by laparoscopic Heller myotomy has long been accepted as an effective treatment option. So too, for certain achalasia subtypes, has been endoscopic pneumatic dilatation. Recently, peroral endoscopic myotomy (POEM) has emerged as a proven alternative. Concerns initially existed regarding the safety and efficacy of POEM and the possibility of the procedure causing long-term gastroesophageal reflux. Moreover, it has been uncertain as to whether POEM is to be considered more as an alternative to laparoscopic division of the LES or as more of an alternative to endoscopic LES disruption by dilatation. Herein, the evidence comparing POEM with Heller myotomy and with Pneumatic dilatation is reviewed, and recent clinical practice guidelines are presented. Based on the review, POEM is found to be equivalent to Heller myotomy in terms of efficacy, improvements in LES pressures and in gastrointestinal quality of life, while not causing more gastroesophageal reflux problems. Indeed, it is possible that POEM causes less severe reflux than Heller myotomy. POEM is superior to pneumatic dilatation in terms of efficacy, disease-related quality of life, and need for retreatment. POEM should be a first-line treatment option for achalasia subtypes I and II, and should be the preferred treatment option for subtype III.

1:30 am
Achalasia and obesity
Purpose Epidemiological studies have demonstrated that achalasia occurs in obese patients at a higher frequency than the general population. Moreover, treated achalasia patients develop obesity, and bariatric surgery predisposes to achalasia. Currently, there are no guidelines to support decision making in managing patients with achalasia and obesity. Methods A systematic review of PubMed and Web of Science was performed between 1 January 2000 to 1 April 2022 according to PRISMA guidelines. A patient-level meta-analysis was undertaken to examine the weight loss and symptomatic outcomes of different management options for patients with achalasia and obesity. Results Of 197 records screened, 31 publications with 89 patients were included in the final meta-analysis. All publications were case series or reports. For patients who present with concurrent achalasia and obesity (N=14), laparoscopic Heller's myotomy (LHM) and roux en-Y gastric bypass (RYGB) was the most commonly performed procedure achieving adequate weight loss and 100% achalasia remission in the medium-term. For patients who previously received a myotomy and has developed morbid obesity (N=7), RYGB also achieved satisfactory medium-term weight loss and 100% achalasia control. For patients who previously underwent bariatric surgery (RYGB=55, Sleeve

gastrectomy=9, vertical band gastroplasty=2, duodenal switch=2) and has developed achalasia, endoscopic myotomy (POEM) achieves superior achalasia remission than LHM. Conclusions Achalasia in association with obesity is an emerging issue. However, current literature on this topic is restricted to case series. This systematic review and patient-level meta-analysis offers a potential algorithm to managing these complicated cases.

1:50 am
Discussion

12:30 am - 2:00 am
ADRENAL SURGERY

Scientific Session - Endocrine Surgery - Plaza Level Meeting Room P2

12:30 am
An adrenal surgeon's insights into anatomy and radiology
Dr Peter Campbell

12:50 am
Updates on Pathology of adrenal gland
Professor Alfred Lam
Adrenal gland tumours are classified mainly into tumours of the adrenal cortex and tumours of adrenal medulla. The 2022'World Health Organization (WHO) classification of endocrine and neuroendocrine tumours recommended certain new non-neoplastic entities in the classification. In tumours of the adrenal cortex, cortical lesions such as adrenal rests, adrenal cysts, congenital adrenal hyperplasia, and adrenocortical nodular disease are newly added in the classification. Histopathology of primary aldosteronism (HITALDO) are endorsed to classify aldosteronism- producing adrenal lesions. In malignant cortical lesion, adrenocortical carcinoma, different subtypes, conventional, oncocytic, myoxid and sarcomatoid, are documented. In adrenal medulla, risk of metastases in pheochromocytoma are being stratified on pathological, immunohistochemical parameter as well as catecholamine and molecular status. No scoring system is used any more and classification into "benign" and "malignant" phaeochromocytoma are abandoned. Based on WHO classification and documented clinical and pathological evidence on behaviour of endocrine cancers, International Collaboration on Cancer Reporting (ICCR) and Royal College of Pathologists of Australasia has produced Datasets (structured cancer reports) for standardized pathology reporting of adrenal cancers which is intended for quality clinical management of patients with adrenal cancers worldwide. These datasets are developed by pathologist, surgeons, oncologists and provides bases for standardized protocol and personalized approach for better management and development of novel therapies for patients with adrenal cancers.

1:10 am
To block or not to block... that is the question
Simon Grodski

1:30 am
Phaeochromocytoma and paraganglioma imaging update
A/Professor David Pattison
There have been recent rapid advances in the understanding of the genetics of phaechromoctyoma and paraganglioma yielding insights into pathogenesis and molecular physiology. This talk will focus on the implications of PPGL genotype-phenotype correlation for the most appropriate choice of molecular imaging tracer – I-123 MIBG, FDG, 68Ga-DOTATATE and FDOPA – for individuals depending upon their genotype (if known) and/or clinical presentation. Scan clinical indications – diagnostic confirmation, staging, surveillance or evaluation for radionuclide therapy – will also be discussed. These developments have been summarised in the recent guidelines published by the European Association of Nuclear Medicine and the Society of Nuclear Medicine & Molecular Imaging (EANM/SNM). Reference: Taïeb D, Hicks RJ, Hindié E, et al. European Association of Nuclear Medicine Practice Guideline/Society of Nuclear Medicine and Molecular Imaging Procedure Standard 2019 for radionuclide imaging of phaeochromocytoma and paraganglioma. Eur J Nucl Med Mol Imaging. 2019; 46:2112-2137.

1:50 am
Discussion

12:30 am - 1:00 am
ALLAYING FEAR OF AN UNKNOWN: PEER REVIEW AS A VALUABLE SAFETY AND QUALITY TOOL (Q & A SESSION)

Scientific Session - Quality & Safety in Surgical Practice - Mezzanine Level Meeting Room M2

12:30 am - 2:00 am
CANNABINOIDS AND PAIN MANAGEMENT

Scientific Session - Pain Medicine & Surgery - Plaza Level Meeting Room P5

12:30 am
Medicinal Cannabis products: what's their role in chronic pain management?
Dr Malcolm Hogg

12:45 am
Cannabinoids are the new opioids
A/prof Michael Vagg

1:00 am
Evidence against the use of cannabinoids to manage chronic pain
A/prof Brendan Moore

1:15 am
Discussion

12:30 am - 2:00 am
COMPASSION & CULTURE

Scientific Session - General Surgery, Surgical Directors - Mezzanine Level Meeting Room M9

12:30 am
Compassionomics
Professor Stephen Trzeciak

12:50 am
Panel Discussion
Professor Deborah Bailey, Professor Stephen Trzeciak, Sanjeev Naidu

1:05 am
“CompassionEd” - The Compassion curriculum in the University of Queensland MD program
Charley Greentree, Dr Venkat Reddy

1:25 am
The true cost of poor culture
Dr Mark O'Brien

1:45 am
Panel Discussion
Charley Greentree, Dr Venkat Reddy, Dr Mark O'Brien

12:30 am - 1:00 am
KEYNOTE LECTURE - DR MICHAEL D'ANGELICA

Scientific Session - HPB Surgery - Great Hall Q3 (Use Door 9)

12:30 am
Hepatic artery infusion therapy - has it's time come this time?
Dr Michael D'Angelica

12:30 am - 2:00 am
LEARN FROM THE EXPERTS - SURGICAL TECHNIQUES AND EXPOSURES

Scientific Session - Vascular Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

12:30 am
Mesenteric Ischaemia: The forgotten yet crucial bypass
Dr Allan Kruger

12:50 am
Spinal Access: Getting to your destination safely
Doctor Nicholas Boyne

1:10 am
Non-atherosclerotic Disease: A young person's game
Dr Toby Cohen

1:30 am
Thoracic Outlet: Treatment in a pince
Dr Simon Quinn

1:50 am
Discussion

12:30 am - 2:00 am
LIMITATIONS OF BARIATRIC SURGERY

Scientific Session - Bariatric Surgery - Great Hall Q1 (Use Door 6)

12:30 am
Non-diabetic with BMI <35 - is there a role for bariatric surgery?
Michael Hatzifotis

12:45 am
Is there a BMI that is too high for bariatric surgery?
Dr Justin Greenslade

1:00 am
Bariatric surgery in patients over 70 - is it appropriate?
Mr Adam Skidmore

1:15 am
Bariatric surgery in adolescents
Dr Jacob Chisholm, Dr Jacob Chisholm

1:30 am
Discussion

12:30 am - 2:00 am
OPTIMISING FUNCTIONAL AND COSMETIC OUTCOMES IN BURN SURVIVORS

Scientific Session - Paediatric Surgery, Trauma Surgery, Burn Surgery - Plaza Level Meeting Room P1

12:30 am
Optimising functional and cosmetic outcomes in burn survivors
Professor David Greenhalgh

12:50 am
Contemporary burn scar management: shifting the goal posts
Dr Monique Bertinetti

1:10 am
The best burns outcomes are achieved by getting it right in the first 24 hours
Professor Roy Kimble

1:30 am
Discussion

12:30 am - 2:00 am
PREPARATION FOR SURGERY

Scientific Session - General Surgery, Colorectal Surgery - Great Hall Q4 (Use Door 5)

12:30 am
Management of the obese patient with colorectal cancer
Dr Stephen Bell

12:45 am
The importance of sarcopaenia in colorectal surgery
Dr Richard Gartrell

1:00 am
Do oral antibiotics reduce the risk of anastomotic leakage?
Dr Timothy Ganguly

1:15 am
Optimal perioperative treatment of anaemia
Dr Edward Pilling

1:30 am
Multimodal prehabilitation in colorectal surgery - what can be achieved in a month?
Dr Adrian Hall
Prehabilitation is an attractive concept based on sound logic, proven physiological principles and incomplete evidence. Multimodal components include exercise, nutrition, education and psychological support. It is known that poor physiological, nutritional and psychological states increase the risk of poor outcome in major surgery and that those with lower reserves have the most to gain from risk reduction strategies. Patients with colo-rectal cancer may be vulnerable to a ‘double or triple hit’: diagnosis of cancer, functional impairment from neoadjuvant therapy and surgery-specific stress. Within certain limitations, interventions are usually clinically effective in improving physical and mental status but the outcome benefits remain largely unproven. The most time effective and resource efficient modes of intervention and the optimal time for deferment of surgery are not completely known. One month of exercise prehabilitation is likely insufficient but unlikely to cause harm. Extended programs are have high non-compliance and non-completion rates. The corollary is that both short term and long term outcomes may not be altered in either case. Rather than being constrained by current pathways and timelines multimodal prehabilitation should be approached as an opportunity for process improvement and provision of enhanced and individualised care.

1:45 am
Discussion

12:30 am - 2:00 am
RESEARCH IN SURGERY - FINDING THE BALANCE

Scientific Session - Surgical Education - Mezzanine Level Meeting Room M4

12:30 am
Introductions and getting to know the audience
Professor Paul Glasziou, Dr Christy Noble, Dr Paulina Stehlik

12:40 am
Enhancing value and reduce waste in health and medical research
Professor Paul Glasziou

12:55 am

Findings from the ENHANCE Project: "Feels like a 'tick box' exercise"
Dr Paulina Stehlik

1:25 am
Effective clinician researcher development
Dr Christy Noble

1:45 am
Discussion

12:30 am - 2:00 am
RESEARCH PAPERS

Scientific Session - Rural Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

12:30 am
A review of skin cancer management and reconstruction at a regional Australian hospital
Dr Daniel Lake
Purpose Australia has the highest prevalence of skin cancer in the world, with Queensland having the greatest incidence(1). In regional and remote settings, tyranny of distance often precludes access to subspecialty management. A feature exacerbated by the pandemic climate, which has left referral centres over-run and patients less inclined to travel. Regional general surgical units must therefore be equipped to manage a significant volume of disease. The purpose of this presentation is to review management in one such unit. Method Retrospective review of skin cancer cases between 1st January and 31st December 2021 was undertaken. Demographic, operative, and histopathological data was collected for each patient. Data has been analysed and is presented. Results Rockhampton Hospital is a regional centre consisting of four theatres and two procedure rooms. A total of 351 procedures were undertaken on 320 patients during the review period. Mean age was 69.5 (range 22-95) with a male preponderance of 57.5%. Almost half of lesions were excised from the head and neck where reconstructive techniques included direct closure (40%), grafts (40%) and local flaps (20%). Margin clearance was 91%, and 80% of cases were performed under local anaesthetic alone. Conclusions Data demonstrates the significant volume of skin cancer encountered by regional general surgical services, and the diversity of reconstructive techniques employed. Additional education regarding skin cancer pathology and operative techniques may improve future margin control. References 1. Perera E, Gnaneswaran N, Staines C, Win AK, Sinclair R. Incidence and prevalence of non-melanoma skin cancer in Australia: A systematic review. Australas J Dermatol. 2015;56(4):258-67. (255 words, 1746 characters with spaces)

12:40 am
Watering the Drought: Utilising the Medical Student Tsunami to Create a Sustainable Rural Surgical Workforce
Dr Imogen Hines
Australians living in rural areas have significantly poorer health outcomes than their metropolitan counterparts and these health outcomes worsen with increasing remoteness. The causes of these geographical disparities are multifactorial, however, the limited availability of medical professionals, in particular surgeons plays a large role. The burden of overcoming geographical distance falls on individual patients which is unsustainable in the long term should we choose to recognise the current health disparities as unacceptable and in need of redress. One of the strongest arguments against regional and rural surgery stems from the relationship between surgical caseload and clinical outcomes. This approach fails to consider the values of an individual patient. Current research shows that rural patients are willing to accept a significantly increased risk of surgical complications for the opportunity to have their surgery completed locally. Further to this, the more we allow rural surgeons to practice surgery the greater their own caseload and thus the better the outcomes. If achieving this vision were simple, the current shortages and associated challenges would have been corrected long ago. It is therefore essential to consider the barriers preventing a sustainable surgical workforce. These barriers and their accompanying solutions can be divided into three categories: meeting population needs through trainee numbers, attracting applicants with a pre-existing rural interest and generating and/or maintaining a rural interest amongst current SET trainees and surgeons. Overcoming these barriers will allow full utilisation of the current “medical student tsunami” to provide equitable surgical care to rural Australians.

12:50 am
The economic impact and patient perspectives of providing a rural plastic surgery service
Dr Toby Vinycomb
Purpose: One benefit of a rural specialist healthcare service is to reduce the economic burden associated with travel to metropolitan centres. The aim of this study is to evaluate the economic benefit to rural patients in accessing a rural plastic surgery service and their perceptions of providing this service in south west

Victoria. Methods: We invited all patients who underwent an operation with our specialist plastic surgery service between 11 October 2021 and 7 November 2021 to participate (n = 204). Invited participants were asked to complete a questionnaire at their 6 week follow up. Questions covered travel for appointments and surgery, and patient perceptions of a rural plastic surgery service. Results: Eighty-two patients (40%) completed the questionnaire. Median driving distance to our plastic surgery service compared to patient's closest metropolitan plastic surgery service was 50 km vs 259 km. Median calculated return total travel cost was $75 vs $389. The majority of respondents reported that if required to travel to a metropolitan centre they would stay at least one night for their preoperative (42/66) and postoperative appointments (35/64), and day of surgery (for day procedure; 56/66). 51% of respondents (40/79) would travel an additional 30 minutes or more to be seen at a rural rather than metropolitan service, while 48% (38/79) would travel to whichever service was closest. Despite this, 98% (79/81) of participants felt it was very important to have access to a rural plastic surgery service. Conclusion: This study evaluates the saving in travel costs and accommodation costs as well as patient preference in maintaining a rural plastic service in south west Victoria.

1:00 am

Demographic analysis of patients referred for consideration of Bariatric Surgery in rural New Zealand: are we providing an equitable service?

Dr Sandra Campbell

Introduction In a resource constrained health system, the National Bariatric Prioritization Tool (NBPT) aids selection for bariatric surgery. Some groups, e.g. Māori and Pacific Islanders, and low social economic status (LSES) have poorer health outcomes. These populations are also at increased risk of obesity and its complications. Aim To determine which characteristics of the NBPT score are associated with acceptance for surgery and whether selection is equitable. Method Records of patients referred to a peripheral hospital in New Zealand for bariatric surgery between January 2018 and January 2020 were analysed retrospectively. Data collated included demographics, comorbidities, NBPT Score. A deprivation score was calculated through patient address and government census data, and used as a marker for LSES. Characteristics and scores were compared between accepted and rejected patients. Population data were obtained from the Ministry of Health. Results 103 referrals were received; 42 were accepted (40.8%). The median age was 47 (IQR 38-53), BMI 46 (IQR 43-50), deprivation score 8 (IQR 5-9) and 31 (30.7%) were Māori. Median NBPT score was 43 (IQR 32-58) for rejected patients vs 80 (IQR 72-84) for accepted patients (p=<0.001). Age, gender, BMI, ethnicity and deprivation score, were not associated with a higher acceptance rate for bariatric surgery (p=0.439-0.868). Those accepted were more likely to have dyslipidaemia (p=0.003), infertility (p=0.002), obstructive sleep apnea (p=0.006) and diabetes (p=<0.001). Conclusion This study appears to demonstrate equity in selection for bariatric surgery, following referral in primary care. Patients with metabolic conditions are more likely to be selected than those without.

1:10 am

Adrenalectomy: The Regional NSW experience

Dr Kishore Loganathan

Purpose: To compare outcomes of adrenalectomy performed at our regional centre with high volume centres (HVC) with regards to complication rate, conversion to open rate, length of hospital admission, and operative time. Method: A retrospective cross-sectional study was performed of consecutive patients undergoing laparoscopic or open adrenalectomy over a nine-year period (2012-2021) at Dubbo Base Hospital, a regional hospital in Western New South Wales, Australia. These operations were all performed by a single Urologist. Results: Thirteen patients underwent adrenalectomy at our institution over the nine-year period. The mean age was 51.7 years (SD10.1). There were seven women (53.8%) and six men (46.2%). Seven patients were considered low risk, four patients were medium risk and two patients were high risk as per the Charlson Comorbidity Index. All of our patients were overweight, with mean body mass index (34.6 (SD 6.9). Mean operating time was 133.5 minutes (SD 36.3) and mean length of stay was 3.8 days (SD 2.2). These outcomes are comparable to that of HVC. There was one conversion to open (7.7%). Three patients (23.1%) had complications: one serosal tear to the small bowel, one diathermy burn to the duodenum and one intra-operative bleed which required massive transfusion protocol. Of these complications, one was Clavien-Dindo grade 2, and two were grade 3a. There were no mortalities. Conclusion: Adrenalectomy in our centre is safe, with comparable outcomes of operative time, length of hospital stay and complication rate with HVC. Centralisation of subspecialty procedures in Australia is difficult due to a vast geographical span and in the appropriate patient group, surgery in regional centres should be considered.

1:20 am

A comparison of the causes of death between patients treated in metropolitan versus rural centres following emergency colorectal resection – A Queensland Audit of Surgical Mortality (QASM) Study

Dr Derek Mao

Purpose: The Queensland Audit of Surgical Mortality (QASM) is a peer-reviewed audit of all surgically related deaths occurring in the State. Different patterns in the causes of in-hospital death following colorectal resection between metropolitan and rural centres remain poorly explored. Method: Deaths following emergency colorectal resection between January 2010 and December 2020 were identified from the QASM. Patients were divided using the Rural, Remote and Metropolitan Areas Classification. The specific causes of death were determined through qualitative analysis of their QASM Surgical Case Form. Results: There were

560 patients, comprising 350 (62.5%) metropolitan (M) patients and 210 (37.5%) rural (R) patients. Both groups were of similar age (median age M: 74.9 years vs R: 76.9 years, p = 0.07) with an equal burden of cardio-vascular co-morbidities (M: 68.0% vs R: 65.5%, p = 0.27), respiratory co-morbidities (43.2% vs 38.0%, p = 0.11) and post-operative ICU requirement (86.7% vs 84.1%, p = 0.20). The specific causes of death were classified as being due to an advanced surgical pathology (34.6% vs 47.1%, p <0.01), a complication from surgery (16.8% vs 9.0%, p <0.01), a complication arising from pre-existing medical co-morbidity (37.7% vs 37.6%, p = 0.49) or a new medical complication unrelated to pre-existing conditions (10.9% vs 6.2%, p = 0.03). Conclusion: Compared to their metropolitan counterparts, patients undergoing emergency colorectal resection in rural centres have a larger burden of mortality due to an advanced surgical pathology, however have lower rates of death due to surgical complications and new medical complications.

1:30 am
Flying Surgeon Service Queensland – 3 year Review
Dr Andrew Beatty
As the second largest state in Australia the provision of rural healthcare in Queensland remains a challenge. The immense area of land to cover is exaggerated by the inverse relationship to the small population that occupies it. The complexity arises being able to deliver quality specialist care while also being cost effective. Following a clinical review in 2016 of services to rural southwest Queensland led to the establishment of the current flying surgeon service in 2019. The surgeons are attached to The Prince Charles Hospital but primarily are based out of Roma the service covers a catchment area of approximately 34 million hectares. Since it was established in 2019 the service has covered more than 6,000 outpatient consultations, over 750 elective and emergency surgical cases and over 1,000 endoscopic procedures. This has led to a reduction in number of patient retrievals, reduced patient wait time and reduced travel for patients. Since the surgeons are also attached to a metropolitan centre it allows for faster referrals to specialist tertiary services for complex cases. There will never be one approach to manage the complexities of rural health care, but the flying surgeons service has demonstrated to be a proof of concept. Going forward we hope to expand this service to increase the complexity of procedures managed rurally with better access, better healthcare provision while still being cost effective.

1:40 am
Emergency gastrojejunostomy: a regional institution experience
Dr Kevin Tree
Purpose Gastrojejunostomy (GJJ) is a surgical technique utilised for palliative bypass, weight loss, or reconstruction post oncological resection. Its utilisation in emergency surgery is uncommon, used for large ulcer perforation unamenable to repair, or gastric outlet obstruction. Contemporary literature examining risks and survival is limited to oncological, demonstrating mean survival 164 days post palliative GJJ, however intervention is often performed at tertiary centres with endoscopic stenting available. We examine GJJ and its use in a regional setting with focus on outcomes and survival. Method A retrospective review of electronic medical records from May 2011 to Dec 2021 was conducted at a regional hospital of all emergency gastrojejunostomies performed. Baseline characteristics, indication, technique, complications and mortality was recorded. Results 17 patients were identified that underwent emergency gastrojejunostomy. Average age was 71.6 years with 59% male. Most common indication was malignancy 82% followed by perforation 12% then obstruction. Gastric pathology was primary location in 53% followed by pancreas, duodenum, and colon. 94% of procedures were open and a palliative approach performed in 64% of cases. Complications were present in 56% of patients. Average length of survival was 1 year, and subgroup analysis of palliative procedures average survival was 168 days. Conclusion Emergency GJJ in regional hospitals demonstrates similar survival to contemporary literature as a palliative approach. Further literature is required to examine emergency GJJ and its outcomes in perforation with limited patients identified, in order to guide prognosis and assist clinical decision making.

12:30 am - 2:00 am
RESEARCH PAPERS

Scientific Session - Trauma Surgery - Boulevard Level Meeting Room B2

12:30 am
Comprehensive ortho-plastic trauma care; risk factors and management of mental illness post trauma
Dr Fraser Donaldson

12:40 am
The posterior tibial artery perforator flap as a reliable flap in lower limb reconstruction
Dr Vincent Chong

12:50 am
The Pursuit of Pancreas: Operative versus Non-Operative Management of Pancreatic Trauma in Children

Dr Demi Poynter

Introduction The place of operative management of pancreatic trauma in children is controversial but recent literature supports non-operative management for most children. The aim of this study was to determine if our experience supports a non-operative approach to higher grade injuries. Methods We performed a 21-year review (2010 – 2021) of children admitted to Starship Children's Hospital with pancreatic trauma. Patients were identified from the Children's Trauma Registry. Data were collected from the registry and electronic records. Injuries were graded using the AAST Pancreas Injury Scale and classified into three groups: low-grade (I-II), intermediate-grade (III), and high-grade (IV-V). Primary outcomes were operative intervention and hospital length of stay (LOS). Results Twenty children were admitted. The median age was 7.5 years (range 2 months to 14 years). 5 were female. The most common mechanism of injury was handlebar injury (n = 6). Low-grade injuries were present in 11 children. No child required an intervention. The median LOS was 9 days. Intermediate-grade injuries were present in 6 children. Two children underwent surgery: one laparoscopic splenic-preserving distal pancreatectomy, and one laparotomy and oversewing of a transected pancreatic duct. In the non-operative group, one child underwent ERCP and stenting of the pancreatic duct. The median LOS was 15 days in the operative group and 7.5 days in the non-operative group. High-grade injuries were present in 3 children. No child underwent surgery or ERCP. The median LOS was 43 days. Conclusion Our findings suggest that children sustaining pancreatic trauma could be managed non-operatively regardless of their injury grade. ERCP is not routinely required.

1:00 am

Lockdown Level Four v2.0: Different Trauma Patterns in Auckland in 2021?

Dr Keith Teo

Purpose Coronavirus disease 2019 (COVID-19) resulted in the implementation of public health restrictions to reduce transmission. These restrictions have reduced trauma-related admissions to hospitals. Auckland, New Zealand (NZ), had two periods of Level four lockdowns in 2020 and 2021. In the 2021 lockdown, Aucklanders were generally less compliant with the restrictions. Therefore, we hypothesised that trauma-related activity would be greater in the 2021 lockdown compared to 2020. Method A retrospective descriptive study of trauma admissions to Auckland City Hospital (ACH) during 2020 (26 March to 27 April 2020 – 33 days) and 2021 (18 August to 21 September 2021 – 35 days) lockdown periods was performed. Results Trauma admissions and trauma call activations increased by 8.2% (97 vs 105) and 31.4% (35 vs 46), respectively in the 2021 lockdown compared to 2020. The numbers of males and road related injuries requiring admission were increased by 34.7% (49 vs 66) and 33.3% (21 vs 28) respectively in 2021 compared to 2020. Major trauma admissions increased by 76.9% (13 vs 23) in the 2021 lockdown compared to 2020. Conclusion Trauma-related presentations to hospital were higher in the 2021 Auckland lockdown compared to 2020. Lockdown fatigue and reduced compliance in 2021 may have contributed to this finding, suggesting that future lockdowns may be less effective.

1:10 am

Penetrating colonic trauma in the era of damage control surgery

Dr Victor Kong

Introduction: The management of colon injuries in damage control surgery (DCS) remains controversial. Methods: A retrospective study investigating outcomes of penetrating colonic trauma in patients who survived beyond the initial repeat laparotomy (IRL) after DCS was performed. Patients over 18 years with penetrating colon injury and who underwent DCS from 2012 to 2020 were included. Patients were classified into three groups: primary repair of non-destructive injuries at DCL, delayed anastomosis of destructive injuries at IRL and diversion of destructive injuries at IRL. Outcomes observed included leak rates, length of intensive care unit stay, length of hospital stay, morbidities, mortality and colon-related mortality. Results: Out of 584 patients with penetrating colonic trauma, 89 (15%) underwent DCS. After exclusions, 74 patients were analysed. Mean age was 32.8 years (SD 12.5); 67 (91%) were male. Mechanism of injury was gunshot in 63 (85%) and stab 11 (15%) patients. Seventeen patients underwent primary repair at DCS, of which one leaked. Twenty patients underwent delayed anastomosis at IRL. Of these, five (25%) developed leaks. Mortality was significantly higher for those with an anastomotic leak compared to those without ($p < 0.001$). Thirty-seven patients were diverted at IRL. Overall mortality ($p = 0.622$) and colon-related mortality ($p = 0.592$) were not significantly different across groups. Conclusion: Delayed anastomosis at IRL following DCL was associated with a leak rate of 25% in this study. When anastomotic leak did occur, it was associated with significant mortality. Delayed anastomosis should only be undertaken in highly selected patients.

1:20 am

The effectiveness of venous thromboembolism prophylaxis interventions in trauma patients: a systematic review

Miss Serena Yingdi Peng

Purpose: Venous thromboembolism (VTE) is a significant complication from trauma. Currently there are few studies summarising the evidence behind the prophylaxis at trauma settings. This review is to appraise the evidence behind the use of VTE prophylaxis interventions in trauma patients, to produce evidence-based guidelines. Methods: A PRISMA-compliant review was conducted using Embase, Medline and Google Scholar. The main inclusion criteria were: RCTs in English published after 2000, of adult trauma patients comparing VTE prophylaxis interventions, with a sample size higher than 20. PROSPERO registration: CRD42021266393. Results: Of the 8,442 search results, 23 studies fulfilled screening criteria, which included orthopaedic, spine,

solid organ, neuro, spinal cord and multi-region trauma. Combined mechanical and chemical prophylaxis was found to be more effective than chemical prophylaxis alone, with the relative risk for deep vein thrombosis ranging from 0.14 to 0.74 (95%CI 0.05-1.46). Prophylaxis effect of intermittent pneumatic compression (IPC) alone showed no significant difference to that of enoxaparin. Adding muscle electrostimulation or toe exercises to IPC showed no significant benefits. Two studies show the use of inferior vena cava filters failed to provide significant benefits to major trauma patients. Of the 14 papers comparing chemical prophylaxis medications, fondaparinux appeared superior to enoxaparin, dalteparin and nadroparin. Additionally, longer use of fondaparinux was associated with lower risk of VTE. Conclusion: The studies are heterogeneous, but they constitute high quality evidence for the thromboprophylaxis intervention in trauma settings.

1:30 am
Severity assessment of Rib fractures – validation of existing scoring systems in predicting operative management
Dr Kaushik Thungathurthi
Introduction Rib fractures pose a risk of mortality and morbidity in the trauma patient. Several scoring systems aim to predict patient outcomes, but none have been validated in Australia. This study aims to ascertain the prognostic accuracy of the RibScore (RS) and the Management of Multiple Injury Score (MMI). Methods A retrospective review was undertaken to identify all patients admitted with rib fractures at a Level 1 Trauma Service from January 2016 to November 2017. The ability of RS or MMI to predict primary outcomes of surgical stabilisation of rib fractures (SSRF) and mortality, and secondary outcomes of pneumonia, respiratory failure, ICU admission and mechanical ventilation, was determined by calculating the area under the curve for each system. Results 953 patients were identified. Their mean age was 59 (SD=20) and median ISS was 12 (IQR 9-17). Higher RS (2.89 versus 1.08 ($p<0.001$), AUC=0.82 [95% CI 0.72-0.89]) and MMI (14.07 versus 7.15 ($p<0.001$), AUC= 0.76 [95%CI 0.67-0.85]) correlated with patients who had SSRF. Lower RS and MMI correlated with lower mortality: surviving patients had a mean RS of 1.11 versus 1.70 ($p=0.0062$), RS area under curve (AUC)=0.62 [95%CI 0.52-0.713] and MMI of 7.25 versus 9.56 ($p=0.0259$), AUC= 0.614 [95%CI 0.52-0.71]. Prediction accuracy was low for all secondary outcomes for both scoring systems. Conclusion Both the RS and MMI appear to be able to predict those patients who underwent SSRF. These scores do not have high predictive accuracy for other outcomes in our population.

1:40 am
Utilising a treatment room during a COVID pandemic to mitigate theatre staffing shortages.
Dr Saranya Chiranakorn-Costa

1:50 am
The Effect of Advance Care Planning on Patterns of In-Hospital Deaths from Trauma
Miss Chantelle Larkin
Background: There is increasing global awareness of the importance of Advanced Care Planning (ACP) for trauma patients. This is particularly relevant due to the increasing incidence of injured elderly patients. We hypothesise that the increasing awareness of ACP has resulted in an increased utilisation of ACP and a change in the distribution of in-hospital deaths from trauma. Methodology: We conducted a retrospective review of all patients that died in-hospital from trauma between 2011-2020 at a Level 1 Trauma Centre. Descriptive statistics and significance testing was performed on factors such as use of ACP, Injury Severity Score, Length of Stay and Age. The cohort was analysed in two groups: EARLY (2011-2015) and LATE (2016-2020) to reflect the time when ACP awareness was increased within the clinical sphere. Results: In the ten-year period, 458 patients died in-hospital from trauma. 73.80% had ACP, 10.92% did not have ACP and 15.28% was unknown. There was no significant difference between each year for time of in-hospital death. During hospital admission, ACP commencement ranged between Day 0 to Day 87 with a median of 0.0 Days (interquartile range 0.0 to 3.0) and a mean of 2.82 Days (standard deviation 7.4). There was an increased utilisation of ACP in the LATE (57.78%) vs EARLY (42.22%) period (P=0.088). The median difference between time of death from ACP for each year increased (P=0.0248). Increasing age and presence of co-morbidities are associated with use of ACP earlier in the admission. Conclusion: The use of ACP has increased over time. Although the distribution of deaths has not changed, there is evidence that ACP is being implemented earlier, as compared with End-of-Life discussions when the prognosis is clearly unsurvivable.

12:30 am - 2:00 am
RESEARCH PAPERS INCLUDING REGISTRAR PRESENTATIONS

Scientific Session - Surgical History - Plaza Level Meeting Room P3

12:30 am
From Galen to Lahey: The History of the Recurrent Laryngeal Nerve
Dr Andrew Luck
Hoarseness as a result of injury to the neck was recognised as far back as the 5th and 6th centuries BC and is described in both the Sushruta Samhita and the Hippocratic corpus. It was not until the second century AD,

however, that the association between the structure we now know as the recurrent laryngeal nerve (RLN) and the larynx was established by Galen. Demonstrating in Rome using a live pig, Galen showed that section of one RLN changed the tone of the pig's squealing and section of both produced a respiratory crisis. Even Galen, however, did not recognise the structure as a nerve, believing instead that the cord was a pulley to open the larynx and that its recurrent nature was required to ensure that the laryngeal muscles were opened from below. Throughout the centuries the RLN has fascinated many leading anatomists and scientists, with the names Albucassis, Da Vinci, Vesalius and Estienne all being associated with endeavours to better understand the structure. In the age of thyroid surgery, an understanding of the RLN has taken on even greater importance and is mentioned in the works of Billroth, Halsted, Kocher and, of course, Lahey. This paper explores our evolving knowledge of the anatomical and functional significance of the recurrent laryngeal nerve from ancient times to the present day, pausing to acknowledge the challenges that understanding this tiny nerve has provided to the greatest minds in the history of medicine.

12:50 am
Nicholas Senn – A multifacetted pioneer surgeon
Dr Philip Sharp
Born in Buchs, Switzerland on 31 October 1844, Nicholas Senn died in Chicago on 2 January 1908. He graduated from Chicago Medical School in 1868. In 1878 his thesis on 'varicocele' gained him a doctorate from the University of Munich. The next 30 years were hugely productive. Operating or teaching during the day, he spent evenings doing laboratory experimental surgery. His clinic was one of the largest in the world. He did pioneering work on internal fixation of fractures, the pancreas, intestinal anastomosis, radiotherapy to treat leukaemia and asepsis in surgery. He was a prolific publisher on surgery, pathology and travel. An avid bibliophile, he donated 11,000 books and 14,500 pamphlets to the Crerar Library, Chicago. He was President of the American Medical Association in 1897. In 1898, at the outbreak of the Spanish-American War, he became chief surgeon, studying typhoid fever amongst troops and wound ballistics; he used rectal hydrogen to diagnose intestinal leaks altering the management of abdominal gunshot wounds. He was the founder of the Association of Military Surgeons of the United States. An astute scientist and accurate interpetor of fundemental principles of surgery with his extraordinary capacity for work he has benefitted all of us.

1:10 am
'Verissimum non taurum'. The Provincial Surgeons of Australia: 1965-2022
Dr Peter Burke
In Australia in 1965, generally, it was impossible for a young surgeon to complete their advanced training in Australia, and all but two of the professors of surgery, were foreign graduates: A then distinctive feature of Australian surgery was that much of it was not performed by surgeons with higher surgical qualifications, rather, it was undertaken by general practitioners. At the Fourth Federal Assembly of the A.M.A. in May 1965 two motions were to be discussed; one seeking the definition of a 'specialist'; the other, asking that the A.M.A "considers that future medical graduates should undergo some special training in surgery……before proceeding to practise in areas where it will be incumbent upon them to carry out such procedures". In November of that year a surgeons' meeting was organised in Shepparton, Victoria: none worked in capital cities, all worked in the provinces: many had an English or Edinburgh surgical fellowship, resulting in no formal access to the clinical meetings of the Australasian College. As a result, the Provincial Surgeons Association came into being, membership open to any surgeon practising outside a 30mile radius from a capital city, a clinical society, not a political body. Although the objects of the association have progressively evolved, the fostering of fellowship, and the sharing of professional ideas and information, endures. This paper traces the origins of the Provincial Surgeons of Australia, the need for this association, the characters involved, and its extraordinary success over time, always remaining true to its motto.

1:30 am
**Nil per os: the birth of total parenteral nutrition
Dr Madeline Gillies
Malnutrition was a common cause of death in surgical patients prior to the advent of parenteral nutrition. Dr Stanley Dudrick experienced this first-hand while working as a surgical resident in 1961, when three of his malnourished postoperative patients died in a single weekend. Poor baseline nutritional status and high metabolic demand combined with periods of fasting meant that many technically successful operations did not succeed. This experience lead Dudrick to dedicate his working life to successfully providing intravenous nutrition. The prevailing dogma at the time was that it was impossible to feed patients parenterally. Dudrick was confident that this was not the case, as biochemist and nutritionist Sir David Cuthbertson pointed out (in a 1980 account of the time) "we all owe our foetal life till parturition to the passage of the nutrients we require from the blood vessels of our mothers into our blood vessels as they traverse the chorionic villi in close relation." Dudrick set about defining the right 'recipe' and tested his formulations on beagles and eventually humans. On July 16 1967, a baby was born with near total small bowel atresia. With a normal birth weight, she had thrived in utero where all nutrients were delivered intravenously, but quickly began to emaciate after birth when nutrient absorption came to depend on a functional gastrointestinal tract. Her duodenal stump was anastomosed to only 3cms of terminal ileum. With an un-survivable loss of bowel length, Dudrick was given approval to direct a catheter into her SVC and infuse his experimental nutrient solution. Advances made during her 22 months of life paved the way for modern parenteral nutrition.

12:30 am - 2:00 am
ROBOTS, DRONES, AI AND TELEPRESENT SURGEONS

Scientific Session - Military Surgery - Plaza Level Meeting Room P4

12:30 am
AR as POC support for a deployed unit
Professor David Walker

12:50 am
AR demonstration - M. Redmond (RBWH) directing Matt Masel at Goondiwindi through a simulated EDH
Miss Sarah Pearce

1:10 am
VR training modules; their potential and a demonstration of our work to date
Mr Luke Wainwright

1:30 am
Novel approaches to point of injury care using robotic and autonomous systems
A/prof Charles Pilgrim

1:50 am
Discussion

12:30 am - 2:00 am
SUSTAINABILITY OF SELF - MENTAL HEALTH

Scientific Session - Women in Surgery - Sky Level Sky Room

12:30 am
Come Alive and Thrive
Dr Helena Popovic
We don’t see with our eyes, we see with our brain. Our beliefs and expectations create a filter through which we perceive everything in our lives — especially our own strengths and abilities. Our brain then programs our bodies to behave accordingly. A 21 year study involving 60 000 men and women found that people’s judgements about their fitness directly influenced their body’s response to exercise. Those who believed they were fitter than the average person — regardless of the amount or type of exercise they did — were 71% more likely to be alive at the end of the study than those who didn’t see themselves as fit, even if they did plenty of exercise. In other words, perceived fitness was a better predictor of longevity than actual fitness. Another study of 30 000 adults examined the effects of chronic stress. People who experienced high levels of stress but did NOT view stress as harmful, had better health, less depression and greater life satisfaction than people with the same amount of stress who viewed their stress as damaging. How can we apply these findings to our own lives? Could some of your preconceptions be standing in the way of your optimal health, wellbeing and life fulfilment? If so, what can we do to master our mind so that we come alive and thrive rather than merely survive? This will NOT be a pep talk about positive thinking but rather a masterclass on constructive thinking. Positive thinking doesn’t work unless we already believe what we’re telling ourselves. Positive thinking can actually be damaging if we deny or suppress our true feelings. The secret to success lies in learning how to shift our perspective to rewire our brain for optimal health and performance.

12:55 am
Self-care in a pandemic
Associate Professor Shipra Arya

1:20 am
Dr Mary Edwards Walker: a surgeon, war hero and feminist
Dr Bharti Arora

1:28 am
Dr Nina Starr Braunwald and the first successful mitral valve replacement
Dr Victoria Cook
In 1960, Dr Nina Starr Braunwald successfully implanted the first prosthetic mitral valve in a human patient (1). She was 32 years old and the first female heart surgeon in America. Dr Braunwald was a pioneer in all senses. She was an innovative, world-class cardiac surgeon and scientist. She was also a woman, forging a

career in an exclusively male speciality during the 1950s. At the time, mitral valve surgery was restricted to mitral valve repair. However, many patient's valves were so destroyed by the pathological process that the remaining leaflet tissue was not conducive to repair techniques. Dr Braunwald conceived and manufactured a polyurethane mitral valve prosthesis and successfully implanted into a 44-year old female with severe mitral regurgitation. Dr Nina Braunwald would go on to have an illustrious and productive career. She contributed to several other novel surgical techniques including developing the technique for pulmonary thromboendarterectomy and designing the Braunwald-Cutter aortic valve prosthesis. Her story is one of a brave and determined innovator, but also of an extraordinary woman who forged her own way in cardiac surgery, then turned around to lay a path for others to follow (2). References: 1. Braunwald N. S. (1989). It will work: the first successful mitral valve replacement. The Annals of thoracic surgery, 48(3 Suppl), S1–S3. 2. Sabharwal, N., Dev, H., Smail, H., McGiffin, D. C., & Saxena, P. (2017). Nina Braunwald: A Female Pioneer in Cardiac Surgery. Texas Heart Institute journal, 44(2), 96–100.

1:36 am
The History of Women in Urology
Dr Cecile Pham
Introduction The representation of women in surgery has significantly increased in recent years, particularly in male-dominated sub-specialties such as urology. Methods A literature review was performed to identify prominent women in urology and determine the current status of women in urology in Australia. Results One of the first prominent women in urology was Dr Ann Brumall, who invented a lithotrite for bladder stones in 1879. Although she was passionate about urology, societal expectations prevented her from training in urology and she instead pursued a career in gynaecology. Decades later, Dr Mary Childs MacGregor became the first female urologist in the USA in 1928. She later pioneered fellowships for women in urology. Meanwhile, Australia historically trailed behind in female representation in urology. It was not until 1994 that Professor Helen O'Connell (AO) became the first female urologist in Australia. She is a pioneer in research, particularly in female urogenital anatomy. She is current Vice-President and President-elect of USANZ and has been appointed Officer of the Order of Australia for her service to medicine. There has been a dramatic increase in female representation in the last two decades with women now making up 14% of USANZ membership and 28% of trainees. Conclusion There remains a large discrepancy in the proportion of women in urology in Australia, particularly in positions of leadership. In advocating for positive change in female representation and addressing barriers to women's participation in urology, it is important to reflect on the contributions of prominent women in the field.

1:44 am
Female surgeons suffer greater infertility compared to society and other specialty doctors
Dr Jasmina Kevric
Introduction: Female surgical trainees start surgical training at the prime of their reproductive years. Infertility incidence amongst US female surgeons is 42%, more than twice that of the general population. The incidence in Australia is not known. Methods: We conducted a survey of Australian and New Zealand (ANZ) doctors using two validated questionnaires during the month of November 2021. The main distribution site was the Medical Parents and Breastfeeding group on Facebook containing over 11,000 ANZ members. Results: A total of 1040 female doctors were surveyed, of which 154 were surgical. The mean age at time of first child was 33.4 ± 3.6, higher than those of female physicians and general practitioners (GPs) (33.2 ± 2.9 and 31.7 ± 3.5 respectively, $p<0.001$). The majority of respondents had either one (46.6%) or two children (38.2%). The pregnancy loss rate among female surgeons was 36.6%. Of the 154 surgeons, 60 (39%) had indicated that they experienced infertility issues, more than double the rate of the Australian population. Almost 30% of surgeons had IVF, with a median of 4 reproductive cycles. Compared to female physicians and GPs, women surgeons were more likely to delay having a family due to work (surgeons: 68.7%, physicians: 67.5%, GPs: 53.3%, $p=0.002$). Conclusion: The rate of infertility amongst female surgeons is high. Women delay family planning due to workplace barriers, which may result in age related infertility. Increasing awareness and addressing work related barriers to family planning is required to support the female surgical workforce.

1:52 am
Where do we lose women considering a career in surgery and why?
Dr Sarah Rennie
Purpose Women surgeons have been shown to have better patient outcomes, but only 12% of general surgeons in Aotearoa are women. A better understanding of attrition may enable targeting of initiatives to encourage and retain women in surgery. Method We analysed the Medical Schools Outcomes Database from Aotearoa Medical Schools (2007-2021), with responses on commencing and exiting medical school, and Postgraduate years 1,3 and 5. Respondents indicated their preferred career and ranked factors influencing that decision. Data were analysed to look how preference for a surgical career changed with time and gender. Using matched data we identified four subgroups according to their surgery career preferences: "surgical persisters", "non-surgeons", "turned-off' and "turned-on". Results On entry to medical school 27% of students indicate a career preference for surgery (44% women, 20% of all women students), this reduces slightly to 24% at exit from medical school and 23% at PGY1 indicating a career preference for surgery with a similar gender split to those commencing medical school. There is more marked attrition of students interested in surgery between PGY1 and 3 with only 16% of students indicating a preference for a surgical

career (43% women, 11% of all women), and 14% in PGY5 (36% women, 8% of all women). The perceived opportunity to work flexible hours was an increasingly influential factor for women by PGY5 and likely to contribute to attrition of women from surgery. Conclusions The marked attrition of women keen to pursue a surgical career in their postgraduate years and the factors influential in their decision making enables RACS to consider strategies for attracting and retaining women in surgical training.

12:30 am - 2:00 am
SUSTAINABLE ONCOLOGY

Scientific Session - General Surgery, Breast Surgery - Great Hall Q2 (Use Door 8)

12:30 am
Locally advanced breast cancer that is ER+ - current controversies in neoadjuvant setting
Dr Adam Stirling

12:50 am
Sequencing of post mastectomy radiotherapy and autologous reconstruction - putting patient reported outcomes first
Dr Jocelyn Lippey

1:10 am
Breast oncology during COVID - The Melbourne experience
Associate Professor Zee Wan Wong

1:30 am
Endocrine therapy in DCIS
Dr Benjamin Lancashire

1:50 am
Discussion

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05 May 2022

1:00 am - 2:00 am
LIVER SURGERY

Scientific Session - HPB Surgery - Great Hall Q3 (Use Door 9)

1:00 am
Liver first for colorectal metastases - should it be standard of care?
Dr Kaye Bowers

1:17 am
Managing large and massive liver tumours
Dr Richard Bryant

1:34 am
Fluorescence guided liver surgery
Dr Thomas O'rourke

1:00 am - 2:00 am
QUALITY AND SAFETY ACROSS OUR GREAT NATIONS

Scientific Session - Indigenous Health, Quality & Safety in Surgical Practice - Mezzanine Level Meeting Room M2

1:00 am
Survivorship: does quality and safety have to suffer in delivering rural and remote patient care?

Dr Karen Murphy, Dr Karen Murphy

1:30 am
Preparing for the future, understanding quality and safety in patient care delivery
Dr Bernadette Eather

1:45 am
Embedding NTS in surgical training
Dr Graham Beaumont

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05 May 2022

2:30 am - 4:00 am
PLENARY SESSION: SUSTAINABLE CULTURAL SAFETY

Plenary Session - *Cross Discipline* - Great Hall Q4 (Use Door 5)

2:30 am
Welcome and introduction
Professor Christopher Pyke, Dr Sally Langley

2:40 am
Specialist/Surgical Education for Sustainable Indigenous Health
A/Prof Rhys Jones

3:05 am
Compassionate and Inclusive Leadership
Professor Michael West

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05 May 2022

4:00 am - 4:30 am
THE PRESIDENT'S LECTURE

Plenary Session - *Cross Discipline* - Great Hall Q4 (Use Door 5)

4:00 am
Quality Indicators in Surgery for Cancer
Professor Mark Smithers

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05 May 2022

4:30 am - 5:30 am
TRAUMA COMMITTEE AND REGIONAL TRAUMA CHAIRS MEETING

Business Meeting - Trauma Surgery - Great Hall Merivales Boardroom 1

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05 May 2022

5:30 am - 6:00 am
ASC VISITOR LECTURE

Keynote Lecture - Surgical History - Plaza Level Meeting Room P3

5:30 am
Yesterday's papers: the RACS Archives, surgeons as archivists
Dr Peter Burke
The first business meeting of the Founders of the College of Surgeons of Australasia was conducted at Dunedin, in February 1927: in 1928, the State of Victoria implemented a Companies Act which allowed the new college to proceed with plans for incorporation, which, in turn, would enable it to be granted Arms. The College of Arms in London was petitioned, a design submitted, and the granting of arms followed on 30 January 1931. The vellum selected, the arms painted onto it, the text engrossed by a scrivener, and the Letters signed and sealed by the Kings of Arms. However, in the 1940's, the Letters Patent quietly disappeared: some forty years later, on 1 November 1978, a replacement grant of arms was issued by the College of Arms: fortuitously, after a 40year hiatus, the original Letters mysteriously reappeared from a Melbourne bank vault. That such an event should occur, underlines the importance of institutional archives. In 1982, 55 years after the founding of the Australasian College, the first professional archivist was appointed, immediately 'rescuing' many irreplaceable items. Invited to join the Archives Committee in 1979 by Sir Douglas Miller, one was privileged over the next two decades to play an active role in the establishment, nurturing, protection, and development of the RACS archives. Somewhat akin to a military campaign, this paper provides a personal insight into the trials and tribulations, which led ultimately to the establishment of archives as an integral and essential component of this College's heritage.

5:30 am - 6:45 am
DOES CULTURE DRIVE QUALITY AND SAFETY?

Scientific Session - Quality & Safety in Surgical Practice - Mezzanine Level Meeting Room M2

5:30 am
Bad Culture, Bad Health
Professor Teik Oh
Culture is defined as attitudes, beliefs, principles, and habits that are shared by a group of people or a particular organization. Healthcare has two aspects: cultures of patients, and culture of the healthcare facility. Culture and ethnicity define how the patient and family receive information, perceive proposed treatment, and conduct communication, and what expectations they may harbour. Cultural diversity is moderated by better education, higher social economic status and acculturation. Healthcare professionals should acquire basic cultural competency wrt the major ethnic groups of their patients. Good communication is vital. Hospital culture is a shared and understood view of hospital life manifested in patterns of care, safety, and risk – "how we do things". It has two layers: Structural such as service divisions of Medical, Nursing, and Allied Health, (with sub divisions of Departments, Units, and wards), and clinical service pathways (e.g. admissions, referrals, and discharges). Shared Values and Beliefs, to justify patterns of clinical practice, professional roles, and clinical performance. Values and beliefs are expressed largely by policies. They may be taught, or shaped by the local environment (e.g. governance and leadership). Sub cultures may arise along professional or service lines to add to the mosaic hospital culture, which may be captured by a good mission statement. Can hospital culture be assessed and manipulated to improve care? Culture assessment tools exist, but their reliability and validity are questionable. Hospitals with a bad culture invariably show poor data on patient outcomes. In contrast, good leadership and policies shape and promote good hospital culture, as reflected in good patient outcomes.

6:00 am
Questions and discussion

6:15 am
Supporting the Decision Maker – Lessons from Airline Aviation
Mr Mark Connolly
The practice of medicine is inherently stressful, with the lives and well-being of others at stake. Studies have shown areas of chronic stress amongst surgeons, leading to potential burnout, depression and impaired work performance, with significant impact on practitioners and patients alike. Although there are key differences in the nature of their work, airline pilots face similar stresses. Modern commercial aviation has, over many decades, developed whole-of-system practices including Crew Resource Management (now the broader discipline of Human Factors) to provide the best possible support to aircraft captains and consistently deliver safe, deliberate outcomes. While ultimate responsibility always rests with the senior decision maker, optimised team and stakeholder interaction can significantly reduce stress and enhance performance. This paper outlines the rationale and evolution of these practices in aviation, and looks at the opportunities for, and obstacles to, their nuanced application in medicine.

6:25 am
Fraud in Surgical Publications - Not A Victimless Crime
Dr Michalis Koullouros
Purpose: Research is a fundamental aspect of surgery at all levels of training and is key for career progression. Dishonesty in research and the pursuit for quick success can be associated with the ever-competitive nature of surgery. Journals are aware of this issue and have therefore implemented preventative measures, with variable success. Methodology: We performed a literature review to explore what constitutes fraudulent research, identified infamous examples of fraud, as well as scientific journals' mechanisms to prevent this practice. Results: Fraud in research can be subcategorized in data fabrication, plagiarism, duplication or redundancy, and authorship dishonesty. Incidence of fraud has increased with a growth in paper retraction even in the most prestigious journals1. At its most extreme, clinicians manipulate their data to validate technologies they developed causing patient harm2. Journals attempt to limit the phenomenon via means of plagiarism software, peer review, and examination of raw data1. Conclusion: Fraudulent research is a significant problem which stains the image of the scientific community. Despite efforts by the journals to limit this, we as surgeons, have a duty to uphold ethical research standards to reinforce public trust and keep patients safe. 1.Patel B, Dua A, Koenigsberger T, Desai SS. Combating Fraud in Medical Research: Research Validation Standards Utilized by the Journal of Surgical Radiology. Publications. 2013 Dec;1(3):140–5. 2.Abbott A. Culture of silence and nonchalance protected disgraced trachea surgeon (updated). Nature [Internet]. 2016 Sep 2 [cited 2022 Jan 14]; Available from: https://www.nature.com/articles/nature.2016.20533

6:35 am
Implementation of a modern framework for digital communication within surgical teams
Dr Caitlyn Withers
Surgery is a collaborative profession which demands efficient, secure and reliable communication tools. Although a multitude of online platforms currently exist for instant messaging and information sharing, the majority of these are Shadow IT technology; using unsecured transmission and unsanctioned by the Australian healthcare system. Microsoft Teams is a diverse platform that caters to the traditional communication needs of a surgical team. A central Team can be created as a hub for an individual specialty and then further subdivided into channels. For example, a channel can be made for multidisciplinary team meetings which contains an up-to-date spreadsheet of all patients to be discussed, to-do lists of what investigations need to be completed and important reference documents such as staging systems. Inpatient lists can be stored within the OneDrive platform of Teams, allowing all members to access the list simultaneously and remotely. The instant message feature can be used for quick communication when teams are split between the ward, clinic and theatre, with reaction to notifications being a useful tool for closed-loop communication. Most importantly, Microsoft Teams is an approved digital tool which places data and security at the forefront. Storing data onshore and with targeted support, the platform is designed to create a holistic all-in-one tool for optimizing workflows and creating connected teams. This presentation details a novel framework of how Microsoft Teams can be used more effectively and efficiently to improve workflow within surgical teams.

5:30 am - 6:00 am
KEYNOTE LECTURE

Keynote Lecture - Vascular Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

5:30 am
From bench to bedside: frailty screening in surgery
Associate Professor Shipra Arya

5:30 am - 6:00 am
KEYNOTE LECTURE - DR CATHY FOLEY (CANBERRA, AU)

Keynote Lecture - Women in Surgery - Plaza Level Meeting Room P5

5:30 am
Embracing Diversity: Making it work for you.
Dr Cathy Foley
In delivering the keynote presentation for the Royal Australasian College of Surgeons Annual Scientific Congress for 2022, Australia's Chief Scientist, Dr Cathy Foley will reflect on our nation's progress in normalising diversity in the workforce. Dr Foley will also address systemic issues that have hindered women's advancement. She will explore the opportunity to reframe workplace customs and culture and

question whether we as a nation could improve our recognition of the contribution of women and older workers to make better use of the full human potential. Dr Foley will provide some life hacks that helped her navigate the uneven playing field.

5:30 am - 6:00 am
KEYNOTE LECTURE - DR CHRISTIANNE BUSKENS (AMSTERDAM, THE NETHERLANDS)

Keynote Lecture - Colorectal Surgery - Great Hall Q4 (Use Door 5)

5:30 am
The role of the appendix in ulcerative colitis
Dr Christianne Buskens
The human appendix has long been considered as a vestigial organ, an organ that has lost its function during evolution. In recent years, however, reports have emerged that link the appendix to numerous immunological functions in humans. Evidence has been presented for an important role of the appendix in maintaining intestinal health. This theory suggests that the appendix may be a reservoir or ‘safe house’ from which the commensal gut flora can rapidly be reestablished if it is eradicated from the colon. However, the appendix may also have a role in the development of ulcerative colitis (UC). Several large epidemiological cohort studies have demonstrated the preventive effect of appendectomy on the development of UC, a finding that has been confirmed in murine colitis models. In addition, prospective studies have examined the possible therapeutic effect of an appendectomy to modulate the course of disease course in these patients. This presentation will review current existing evidence on the role of an appendectomy to prevent UC relapses, mitigate disease activity, and prevent colectomy. It will also address predictive parameters of patients more likely to respond to this new therapeutic approach. Apart from the beneficial effects of appendectomy in UC patients, there are also several reports suggesting that it is associated with development of colorectal neoplasia. This finding will be discussed in context of confounding factors and the concept of ‘operation indication shift’ will be introduced to interpret data correctly. This way, I hope to present a complete and nuanced overview of how to consider an appendectomy for UC patients in daily clinical practice.

5:30 am - 6:00 am
KEYNOTE LECTURE - DR JACK MULU (PAPUA NEW GUINEA)

Keynote Lecture - Rural Surgery, Paediatric Surgery - Plaza Level Meeting Room P1

5:30 am
Paediatric Surgery in PNG
Dr Jack Mulu

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR CHELSEA WATEGO (BRISBANE)

Keynote Lecture - Indigenous Health - Mezzanine Level Meeting Room M3

5:30 am
Encounters of racial violence in the health system - the client, the clinician and the College
Professor Chelsea Watego

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR MARTIN ZIELINSKI (ROCHESTER, USA)

Keynote Lecture - Trauma Surgery, General Surgery - Mezzanine Level Meeting Room M4

5:30 am
Whole blood use for trauma resuscitation
Professor Martin Zielinski

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR MICHAEL WEST (LONDON, UK)

Keynote Lecture - Surgical Directors - Mezzanine Level Meeting Room M9

5:30 am
Compassionate Leadership
Professor Michael West

5:30 am - 6:00 am
THE BREASTSURG ANZ INVITED LECTURE

Keynote Lecture - Surgical Education, General Surgery, Breast Surgery - Great Hall Q2 (Use Door 8)

5:30 am
Game theory and co-design - things I never learned for the Fellowship
Professor Christopher Pyke

5:30 am - 6:00 am
THE MICHAEL WERTHEIMER MEMORIAL LECTURE

Keynote Lecture - Military Surgery - Plaza Level Meeting Room P4

5:30 am
Nias: one woman's view of a double tragedy. Sustaining self in a time of challenge
Dr Annette Holian

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05 May 2022

6:00 am - 7:30 am
ADVANCED AND METASTATIC COLORECTAL CANCER

Scientific Session - Colorectal Surgery - Great Hall Q4 (Use Door 5)

6:00 am
Systemic treatment first? Neoadjuvant chemotherapy in locally advanced colorectal cancer
Dr Kate Roberts

6:15 am
Resecting the primary in the presence of small volume metastatic disease - what is the evidence?
Associate Professor Cherry Koh

6:30 am
Management of colorectal liver metastasis in 2022
Shinn Yeung

6:45 am
Pelvic exenteration - who benefits and what are the oncological and functional outcomes?
Dr Craig Harris

7:00 am
HIPEC and peritonectomy - who is a candidate and what are the outcomes?
Dr Nicholas Lutton

7:15 am
Discussion

6:00 am - 7:30 am
ESSENTIAL MEMBERS OF THE BARIATRIC TEAM

Scientific Session - Upper GI Surgery, Bariatric Surgery - Great Hall Q1 (Use Door 6)

6:00 am
Bariatric anaesthesia - current trends and evidence. What I do?
Dr David Treppett

6:15 am
Pharmacotherapy in bariatrics
Dr Catherine Bacus

6:30 am
Evidence for bariatric surgery in T2DM
Dr Viral Chikani

6:45 am
Managing venous thromboembolism post bariatric surgery
Dr Gerard Connors

7:00 am
Discussion

6:00 am - 7:30 am
HOW DO WE MAKE FLEXIBLE TRAINING SAFE FOR ALL?

Scientific Session - Women in Surgery - Plaza Level Meeting Room P5

Flexible training is reflective of a new lifestyle for surgeons and our priority remains patient safety. We will hear speakers who are at the coalface of decision making around this issue.

6:00 am
Introduction

6:10 am
Flexible Urology Training and Surgical Housekeeping
Dr Caroline Dowling

6:20 am
Flexible Training and Me
Dr Karen Murphy, Dr Karen Murphy

6:30 am
Flexible Training and Me
Dr Marnique Basto

6:40 am
Flexible Training and Me
Dr Christina Roland
The COVID pandemic has changed the way we work, including increased remote capabilities and flexible working has been a significant change in Australia and the world. Data from corporate world have shown benefits in flexible work. However, incorporation of flexible work in medicine and particularly medical training is relatively untouched as the medical community has had an increased workload during the pandemic. If we believe that flexible training has merit, how do we feasible in surgical training? If so, how do we create a culture of acceptance/change?

6:50 am
Panel Discussion
Dr Karen Murphy, Dr Caroline Dowling, Dr Karen Murphy, Dr Christina Roland

6:00 am - 7:30 am
MEDICAL ADVANCES: 952-1964

Scientific Session - Surgical History - Plaza Level Meeting Room P3

6:00 am
History of thyroid surgery - A pain in the neck
Dr Pratik Raichurkar
The first documented operation on the thyroid goitre dates back to 952 A.D. performed by Albucasis Al-Zahrawi using opium sedation and a cloth bag to collect lost blood.Today, surgical interventions of the thyroid gland carry minimal mortality and morbidity benefiting from modern instruments, imaging and operating theatres, however this was not always the case. Rudimentary surgical techniques in the 18th century were plagued by haemorrhage, airway damage and infection, and these factors led to Samuel Gross describing the procedure as “horrid butchery”. At the time surgery on thyroid goitres carried a mortality of 40% and was considered so dangerous that “no sensible surgeon would ever engage in it”, resulting in the French academy of Medicine outlawing the procedure in 1850. The work of Theodore Billroth and Theodore Kocher in the early 20th century, using careful surgical dissection and aseptic techniques, was paramount in developing a surgical and physiological understanding of the thyroid gland. Practices commonplace today are rooted in decades of development and this presentation aims to explore the contributions of prominent surgeons who pioneered the path for safe thyroid surgery.

6:20 am
Thymus Surgery: Prior to the Discovery of the Organ's Function
A/Prof Graham Stewart
The last organ in the body to have a provable function assigned to it was the Thymus. Although this gland was identifiable by the ancient Greeks, its function was not delineated until 1961, by the French-Australian scientist, Jacques Miller. Even without a defined function, throughout the 20th century this tissue had been ascribed a variety of pathologies, with a variety of physiological implications that provided opportunities for operative interventions. Thymus surgery for “respiratory distress” was first carried out in 1896, by Ludwig Rehn. Childhood dyspnoea was treated with thymic irradiation with severe adverse long-term effects and “Thymic Asthma” (associated Status Lymphaticus) was widely treated by thymectomy till discredited in the 1930’s. More usefully and with ongoing therapeutic importance was the development of surgical treatment for the neurological condition of Myasthenia Gravis (MG). Surgery for this condition was first performed by Ernest Ferdinand Sauerbruch (1875 – 1951) in 1911. Subsequently, in the 1940s and 50s, Alfred Blalock (1899-1961) after his triumphs in defining physiological Shock and the development of the blue baby surgeries was intimately involved in proving the value of this approach. Similar investigations and work was performed Geoffrey Keynes (1887 – 1982) in the UK. The exact mechanism of such success surgery was not clear and seems to be only tangentially related to the primary function of the gland. Surgery however was instrumental in understanding MG more fully. Surgery of the thymus persists today partly due the technical advances made in the operative approach explored above and now with rigorous indications

6:40 am
Volkmann and the First Ischemic Contracture: Evolution of Compartment syndrome
Dr Animesh Singla
Acute compartment syndrome has been recognised since early nineteenth century. The first understanding of compartment syndrome began with Richard Von Volkman in 1881, a German doctor. He described the occurrence of paralysis and contraction of the limb, not by nerve paralysis but by massive disintegration of myogenic mass. He offered no treatment except for admonition against tight bandages, even in setting of fractures. However, effective treatment for this condition remain elusive for nearly another 100 years. Further animal and model testing confirmed anabolic environment and lack of oxygen and likely mechanism (Lesser, 1884). Hildebrand in 1890 first coined the term ‘Volkmann’s contracture’, also known as Volkmann-Leser contracture’. The first successful treatment was in a patient who underwent forearm fasciotomy to release internal pressure. This was describe by Bardenheuer. Several further animal studies took place between early to mid 1900s which lead to the unified concept of compartment syndrome - with intrinsic and extrinsic causes of muscle ischemia. Type 1 included arterial insult leading to direct ischemia, and Type 2 relating to elevated intrinsic pressure within a fixed unyielding compartment. Subsequent de-pressurisation and salvage of viable soft tissue has led to current concepts of care in managing compartment syndrome. Further investigations, particularly in the field of ischemia reperfusion are ongoing.

7:00 am
**A treasure from Easter Island: The discovery of Rapamycin (Sirolimus) and its utility in transplant surgery
Dr Gabriel Atan Sanchez
The discovery of rapamycin (sirolimus) has its genesis in a 1964 Canadian research expedition to one of the most isolated inhabited communities on earth, Easter Island (Rapa Nui). Microbiologist Georges Nogrady joined the expedition to answer the question: Why do Rapa-Nui people, who walk barefoot and live on an island where horses outnumber humans, not get infected with tetanus? He knew that the answer would lie

within the soil of Rapa Nui. In 1975, Dr Suren Sehgal and researchers at Ayerst Pharmaceuticals in Canada were able to isolate a bacterium in this soil known as Streptomyces hygroscopicus, which produced a novel macrolide with anti-fungal activity. Initially known to be a potent anti-fungal agent, further research led to the discovery of its immunosuppressive properties that it is best known for today, making it a pioneering drug in the prevention of solid organ transplant rejection. It exerts its immunosuppressive effects by binding to FK-binding protein 12 (FKBP12). The rapamycin-FKBP12 complex then binds to and inhibits a kinase known as 'mammalian target of rapamycin' (mTOR). The mTOR signalling pathway is a critical in cell growth, proliferation and survival. Rapamycin was approved as an immunosuppressant in the late 1990s. The first global human studies with rapamycin were conducted on renal transplant recipients. It was concluded that the incidence of acute rejection to the donor organ were reduced in a statistically significant manner, compared to placebo. Furthermore, in recipients taking rapamycin who experienced acute rejection, the severity was reduced. This treasure from Easter Island is one that keeps on giving. Rapamycin's latest property that is currently under research is that of anti-ageing.

6:00 am - 7:30 am
MODERN RESUSCITATION FOR BURNS AND TRAUMA

Scientific Session - Paediatric Surgery, Trauma Surgery, General Surgery, Burn Surgery - Plaza Level Meeting Room P1

6:00 am
Burns resuscitation
Professor David Greenhalgh

6:20 am
Paediatric Trauma Resuscitation - Modern Look at an Age Old Problem
Associate Professor Warwick Teague, Associate Professor Warwick Teague

6:35 am
Military experience with early transfusion
Professor Mark Midwinter

6:50 am
Reversal of anticoagulant medications
Dr Elizabeth Alore, Dr Elizabeth Alore

7:05 am
FEISTY and FEISTY junior
Dr James Winearls

7:20 am
Discussion

6:00 am - 7:30 am
NEUROSURGERY IN THE DEPLOYED ENVIRONMENT

Scientific Session - Military Surgery - Plaza Level Meeting Room P4

6:00 am
Considerations of deploying as a young surgeon
Dr Daniel Chan

6:18 am
Operational service and the RACS core competencies
Associate Professor Andrew Davidson

6:36 am
Neurosurgery in the Deployed Environment
Dr Ron Jithoo

6:54 am
Panel Discussion
Associate Professor Andrew Davidson, Paul Smith, Professor David Walker, Dr Daniel Chan, Dr Ron Jithoo

6:00 am - 7:30 am
PERI-OPERATIVE MEDICINE

Scientific Session - Vascular Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

6:00 am
Perioperative risk management for the complex vascular patient
Dr Christopher Futter

6:20 am
The challenge of vascular in a non-regional setting from an Anaesthetics perspective
Dr Ashlea Meehan

6:40 am
Latest research and risk modelling
Professor Jonathan Golledge

7:00 am
Quality of Life in Chronic Limb-Threatening Ischemia: A Systematic Review and Meta-Analysis
Dr Leonard Shan
Purpose: To review quality of life (QOL) outcomes with or without revascularisation in chronic limb-threatening ischemia (CLTI). Methods: PRISMA guidelines were followed. The protocol was registered in PROSPERO (CRD42021253953). MEDLINE, EMBASE, PsycINFO, CINAHL, and WOS databases were searched for prospective studies in any language reporting QOL in CLTI patients after open surgery (OS), endovascular intervention (EVI), major lower extremity amputation (MLEA), or conservative management (CM). Comparative effectiveness and temporal outcomes were assessed at six months. Random effects meta-analysis was performed on total scores for each QOL instrument. Certainty of evidence was assessed with the GRADE approach. Results: Fifty-five studies with 8909 patients were included. QOL after OS was similar to EVI on SF-36/SF-12 (MD: 1·65 [-1·06, 4·36], p=0·23, high certainty). Small to moderate improvements were reported after OS on SF-36/SF-12 (MD: 9·22 [4·20, 14·24], p=0·0003, very low certainty), and after EVI on VascuQoL-25 (MD: 1·21 [0·89, 1·52], p<0·00001, low certainty), SF-36/SF-12 (MD: 5·27 [2·87, 7·66], p<0·0001, low certainty), and EQ-5D-3L (MD: 0·21 [0·07, 0·35], p=0·003, very low certainty). MLEA maintained SF-36/SF-12 score (MD: 4·84 [0·33, 9·34], p=0·04, very low certainty). Insufficient data comparing revascularisation and non-revascularisation treatments, and CM. Treatment effects were overestimated due to small study effects, selective non-reporting, and survivorship bias. Conclusions: Current QOL evidence does not support one treatment over another. Revascularisation results in modest QOL improvements at best. Patient-centred management requires consideration of all treatment options and associated QOL outcomes.

7:10 am
An integrative review to understand Shared Decision-Making for Patients with Peripheral Arterial Disease
Dr Oh Sung Choy
Purpose Patients with peripheral artery disease (PAD) describe limited treatment options with minimum input into decisions which affect their lives. Shared decision-making (SDM) is a process where the patient and surgeon work together to include patient values and preferences when making evidence-based decisions. This integrated review explores the current evidence for SDM in PAD. Method A comprehensive search of the literature was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta Analyses. Articles published in English describing SDM in PAD which met quality appraisal using the Critical Appraisal Skills Program (CASP) checklists were included. The revised ‘three-talk model of shared decision making’ [Elwyn et al, BMJ 2017; 359] was the framework to map shared-decision making against domains of teamwork, options, decisions, active listening and deliberation. Results We identified 27 studies related to SDM in patients with PAD. The quality of the studies as measured by the CASP checklists was high. Overall, our review indicates that patients want to engage in SDM. Including the patient as part of the team was the most frequently identified domain. Other key domains were active listening, giving options, and participating in decisions. Higher health literacy, carers' support, and strong patient autonomy supported SDM. Poor patient-doctor engagement, minimisation of PAD symptoms, and miscommunication hindered SDM. Conclusion The three-talk model supports the inclusion of the patient in decision-making for PAD, with current SDM evidence mapped to the domains of the model. Utilising this SDM model ensures surgeons include the values and preferences of patients with PAD.

6:00 am - 7:30 am
PERIOPERATIVE ENDOCRINE SURGERY PEARLS

Scientific Session - Endocrine Surgery - Plaza Level Meeting Room P2

6:00 am
Multidisciplinary perioperative voice and swallow assessment
Ms Jennifer Davis
Background In 2020, the Speech Pathology First Point of Contact Clinic model (SP-FPOCC) at Logan Hospital expanded to include patients referred for vocal cord check (VCC) pre and post thyroid and parathyroid surgery. The VCC service followed existing SP-FPOCC procedures, with ENT triaging referrals, then speech pathologist (SP) completing case history and flexible naendoscopy (FNE). Post-session, results are reviewed by the SP and ENT for diagnostic/management decisions. Aims To evaluate the clinical / service outcomes of patients attending pre and post-operative VCC assessment within the SP-FPOCC, and examine consumer perceptions. Methods This study involved prospective collection of clinical and service outcomes for patients seen within the VCC service between January 2020 and December 2021. Patients completed an anonymous satisfaction survey post-session. Results Data on the first 100 patients is reported with no adverse events. Of 100 pre-operative VCCs, 9 patients had significant pre-operative anatomical findings. A total of 83 patients underwent surgery and 76% (n=63) were seen for a post operative VCC (31 single side, 32 bilateral, 93 total nerves at risk). Post-operative VCC identified 3 temporary neuropraxias (3,2%) and 3 unilateral vocal fold paresis (3.2%). Patient satisfaction was high. In total, 163 VCCs were completed by the SP resulting in time savings for ENT services. Conclusion The Logan Hospital SP-FPOCC has expanded into a new, low risk population, with no adverse events and positive consumer perception. This expansion saved ENT time and achieved best practice management (i.e. pre and post surgical VCC) for patients receiving surgery for thyroid/parathyroid dysfunction.

6:20 am
How can a dietitian-led preoperative Very Low Calorie Diet (VLCD) Clinic optimise your surgical patients with obesity?
Ms Sally Griffin
Excess fat and obesity can complicate surgical procedures and increases the risk of postoperative complications. This can have major impacts on patient outcomes and healthcare resources. Despite bariatric surgery routinely utilising VLCDs preoperatively to reduce risks of complications, optimising obesity preoperatively for the non-bariatric surgery patient is not as widely researched, but is an exciting area of healthcare that is showing promise in new research. Studies have shown that VLCDs can elicit weight loss of 1-2.5kg per week, reduce liver volume and visceral fat, improve blood pressure, blood glucose control, and exercise tolerance. Emerging research is finding that VLCDs, when prescribed and monitored by an appropriately credentialled dietitian within a preoperative model, can produce tangible improvements to surgical outcomes and could be useful across multiple surgery types, including endocrine surgery. This presentation will be an intriguing exploration into the current and emerging evidence, how this novel VLCD-based intervention currently works within a dietitian-led preoperative model of care, and the numerous applications it could have for a range of surgical patients, including endocrine, general, ENT, gynaecology, urology, colorectal, and orthopaedic. The presenter is a clinical dietitian with extended credentials, has designed and established a successful preoperative model of care utilising VLCD, and is the current leading expert conducting research within this field in Australia. Surgeons who are interested in a collaborative approach to benefit their elective surgery patients with obesity (and obesity-related co-morbidities) should attend, to discover how this model could easily fit within most elective surgery services.

6:40 am
The role of the perioperative physician
Dr Aisling Fleury, Dr Aisling Fleury

7:00 am
The Utility of Ultrasound for Endocrine Surgeons
Dr Edwina Moore
Surgeon performed ultrasound is a necessary tool in the evaluation of patients with thyroid and parathyroid disease. Key information obtained from bedside ultrasound (not necessarily apparent from still images or the report) can influence the decision to operate, extent of operation, timing of surgery and patient education. Additionally, fine needle aspiration under ultrasound guidance is an invaluable adjunct for an endocrine surgeon. In this lecture I will present optimal use of ultrasound use in the office and operating theatre, interventional techniques, essential equipment, accreditation and billing.

7:20 am
Shared Decision Making in Thyroid Cancer
Professor Justin Gundara

7:22 am
Discussion

6:00 am - 7:30 am
RESEARCH PAPERS II

Scientific Session - Breast Surgery - Great Hall Q2 (Use Door 8)

6:00 am
Outcomes of Day Only Axillary Clearance during COVID-related Surgery Restrictions
Dr Negin Sedaghat

6:10 am
Surgical salvage of severe periprosthetic infections in breast reconstruction. Meta-analysis and literature review
Miss Lauryn Khoo
Purpose: Severe periprosthetic infections have been traditionally managed by explantation and prolonged delay or abortion of the reconstructive process. When compared to cosmetic augmentation, peri prosthetic infections occur at least 4-fold more common, result in lower salvage rates and more often occur months after primary implantation. Most reports on periprosthetic infections vary in interpretation of the severity of the infection and usually include both cohorts (cosmetic and reconstructive patients) where differences and irregularities make precise evaluation challenging. Our literature review and meta-analysis, aim to evaluate surgical techniques of implant salvage in the setting of severe periprosthetic infections in breast reconstruction. Methodology: Based on PRISMA guidelines, a search of PubMed, Medline, and Embase was performed to identify studies from 2002-2022. Primary articles that fulfil the aims of the study were selected and descriptive statistics was carried out. Results: A total of 209 articles were identified and 17 studies were analysed fulfilling the study criteria with a total of 340 patients. 3 main types of surgical techniques associated with implant salvage (+/-implant exchange) were identified with encouraging success rates from pooled data: debridement and lavage were 81.6%, negative pressure wound therapy instillation was 90.2% and the use of antibiotic impregnated beads or plate, 80.7%. Conclusion: With increasing rates of implant based immediate breast reconstructions, periprosthetic infections although are uncommon will become a more significant burden on healthcare. Adoption of implant salvage techniques will become an important part of the overall management of breast cancer patients.

6:20 am
The Use of Neoadjuvant Therapy in Breast Cancer Treatment and Surgery in Australia and New Zealand: BreastSurgANZ Quality Audit
Dr Jaime Duffield
Purpose: The use of neoadjuvant chemotherapy (NACT) in breast cancer (BC) has evolved significantly across time, with the greatest benefits seen in stage II-III HER2-positive and triple negative breast cancers (TNBC). This study aims to determine the current use of NACT in different BC biological subtypes, at different tumour stages, in Australia and New Zealand. Method: Prospective data from 116,745 patients between 2010-2019 was provided by the BreastSurgANZ Quality Audit. Adults >18yo with invasive disease were included, unless pregnant within the past 12mths. Annual rates of NACT use were determined and change across time analysed with fractional regression. Data from 2018-2019 were combined and stratified by biological subtype (LumA, LumB HER2-neg, LumB HER2-pos, HER2 enriched, TNBC, Other basal-like), age (<50, 51-74, ≥75), and tumour stage (I, II, III), and compared using negative binomial regression. Result: The use of NACT increased ($p<0.001$, average OR 1.26), and the use of additional adjuvant CT decreased ($p< 0.01$, average OR 0.78) across time. A significantly greater use of NACT was noted in patients aged <50yo compared with older ages ($p<0.001$), regardless of biological subtype or stage. Only in LumA and LumB HER2-neg tumours did Stage III tumours receive more NACT than Stage 1 tumours ($P<0.01$). Conclusion: Increased uptake of NACT and decreased use of additional adjuvant CT is in keeping with progressive change in practice in response to contemporary evidence. The high uptake in patients aged < 50yo may reflect fitness for treatment, but could also be related to outdated evidence for a better outcome of NACT in that age group, which has subsequently been shown to be due to the number of TNBC.

6:30 am
Quality Indicators for Breast Cancer Care and Surgery in Australia and New Zealand: Compliance of the BreastSurgANZ Quality Audit with International Standards
Dr Jaime Duffield
Purpose The Breast Surgeons of Australia and New Zealand (BreastSurgANZ) Quality Audit (BQA) of Breast Cancer Care is a prospective population-based database designed for annual audit of compliance with internally derived Quality Indicators (QI)s. While there is no international consensus for QIs, comparison of practice between nations is possible using QI defined by the 2017 European Society of Breast Cancer Specialists (EUSOMA) Guidelines. Method BQA data from 1/1/2018 to 31/12/2019 were stratified by the EUSOMA definition of low-volume hospitals (LVH <150 patients p.a.) and high-volume hospitals (HVH ≥150 patients p.a.), and percentage compliance (95% CI) with 15 mandatory EUSOMA QI were determined. Result. LVH met the quality threshold for 10, and HVH for 8 EUSOMA QI that assessed MDT, surgical approach, adjuvant radiotherapy in the LVH setting, avoidance of overtreatment, and use of endocrine therapy. ANZ did

not meet the quality threshold for QI assessing adjuvant radiotherapy in the HVH setting, and use of neoadjuvant chemotherapy. Conclusion Compliance of ANZ with EUSOMA QI is less than compliance reported by France and Norway. A direct comparison cannot be made as the health care systems differ and the European studies were from 2012 and 2016. Notably some QI require contemporary update, particularly regarding the use of neoadjuvant systemic therapies. ANZ surgeons performed at a high standard in discussion of breast cancer patients by MDT, and appropriate use of adjuvant radiotherapy by LVH. Recommendations include improving completeness of data capture, inclusion of genetic syndrome, Ki67%, and use of MRI in the minimum data set.

6:40 am
In vivo two-dimensional COrrelated SpectroscopY (2D COSY) differentiates malignant lesions from healthy breast tissue
Dr Fuquan Jeremy Khoo
Introduction MR-Spectroscopy (MRS) has been demonstrated to supplement the diagnostic accuracy of MRI in breast cancer by obtaining biochemical characteristics of breast tissue, especially the changes in various phospholipids within the breast tissue. We evaluated the utility of a new MRS two-dimensional (2D) COrrelated Spectroscopy (COSY) method applied in vivo to study differences in malignant lesions from healthy breast tissue. Methods All female patients over the age of 18 referred to the Division of Breast and Endocrine Surgery at the Princess Alexandra Hospital (PAH), Brisbane, between Feb 2019 to Jan 2020 with diagnosed invasive or in-situ breast carcinoma were invited to participate in this study. MR imaging was performed using a 3T PRISMA scanner (Siemens AG, Germany) using a 16-channel (RAPID Biomedical, Germany) or 18-channel breast coil (Siemens AG, Germany) Results 26 out of 59 recruited patients completed both MRI and MRS research protocols. 27 age-matched healthy controls were randomly chosen to form the control group. Evaluation of 2D-MRS data showed significant differences in peak volume (PV) ratios of multiple discrete lipids and metabolites in addition to the well-studied phospholipids, between healthy tissue and malignancy. Additionally, these differences were dissimilar from distinguishing biochemical differences between clinical subtypes of breast cancer. Conclusion 2D-COSY MRS can differentiate between healthy breast tissue and malignant disease. Together with its potential to distinguish biochemical differences between cancer subtypes highlights the potential of 2D-COSY MRS as an important adjunct in the management of breast cancer patients.

6:50 am
Nipple and Breast Sensation Preservation in Mastectomy – Adapting new techniques for Australian patients
Associate Professor Cindy Mak
Purpose: Increased patient awareness has resulted in greater uptake of nipple and skin sparing breast reconstruction. However, the potential for loss of sensation of the nipples particularly, leads many women to choose wide excision and radiotherapy over mastectomy, despite their desire for some of the benefits of mastectomy. Recent advances in restoration in sensation following mastectomy have been described. Anne Peled et al described nerve preservation and allografting for sensory innervation in immediate implant reconstruction. Chrysopoulo et al described sensory microneurorraphy for restoration of sensation of DIEP flaps . The authors learnt of these techniques and were able to correspond with Drs Peled and Chrysopoulo. Methodology: The authors have not observed these techniques live given the Covid pandemic, but attempted the technique based on anatomical observations, discussions with their overseas colleagues, and a collaborative approach. Adaptation of the technique has been required, as nerve allograft is currently not available in Australia. Results: Thus far, 12 patients have had bilateral (8) or unilateral (4) nerve sparing mastectomy or neurotization of their immediate DIEP reconstruction if the nerve was anatomically unsuitable to spare. 7 patients had successful nerve preservation. 3 patients have had a delayed DIEP reconstruction neurotization. 1 nerve autograft was harvested from the DIEP donor site to achieve breast neurotization. Conclusion: Learning new techniques remotely is possible. We discuss the steps taken to approach this and our early results.

7:00 am
The Breast Reconstruction App (BRA)
Dr Caitlin O'Hare
Introduction The BRA (Breast Reconstruction App) was developed with the support of the ASPS Foundation of Plastic Surgery in late 2018. The BRA aims to be an efficient, secure and easy to use app in collecting the data for the Australasian Breast Device Registry (ABDR) as well as a registry for all Autologous based Reconstruction in the country. The aim of this study was to review the feedback from the APP’s trial and improve functionality for national roll-out. Method All stakeholders involved in the trial were interviewed as well as sent formal questionnaires on the APP. Feedback received underwent both qualitative and quantitative analysis to form a number of suggestions for the APP. Modifications were prioritized by the authors and redevelopment of the BRA began in 2021. Results The Breast Reconstruction App has been modified to improve safety, user experience and ease. The most notable feature is the development of Optical Camera Recognition (OCR) for patient stickers using a bespoke tool developed by the main author. This allows for seamless and accurate transfer of patient information from the sticker to the breast device registry form saving time and hassle for the clinician. Conclusion The Breast Reconstruction App has already shown to be a safer and simpler alternative to the paper based ABDR form. Now it has been further developed based on feedback from its users to assist in collating both autologous and implant based

reconstruction. Soon the authors hope to formally release the App to all Australasian surgeons involved in breast surgery.

7:10 am
Breast cancer surgery in indigenous and non-indigenous women in Australia
Mr Nirmal Dayaratna

7:20 am
Evaluation of Vectra® XT 3D surface imaging technology in measuring breast symmetry and breast volume.
Dr My Pham
Background: Breast symmetry is an important component of assessing breast cosmesis. The Harvard Cosmesis scale is the most widely adopted method of breast symmetry assessment. However, the scale lacks reproducibility, reliability; and this limits its application in clinical practice. The VECTRA® XT 3D (VECTRA®) is a novel breast surface imaging system which, when combined with breast contour measuring software (Mirror®) aims to automate this measurement to produce a more accurate and reproducible breast contour measurements to aid operative planning in breast surgery. Objectives: This study aims to compare the reproducibility and reliability of the Harvard Cosmesis scale with VECTRA®; and assess how differences in breast volume approximation affect breast symmetry scores. Methods: Patients at a tertiary institution had 2D and 3D photographs of their breasts. Seven panellists scored the 2D photographs using the Harvard Cosmesis scale. Two panellists used Mirror® software to calculate the Root Mean Scores (RMS) when the 3D images were overlapped over each other; and breast volumes. Results: Inter-observer agreement was weak (kappa 0.078-0.454) amongst Harvard scores compared to VECTRA® measurements. Intra-observer agreement ranged from none to moderate (kappa -0.005 – 0.7) amongst the panellists using the Harvard Cosmesis scale. Kappa values ranged 0.537 to 0.674 for intra-observer agreement ($p < 0.001$) with RMS scores. RMS had moderate correlation with the Harvard Cosmesis scale ($rs = 0.613$). Furthermore, absolute volume difference between breasts had poor correlation with RMS ($R2 = 0.133$). Conclusion: VECTRA® and Mirror® software is a more objective method of measuring breast symmetry.

6:00 am - 7:30 am
ROBOTIC PANCREAS SURGERY

Scientific Session - HPB Surgery - Great Hall Q3 (Use Door 9)

6:00 am
Pushing the limits in HPB robotics - where are we at?
Dr Osamu Yoshino
In recent years, robot-assisted minimally invasive surgery (Robotic surgery) has been more and more applied. This trend has been observed in HPB surgery, especially after the introduction and exponential utilization of the new and very innovative surgical robotic platforms. This presentation includes the current status of robotic surgery, especially robotic HPB surgery, in North America and its future perspectives.

6:17 am
Robotic Whipple's in Australia - progress and outcomes from a local series
Dr Mehan Siriwardhane

6:34 am
Thoughts from the tail end - Robotic distal Pancreatectomy
Dr Anubhav Mittal

6:51 am
Pancreas sparing robotic resections - an ideal indication?
Aprof David Cavallucci
Formal distal pancreatectomy and pancreaticoduodenectomy are procedures with high perioperative morbidity and reasonably high mortality. In the long term, morbidity relating to pancreatic endocrine and exocrine insufficiency also remain troubling and life limiting for patients. Traditionally, the head and uncinate process are difficult areas of the pancreas to offer enucleation or segmental resection. With modern adjuncts including careful imaging, pancreatic and biliary stenting and a robotic platform, many of these lesions can now be approached in a minmally invasive way with limited loss of normal pancreas. This would seem to be the ideal approach for pancreatic lesions of low malignant potential such as IPMN and pNETs.

6:00 am - 7:30 am
SUSTAINABILITY OF SELF

Scientific Session - Indigenous Health, Global Health, Women in Surgery, Surgical Education, Rural Surgery,

Younger Fellows - Mezzanine Level Meeting Room M3

6:00 am
Breast health - practical approach for female surgeons
Dr Heidi Peverill

6:15 am
Women's health basics: periods, cervical screening, fertility
Dr Albert Jung

6:30 am
Colorectal health and the surgeon
Dr Carina Chow
We as health professionals live in a time poor environment where we care for others and spend very little time on ourselves and especially our health. This presentation aims to give some simple, practical colorectal pearls that all health care professionals feel they should know but may need a refresher.

6:45 am
Exercise physiologist - most practical way to exercise for surgeons
Mr Kieran Maguire

7:00 am
Skin health - skin checks and anti-ageing
Dr Justin Perron

7:15 am
Discussion

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05 May 2022

6:45 am - 7:30 am
KEYNOTE LECTURE - DR BERNADETTE EATHER (SYDNEY)

Keynote Lecture - Surgical Directors, Quality & Safety in Surgical Practice - Mezzanine Level Meeting Room M2

6:45 am
Complex decision making
Dr Bernadette Eather

7:15 am
Discussion

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05 May 2022

8:00 am - 9:30 am
BIOFABRICATION IN VASCULAR SURGERY

Scientific Session - Vascular Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

8:00 am
Biofabrication and Vascular Surgery
Dr Christoph Meinert

8:20 am
Engineering Mechanical Compliance in Biofabricated Small Diameter Vascular Grafts
Mr Angus Weekes

8:35 am
3D Modelling for FEVAR case planning
Dr Krishna Pattabathula

8:55 am
Intraoperative Autologous Conduit Storage: What is the Solution?
Dr Andrew Haymet

9:10 am
Discussion

8:00 am - 9:30 am
COMBINED SESSION

Scientific Session - Rural Surgery, Paediatric Surgery - Mezzanine Level Meeting Room M4

8:00 am
Outreach paediatric surgery
Dr Harry Stalewski, Dr Harry Stalewski

8:20 am
Rural management of paediatric surgical patients
Dr Sabu Thomas
Paediatric surgery is the expert discipline for the provision of professional surgical expertise for neonatal, congenital, and technical aspects of care for paediatric physiology and anatomy. Australia is a large country geographically with most of the population concentrated in southern half the country and in the main cities of Sydney, Melbourne, Brisbane ,Perth and Canberra where tertiary and quaternary level paediatric surgical services are located. There are different models for providing paediatric surgery services in rural Australia. Considering the size of the country, low population across the many regions and territories and the sustainability of safe paediatric surgical services, RACS brought out a position statement in 2017. I am discussing here three models existing in the country to make paediatric surgery care available in regional and rural Australia. Each of the models has its own advantages and disadvantages. Detailed analysis of data on paediatric surgery in children less than 12 years from Royal Darwin Hospital for the year 2019 and 2020 is presented along with conclusions. While the Darwin model is not the only way to offer safe surgical services to children, there are take home lessons from this model for other regional areas. Ref https://www.surgeons.org/about-racs/position-papers/surgery-in-children-2017

8:40 am
Training of rural surgeons in paediatric surgery
Dr Chris Bourke

9:00 am
Perspectives from PNG regarding provision of paediatric surgery services
Dr Benjamin Yapo

9:20 am
Discussion

8:00 am - 9:30 am
CONSULTANT'S CORNER - CASES AND DISCUSSION

Scientific Session - Colorectal Surgery - Great Hall Q4 (Use Door 5)

8:00 am
Panel Discussion
Dr Nicholas Lutton, Dr Peter Gourlas, Dr Elizabeth Murphy, Associate Professor Neil Smart, Associate Professor David Clark

8:00 am - 9:30 am
DELAY IN SURGERY AND POOR OUTCOMES

Scientific Session - Quality & Safety in Surgical Practice, Military Surgery - Plaza Level Meeting Room P4

8:00 am
Does time delay affect outcome in lower limb injury?
Dr Matthew Hope

8:20 am
Association of time to craniectomy with survival in patients with severe combat-related brain injury
Professor Michael Reade

8:40 am
Does time delay affect outcome in civilian trauma series?
Dr Michael Rudd

9:00 am
Discussion

8:00 am - 8:30 am
KEYNOTE LECTURE - PROFESSOR CARMEN SOLOZANO (NASHVILLE, USA)

Keynote Lecture - Endocrine Surgery - Plaza Level Meeting Room P2

8:00 am
Reflections on Adrenal Surgery
Professor Carmen Solórzano
The lecture will review important discoveries that have led to the advancement of adrenal surgery. The introduction of the CT scanner transformed adrenal surgery as a procedure on shadows and for patients presenting with overt adrenal syndromes to a procedure performed for the “incidentalomas” and more subtle hormone abnormalities. Possible pathways and challenges in training and becoming an adrenal surgeon will also be discussed. Lastly new trends in adrenal surgery, specifically robotic techniques will be presented.

8:00 am - 9:30 am
QUALITY AND SAFETY TRAINING IN SET AND BEYOND

Scientific Session - Quality & Safety in Surgical Practice - Mezzanine Level Meeting Room M2

8:00 am
Are we teaching quality and safety decision making process to medical students?
Professor Owen Ung

8:20 am
Questions and discussion

8:30 am
In SET training, are we selecting for quality and safety?
Dr Annette Holian

8:50 am
Questions and discussion

9:00 am
A national mortality registry - is this possible and / or worthwhile?
Professor Guy Maddern

9:20 am
Discussion

8:00 am - 9:30 am
RESEARCH PAPERS

Scientific Session - Upper GI Surgery, HPB Surgery, Bariatric Surgery - Great Hall Q1 (Use Door 6)

8:00 am

Safety of Bariatric Surgery in The Older Patients During the COVID-19 Pandemic

Mr Islam Omar

BACKGROUND: The progressive growth of the older patients' population with obesity represents a challenge to the weight management teams. Although initially, old age was a relative contraindication to the surgical option, current advances in laparoscopic techniques and perioperative optimization protocols have changed the old notion. However, the performance of bariatric procedures in the older patients during the ongoing COVID-19 pandemic carries a potential risk as old age is associated with a worse prognosis with COVID infection. This study aimed to assess the safety of bariatric surgery (BS) in older patients during the pandemic. METHODS: We conducted a prospective international study of patients who underwent BS between 1/05/2020 and 31/10/2020. Patients were divided into two groups - older patients ≥65-year-old (Group I) and young < 65-year-old (Group II). Two groups were compared for 30-day morbidity and mortality. RESULTS: We included 7084 patients, the mean age was 40.35±11.9 years, and 5197 (73.4%) were females. The mean preoperative weight and BMI were 119.49±24.4 Kgs and 43.03±6.9 Kg/m2, respectively. The overall comorbidities were significantly higher in Group I, p= <0.001. In Group II, 14.8% were current smokers, compared to 7.4% of Group I. The complications in Group I were significantly higher (11.4%) compared to Group II (6.6%), p= 0.022. However, the mortality rate and COVID-19 infection within 30 days were not significantly different between the two groups. CONCLUSIONS: Bariatric surgery during the COVID-19 pandemic in the older patients (≥65 years old) is associated with a higher complication rate than the younger age group. However, the mortality and postoperative COVID-19 infection rates are comparable to the younger age group.

8:08 am

Effect of BMI on Safety of Bariatric Surgery during the COVID-19 pandemic, Procedure Choice, and Safety Protocols – an analysis from the GENEVA Study

Mr Islam Omar

Background It has been suggested that patients with a Body Mass Index (BMI) of >60 kg/m2 should be offered expedited Bariatric Surgery (BS) during the Coronavirus Disease-2019 (COVID-19) pandemic. The main objective of this study was to assess the safety of this approach. Methods We conducted a global study of patients who underwent BS between 1/05/2020 and 31/10/2020. Patients were divided into three groups according to their preoperative BMI - Group I (BMI<50 kg/m2), Group II (BMI 50-60 kg/m2), and Group III (BMI>60 kg/m2). The effect of preoperative BMI on 30-day morbidity and mortality, procedure choice, COVID-19 specific safety protocols, and comorbidities was assessed. Results This study included 7084 patients (5197;73.4% females). The mean preoperative weight and BMI were 119.49±24.4 Kgs and 43.03±6.9 Kg/m2, respectively. Group I included 6024 (85%) patients, whereas Groups II and III included 905 (13%) and 155 (2%) patients, respectively. The 30-day mortality rate was higher in Group III (p=0.001). The complication rate and COVID-19 infection were not different. Comorbidities were significantly more likely in Group III (p=<0.001). A significantly higher proportion of patients in group III received Sleeve Gastrectomy or One Anastomosis Gastric Bypass compared to other groups. Patients with a BMI of >70 kg/m2 had a 30-day mortality of 7.7% (2/26). None of these patients underwent a Roux-en-Y Gastric Bypass. Conclusion The 30-day mortality rate was significantly higher in patients with BMI >60 kg/m2. There was, however, no significant difference in complications rates in different BMI groups, probably due to differences in procedure selection.

8:16 am

Prevalence of micronutrient deficiencies in preoperative bariatric patients in a New Zealand tertiary centre

Dr Megna Jeram

Purpose To assess prevalence of micronutrient deficiencies in preoperative bariatric patients and to examine for ethnic differences. Method Retrospective analysis of 573 patients that underwent bariatric surgery at Counties Manukau District Health Board was carried out. Mean preoperative levels of albumin, calcium, phosphate, folate, vitamin B12, vitamin D, magnesium, haemoglobin, haematocrit, mean cell volume, mean cell haemoglobin, ferritin, iron and transferrin were calculated. Chi square, fisher exact test and multiple logistic regression was used to assess for differences in prevalence of micronutrient deficiencies across ethnicities. Results The most common micronutrient deficiency was vitamin D (30.85%). There were statistically significant differences in vitamin D deficiency across ethnicities (p <0.0001). Asians had the highest prevalence of vitamin D deficiency (60%), followed by Pacifica (44.57%) and Māori (31.68%). Asians were more likely to have vitamin D deficiency compared to NZ Europeans (OR = 14.93, p <0.001). Vitamin D deficiency was associated with higher BMI (OR = 1.05, p = 0.008). The second most common deficiency was iron (21.1%). Asians had the highest prevalence of iron deficiency (44%), followed by Māori (27.95%), and Pacifica (19.57%) (p=0.0064). Compared to NZ Europeans, Asians (OR = 4.26) and Māori (OR = 1.78) were more likely to be iron deficient (p = 0.004). Female gender was associated with iron deficiency (OR = 2.12, p = 0.007). Conclusion Vitamin D and iron are the most common micronutrient deficiencies among preoperative bariatric patients in this cohort and ethnic differences were seen. There may be a role for preoperative supplementation in these at-risk ethnic groups.

8:24 am

Are There Any Differences In Weight Loss Outcomes of Bariatric Surgery Between Biologically Male and Female Patients? A Single Surgeon, Retrospective Cohort Analysis.

Dr Sulagna Gupta

Current literature for structured weight loss programs indicates that biologically male patients have better outcomes than patients who are biologically female. No such literature exists for bariatric surgery, even though patients from both sexes in different age groups undertake very similar pre/post-operative regimes. We aim to explore if there are any significant differences in weight loss outcomes between males and females, pre and post-operatively, in the context of laparoscopic sleeve gastrectomies (LSG) within our existing perioperative program. A prospectively maintained database was retrospectively analysed. Patients were grouped according to sex and age. Ages were categorised into 5 decades (20-69). Independent T-tests of unequal variance were performed within each age group to compare male vs female outcomes. The parameters reported were pre-operative, 6 month and 12 month post-operative total body weight loss percentages(%TBWL). 1366 patients underwent LSG from 2016-2020. There were 1012 females and 354 males. At 12 months postoperatively, mean %TBWL was 32% for males and 31% for females (p>.05) across all 5 age groups. Significant parameters were in the age range 30-39, mean 6 month %TBWL was 29% in males and 27% in females (p=.004). In patients in 60-69, mean 6 month %TWBL was 22% female and 25% male (p=.01). There was no significant difference in outcomes of LSG between male and female patients in any age group 12 months postoperatively, however, the process may be slower in female patients in certain groups. Our future research will examine body mass index as a confounding factor within this framework, as differences in outcomes can be investigated for caused and used to streamline perioperative services.

8:32 am

The Effectiveness of Postoperative Structured vs Non Structured Exercise Programmes in the Pacific Islander/Maori, Caucasian, and Asian populations.

Mr Ymer Bushati

Purpose: Consensus is lacking whether a structured or non-structured exercise programme is more beneficial in effecting weight loss after bariatric surgery. We aim to assess the benefit of exercise programmes in Pacific Islander and Maori populations compared to other ethnicities in Auckland City Hospital, New Zealand. Methods: Patients satisfying eligibility criteria for bariatric surgery between May and October 2018 were invited into postoperative structured or unstructured exercise programmes. Baseline, 6 and 12-month assessments were repeated and 20 exercise sessions were offered to participants. Clinical review with determination of anthroprometrics, excess body weight loss, HbA1c, total cholesterol, LDL were done at 3, 6, 12, 18, and 24 months. Results: 31 patients underwent the structured programme and 34 patients the unstructured programme. The structured group had 48% Pacific Islander and Maori ethnicity and the unstructured group had 47%. There were no significant differences for variables and mean difference at periodic months. There was a trend to suggest a greater mean difference for weight loss and HbA1c at 24 months (p=0.059). A one-way ANOVA test was performed to assess mean weight loss at 24 months for the ethnicities identified. Weight loss increased from Asian (23.1 +/- 7.7), to Caucasian (37.6 +/- 7.8), and Maori (43.1 +/- 8.6). However, there were no statistically significant differences between ethnicity and weight loss at 24 months (Welch's F (2,877.843) =0.594, p =0.556). Conclusion: Structured and unstructured exercise are equally effective in weight loss after bariatric surgery in the Pacific Islander/Maori, Caucasian, and Asian population.

8:40 am

Combined preoperative and intraoperative and exclusively intraoperative risk prediction modelling in oesophagectomy

Dr James Grantham

8:48 am

Phasix™ Mesh for Giant Paraoesophageal Hernias - The Way of the Future?

Dr Kevin Jia

Purpose: Mesh reinforcement of the oesophageal hiatus decreases recurrence rates for large paraoesophagal hernias. The use of permanent synthetic mesh is associated with significant risk of erosion while absorbable biosynthetic mesh will prevent it, at the hypothetical cost of long-term hernia recurrence. We aim to assess the safety and effectiveness of Phasix™ mesh in the repair of giant paraoesophageal hernias. Methods: Patients presenting to Bankstown-Lidcombe Hospital in 2020-21 for elective laparoscopic mesh repair of giant paraoesophageal hernias with Dor fundoplication were included in the study. Phasix™ mesh, fashioned in a standardised configuration, was used in all patients and fixed with fibrin glue. Clinical follow-up was scheduled at 1, 3, 6 and 12 months, with repeat gastroscopy at 4 and 12-months post-operatively. Primary endpoint was early endoscopic recurrence and secondary endpoints were length of hospital stay, morbidity, mortality and symptom recurrence. Results: Thirty patients (mean age 68.1 years) with giant paraoesophageal hernias underwent laparoscopic Phasix™ mesh repair with Dor fundoplication in 29 cases. Dyspnoea, epigastric/chest pain, and dysphagia were the most common symptoms. Reflux was negligible. There were 57% type III and 20% type IV hernias. Twenty (66.7%) patients had more than 50% herniation of the stomach. Median length of stay was 3 days and 96.5% were symptom free at 12 months. There was no major complication and no mortality. There was no endoscopic recurrence at 12 months. Conclusion: Phasix™ mesh reinforcement of the oesophageal hiatus with fibrin glue fixation shows promise in reducing

recurrence rates for repair of giant paraoesophageal hernias.

8:56 am
Intrathoracic modified Orringer technique is superior to circular stapled anastomosis in Ivor Lewis oesophagectomy
Dr Michael Wu
PURPOSE: Oesophagectomy is a technically challenging procedure with conflicting evidence surrounding anastomotic technique & post-operative outcomes. It has been suggested that a 'modified Orringer technique' or side-to-side linear stapled (LS) anastomosis compared to a circular stapled (CS) anastomosis results in lower anastomotic leak (AL) & stricture rates. The aim of this study was to systematically evaluate the evidence for these outcomes based on anastomotic technique and to describe our experience utilising the LS anastomotic technique. METHODOLOGY: A systematic review and meta-analysis comparing LS and CS anastomotic techniques performed during Ivor Lewis oesophagectomy was conducted using studies from Pubmed & Medline databases. Results were compared with a retrospective analysis of peri-operative data from patients treated at our centre from June 2019 to Dec 2021. All patients underwent Ivor Lewis oesophagectomy had an intra-thoracic LS oesophagogastric anastomosis. RESULTS: Of 388 articles screened, 7 studies comparing intrathoracic LS to CS anastomotic technique comprising 1453 patients were included for analysis. LS anastomosis was associated with a lower likelihood for AL (OR 0.46, 95%CI 0.24-0.88) and stricture (OR 0.26, 95%CI 0.14-0.47) compared to CS. In our cohort, a total of 42 consecutive patients underwent Ivor Lewis oesophagectomy using the LS technique. Our AL rate of 4.8% and a stricture rate of 2.4% are similar to the median AL rates of 4.1% and stricture rate of 5.2% of the studies included in our meta-analysis. CONCLUSION: Comparative cohort studies indicated the superiority of LS over CS anastomosis with respect to reducing the incidence of AL and strictures in Ivor Lewis oesophagectomy.

9:04 am
The Greater Omentum May be the Problem – Not Part of the Solution: A Vascular Steal Phenomenon
Dr Xin LIn Wong
Background: The value of the greater omentum in supporting gastrointestinal anastomoses has been demonstrated in several studies. However, the greater omentum may not always be beneficial to our anastomosis. Our objective was to demonstrate the vascular steal phenomenon effected by the greater omentum on the neooesophagus using indocyanine green (ICG) angiography Methods: To quantify blood flow, perfusion scores were measured using ICG, obtained by fluorescence angiography utilising the SPY Phi ® system (Stryker). Perfusion scores were measured at different regions on the greater and lesser curvature and the greater omentum. Measurements were repeated after ligation of the left and right gastric, short gastric and posterior gastric vessels. Following tubularisation of the stomach, perfusion scores were measured with an intact greater omentum and re-measured after resection of the greater omentum Results: Perfusion of the intact stomach did not significantly change with ligation of the left and right gastric vessels. There was an increase in perfusion of the greater omentum by 89% post gastric tubularisation. After omental resection, there's an increase in the perfusion of the neooesophagus by 107% from the intact to the tubularised stomach at P1 and 77% at P2. In the neooesophagus, there was an increase in perfusion by 106% at P1 and 43% at P2 after omental resection Conclusion: Preservation of the vascularised omental pedicle to reinforce the oesophageal anastomosis can paradoxically lead to increased leakage rates and necrosis due to conduit ischaemia from a vascular steal phenomenon. To our knowledge, our study is the first to use perfusion scores to objectively demonstrate this phenomenon

9:12 am
The role of staging laparoscopy in oesophago-gastric cancer in the era of modern imaging
Dr Eve Hopping
Background: Staging laparoscopy is used to diagnose peritoneal involvement before starting neoadjuvant treatment in gastric cancers and in oesophago-gastric junctional (OGJ) type II and III cancers. Our aim was to evaluate the current role of staging laparoscopy, given the recent advances in sensitivity of CT and PET-CT. Materials and Methods: Data was analysed from prospectively maintained electronic patient records at a tertiary referral cancer centre. All patients with gastric, OGJ or oesophageal cancer undergoing a staging laparoscopy were included. All patients were imaged pre-operatively with a staging CT scan and a PET-CT. Results: From 2016 to 2019, 162 patients underwent staging laparoscopy. The cancer types were 69 (42%) gastric and 93 (58%) oesophageal/OGJ; of these, 11 patients were classified as distal oesophageal, 24 were Siewert I, 32 were Siewert II and 26 were Siewert III. Tumour stage was predominantly T3 (n=109, 67%) and T4 (n=32, 20%). Staging laparoscopy changed management in 31 (19%) patients (25% in gastric and 15% in oesophageal/OGJ cancer). Previously undetected metastatic disease was seen in 15 patients (9%), with peritoneal disease (n=14) and liver lesions (n=1) observed. 12 patients (7%) had locally advanced disease and 4 (2%) patients were judged unfit for major surgery. Staging laparoscopy in distal oesophageal and OGJ Type I cancers changed management in only 3% of patients, whilst in gastric and OGJ Type 2 & 3 cancers this increased to 24% of patients. Conclusions: Despite advances in imaging techniques, staging laparoscopy continues to be an important diagnostic modality in the treatment pathway of oesphago-gastric cancers.

9:20 am
Unravelling the Tumour Neoantigen Landscape and Immune Microenvironment of Oesophageal Adenocarcinoma

Dr James Lonie
Oesophageal adenocarcinoma (OAC) is a deadly disease with an increasing incidence globally. Treatment outcomes with traditional therapy have largely plateaued and responses to immunotherapy are modest at best, necessitating the need for better biomarker driven selection. We aimed to unravel the tumour neoantigen landscape and immune microenvironment in OAC patients to aid improved patient selection and inform novel immunotherapy trials. To characterise the tumour immune microenvironment (TME) and neoantigen landscape of OACs, we performed DNA (n=116) and RNA sequencing (n=113) on biopsies taken at pre-treatment endoscopy or at time of surgery. Tumour neoantigens were predicted using the pVAC-Seq pipeline. We analysed transcriptomic profiles for tumour-immune infiltrating cell populations, measures of T cell activation and dysfunction, and hallmark gene set analysis. Median tumour mutation burden (TMB) was 5.9 (0.48 – 41.34), with a median neoantigen burden of 18.5 (1 – 231). TMB and neoantigen burden was positively correlated as expected (R = 0.67, P<0.001). OACs display heterogenous TME profiles with varying levels of immune and stromal cell infiltration. Highly immune infiltrated tumours were less likely to show stromal infiltrate. Associations were seen between immune infiltration and survival. No correlation was seen between TMB, neoantigen burden, histopathological response, or tumour stage. These findings provide new insights into the TME and neoantigen landscape of OAC and provide a platform for further investigation with clinical and translational studies to help improve patient selection and ultimately outcomes for OAC patients. Further analysis is underway to further investigate and validate results.

8:00 am - 9:30 am
SUSTAINABILITY OF SURGEONS

Scientific Session - Surgical Directors, Indigenous Health, Women in Surgery, Surgical Education, Rural Surgery, Younger Fellows - Mezzanine Level Meeting Room M3

8:00 am
The Wellness Charter
Dr Ruth Bollard

8:20 am
Human resources issues in the setting of the pandemic
Mr Grant Brown

8:40 am
Wellness, dealing with stress and ways to approach resilience at an individual and organisation level in the setting of a pandemic
Dr Jennifer Schafer

9:00 am
When things go wrong from a medicolegal standpoint
Ms Claire Bassingthwaighte

9:10 am
Discussion

8:00 am - 9:30 am
SUSTAINABLE BREAST RECONSTRUCTION - THE GREAT DEBATE BREAST RECONSTRUCTION

Scientific Session - Breast Surgery - Great Hall Q2 (Use Door 8)

8:00 am
The Great Debate
Professor Christopher Pyke, Dr Kylie Snook, Dr Darryl Dunn, Miss Melanie Walker, Dr Justin Perron

8:00 am - 9:30 am
THE UNDERPININGS OF MODERN SURGERY

Scientific Session - Surgical History - Plaza Level Meeting Room P3

8:00 am

The first anatomists: Herophilus, Erasistratus and the Alexandria School of Medicine

Dr Andrew Luck

The understanding of human anatomy has been hampered over the millenia by religious and other objections to the dissection of the deceased. This could be said of both ancient Greece and Rome as well as for the early years and Middle Ages of Christian Europe. The stand out exception is the ancient Egyptian centre of Alexandria and its School of Medicine. Founded by Alexander the Great in the fourth century BC and nurtured by the ruling Ptolomys in the following centuries, the Alexandria School of Medicine was the most important link between Hippocrates and Galen. Indeed, Galen himself studied at Alexandria around 149 AD. The primacy of this medical school to anatomists and surgeons cannot be overstated – the Egyptians were far more accepting of anatomical dissection and this practice flourished. Two of the giants of early anatomical understanding were members of the Alexandria School of Medicine. Herophilus (335-255BC) is known as 'the Father of Anatomy' and provided vital input towards the understanding of the brain, eye, liver and reproductive organs. He was also the first to differentiate nerves from blood vessels and tendons and believed that the brain was the body's controlling organ (arguing against Aristotle's assertion that the heart played this role). His younger contemporary Erasistratus (304-250BC) provided the first descriptions of the valves of the heart, as well as being the first to differentiate between arteries and veins and the first to provide in depth descriptions of cerebrum and cerebellum. This paper explores the history and achievements of the Alexandria School of Medicine and its pivotal role in the understanding of human anatomy.

8:20 am

Acute Pancreatis and appendicitis: the legacy of Reginald Herber Fitz

A/Prof Graham Stewart

Reginald Herber Fitz (1843 – 1913) was not the first person to describe suppuration of the vermiform appendix, but in 1886 published "Perforating Inflammation of the Vermiform Appendix; With Special Reference to Its Early Diagnosis and Treatment". At autopsy, by analysing 466 cases of abdominal symptomatology with variously pre-mortem diagnoses and showed that they all involved a diseased appendix. Here, discarding the previously used term of perityphylitis, introducing the term appendicitis and became the first strong advocate for early surgical intervention in such cases. Fritz's background was not in surgery, but in pathological anatomy. Initial medical training was received at Harvard and like many advanced North American practitioners he proceeded to the leading European centres of Vienna, Berlin and Paris, during the 1860's for more rigorous scientific training. It should be remembered that this was the period when microscopy was beginning to be applies to human disease in a consistent fashion. From there he returned the United States and academic positions at his alma mater. Interestingly, he tended to more physicianly pursuits but in 1889 made the initial description of Acute Pancreatitis. Less than 140 years ago some of what are now the most common surgical emergencies were not fully recognised, even though they must have existed for millennia. A prepared and meticulous mind imbued with a scientifical approach (along with many concurrent technical developments) can be seen to have brought forward the possibilities for the coherent diagnosis and treatment of today.

8:40 am

Biliary Eponyms: Who are they?

Associate Professor Michael Hollands

Abdominal surgeons glibly describe biliary anatomy and pathology with an attached eponym - yet who were these surgeons? The aim of this paper is to introduce four such surgeons and place their contribution to the profession and the community in perspective. 1. Jean-Francois Calot: Calot was an orthopaedic surgeon with an interest in childhood hip disease and tuberculosis. He is best known however for his description of Calot's Triangle in 1890. 2. Henri Hartmann: Hartmann is remembered for the eponymous operation used in emergency colonic surgery. He described Hartmann's Pouch, calling it the ampulla of the gall bladder in 1891. Hartmann died at the age of 91 after hosting a dinner for his students. 3. Ludwig Courvoisier: Courvoisier is credited with performing the first choledocholithotomy but his observation that gall bladder dilatation was seldom associated with bile duct stones, the so-called Courvoisier's Law, remains his claim to fame. The story of Courvoisier's law will be explored further. 4. Pablo-Luiz Mirizzi: In 1948 Mirizzi described what became known as Mirizzi Syndrome whereby a stone impacted in either Hartmann's pouch or the cystic duct caused obstruction to the common bile duct. He also performed the first operative cholangiogram in 1931.

9:00 am

The Little Red Book

Mr Glenn McCulloch

The intriguing history of the little red book. In 2018 I purchased a small book entitled "Notes of a Course of Lectures on Anatomy and Physiology delivered by RD Grainger Esq" which was published in 1826. The cover had a link to Professor Archibald Watson, the erstwhile Professor of Anatomy at the University of Adelaide. The contents gave an insight into the teaching of surgery in early 19th century London. The ownership gave a glimpse of societal attitudes to women in medicine in early 20th century Adelaide and finally we see a link to the greatest medical graduate from the University of Adelaide, Lord Florey.

8:00 am - 9:30 am
TRAUMA EDUCATION AND TRAINING

Scientific Session - Trauma Surgery - Plaza Level Meeting Room P1

8:00 am
Post-Fellowship Training: Are we there yet?(!)
Dr Dieter Weber

8:15 am
The view from inside
Dr James Carroll

8:30 am
The Course Smörgåsbord
Dr Kate Martin

8:45 am
Design and Outcomes of Master of Traumatology
Professor Zsolt Balogh

9:00 am
An American Perspective
Professor Kenji Inaba

9:15 am
Discussion

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05 May 2022

8:30 am - 9:30 am
MEDICO LEGAL SECTION BUSINESS MEETING

Business Meeting - Medico-legal Program - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

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05 May 2022

9:30 am - 10:30 am
RACS ANNUAL GENERAL MEETING

Business Meeting - *Cross Discipline* - Great Hall Q4 (Use Door 5)

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05 May 2022

11:00 am - 2:30 pm
CONGRESS DINNER (TICKETED EVENT)

Speciality Dinner - *Cross Discipline* - Plaza Level Ballroom

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06 May 2022

10:30 pm - 12:00 am
ANZASM CLINICAL DIRECTORS MEETING

Business Meeting - Quality & Safety in Surgical Practice - Great Hall Merivales Boardroom 1

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06 May 2022

11:00 pm - 12:20 am
MASTERCLASS (MC19): LAPAROSCOPIC INGUINAL AND FEMORAL HERNIA REPAIR (TICKETED EVENT)

Masterclass - General Surgery - Mezzanine Level Meeting Room M4

Ian Martin (Brisbane) will deliver the masterclass.

11:00 pm
Laparoscopic inguinal and femoral hernia repair
Dr Ian Martin
Dr Martin will pass on all his tricks and tips regarding inguinal and femoral hernia repairs. He has learnt many of these "the hard way" over 25 years and hopes to help future surgeons in this area. Several short videos and slides will be presented with time for discussion in areas that surgeons might find interesting.

11:00 pm - 12:20 am
MASTERCLASS (MC20): CURRENT CONTROVERSIES IN CDH (TICKETED EVENT)

Masterclass - Paediatric Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

11:00 pm
Congenital diaphragmatic hernia: Is there a role of Extracorporeal membrane oxygenation
A/Prof Adrian Mattke
Congenital diaphragmatic hernia (CDH) is a disease of underdevelopment of the diaphragm that is associated with lung hypoplasia and pulmonary hypertension (PHT). The surgical repair of the defect is rarely the life limiting factor in the disease. Rather, PHT remains a therapeutic challenge. Reversibility of PHT is essential for long term survival, but assessment and prediction of reversibility is challenging, without much evidence guiding practice. In the absence of PHT reversibility prediction tools extracorporeal membrane oxygenation (ECMO) offers a bridge to lung and PHT recovery. Retrospective and comparative data suggest a survival benefit for CDH children treated with ECMO, though randomised trial data is lacking. While survival for ECMO supported CDH patients has remained at 50%, the risk profile for patients supported with ECMO has increased over the last 2 decades. Data suggest that the worst affected children may benefit the greatest from ECMO support, while ECMO complications may outweigh the treatment benefits in milder forms of the disease. The service at the Queensland Children’s Hospital has supported 14 CDH children with ECMO, out of which 9 survived. While the use of ECMO does not justify its necessity ECMO dismissing ECMO as a treatment option for CDH patients is not justified. In fact, a recently published consensus guidelines outline indications, such as degree of ventilatory and circulatory failure that would necessitate ECMO support for children with CDH.

11:15 pm
Ventilation
Dr Pita Birch

11:30 pm
FETO
Dr Glenn Gardener

11:45 pm
Thoracoscopic repair
A/Prof Craig McBride

12:00 am
Discussion

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06 May 2022

12:30 am - 2:00 am
ACUTE BURN MANAGEMENT

Scientific Session - Paediatric Surgery, General Surgery, Burn Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

12:30 am
Managing acute paediatric burns
Professor David Greenhalgh

12:50 am
Managing acute burns
A/Prof Daniel Carroll
the management of acute burns in North Queensland is different to the management of acute burns in other centres as a result of its complex geography, remote location and high rate of indigenous burns. Here we present our experience in North Queensland, highlighting the differences in acute management to meet the needs of our population, and the lessons learned in managing burns remotely (a core part of our practice over the last decade).

1:10 am
Evolution of Acute Burn Care in New Zealand
Mr Richard Wong She

1:30 am
Discussion

12:30 am - 2:00 am
CURRENT DEPLOYABLE MEDICAL CAPABILITY

Scientific Session - Military Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

12:30 am
Royal Australian Navy
Dr Ian Young

12:50 am
RAAF: Role 2 and RSC
Dr Michael Rudd

1:10 am
Royal Australian Army
Julian Williams

1:30 am
MCAT RAAF
David Cooksley

1:50 am
Discussion

12:30 am - 2:00 am
DELIVERING QUALITY AND SAFETY CARE TO EVERY COMMUNITY, A FUTURE VISION

Scientific Session - Surgical Directors, General Surgery, Quality & Safety in Surgical Practice - Mezzanine Level Meeting Room M2

12:30 am
Why are surgical non-technical skills in the too hard basket?
Dr Graham Beaumont

12:50 am
Preparing for the future, dealing with poor practice early!
Dr Bernadette Eather

1:10 am
Catering for different ethnic communities
Associate Professor Wanda Stelmach

1:30 am
Panel Discussion
Dr Karen Murphy, Dr Graham Beaumont, Dr Bernadette Eather, Dr Karen Murphy, Associate Professor Wanda Stelmach

12:30 am - 2:00 am
RESEARCH PAPERS

Scientific Session - General Surgery - Mezzanine Level Meeting Room M4

12:30 am
POSTVenTT (POST operative Variations in anaemia treatmenT and Transfusions) study: A student- and trainee-led collaborative audit of 2730 patients undergoing major abdominal surgery in Australia & New Zealand
Miss Laure Taher Mansour
Introduction: Anaemia among is common in patients undergoing surgery and negatively impacts perioperative morbidity. We aimed to assess compliance with Patient Blood Management guidelines and the impact on patient outcomes after major abdominal surgery. Methods: The POSTVenTT Collaborative study was a student- and trainee-led, prospective, multicentre, cohort study run over two fortnight periods in 2021. Data included patient demographics, operation and Hb levels, any blood transfusion and follow up to 30 days. Patient Blood Management (PBM) audit standards were: 1. Preoperative anaemia management. 2. Operative Tranexamic acid. 3. Restrictive blood transfusion 4. Post-operative anaemia management. Results: Complete datasets (>95%) were returned for 2730 patients, mean age 56.7 ± 17.3 years; 57.1% were female. 1. Preoperative anaemia was present in 28% (689/2461), 244 (35.4%) had iron studies (128 ferritin <100 µg/L) and 41 (32.0% of 128) received IV iron. Audit standard compliance was associated with a lower risk of blood transfusion (4.1% vs. 10.9%, p<0.001), complications (5.9% vs. 9.0%, p=0.01), and hospital stay (3 vs. 4 days, p=0.005). 2. Tranexamic acid was used in only 128 patients (4.7% of 2728) predominantly by gynaecology. 3. Pretransfusion Hb averaged 73.9 (SD 11.6) g/L with audit compliance in 57.5% (96/167). 4. Postoperative anaemia was common 59.3% (1227/2069). 9.9% (121/1227) received oral, and 11.1% (136/1227) intravenous iron. Severe anaemia (Hb < 100 g/L) was associated with higher 30-day readmission (20.2% vs. 9.4%, p<0.001). Conclusion: PBM remains variable and attention to anaemia management remains a target for patient care.

12:40 am
Critical Analysis of the Causes of In-Hospital Mortality following Colorectal Resection: A Queensland Audit of Surgical Mortality (QASM) Registry Study
Dr Derek Mao
Purpose: Colorectal resection is a major gastrointestinal operation. Improvements in peri-operative care has led to improved outcomes, however mortalities still occur. Using data from the Queensland Audit of Surgical Mortality (QASM), this study examines the demographic and clinical characteristics of patients who died in hospital following colorectal resection, and also reports the primary cause of death in this population. Method: Patients who died in hospital following colorectal resection in Queensland between January 2010 and December 2020 were identified from the QASM database. Results: There were 755 patients who died in the 10-year study period. Pre-operatively, the risk of death was ‘considerable’ in 397 cases (53.0%) and ‘expected’ in 90 cases (12.0%). The patients had a mean of 2.7 (±1.5) co-morbidities, and a mean American Society of Anaesthesiologists (ASA) score of 3.6 (±0.8). Operations were categorised as emergency in 579 patients (77.2%), with 637 patients (85.0%) requiring post-operative Intensive Care Unit (ICU) support. The primary cause of death was related to a surgical cause in 395 patients (52.7%) and to a medical cause in

355 patients (47.3%). The specific causes of death were classified as being due to an advanced surgical pathology (n=292, 38.9%), a complication from surgery (n=103, 13.7%), a complication arising from pre-existing medical co-morbidity (n=282, 37.6%) or a new medical complication unrelated to pre-existing conditions (n=73, 9.7%). Conclusion: Patients who died were significantly co-morbid and often presented emergently with an advanced surgical pathology. Surgical and medical causes of death both contributed equally to the mortality burden.

12:50 am
Introspection versus hindsight: concordance between surgeons and reviewers in assessing care following bowel surgery.
Dr Shaun Muggleton
Aim: Surgeons reflect on their decisions following an undesired or unexpected treatment outcome. How such self-reflection compares to peer review is not clear. This study was performed to compare surgeons' self-reflection against that of peer reviewers in evaluation of the care of patients who died following bowel surgery. Methods: All patients who died in Queensland hospitals between 2006 and 2018 following bowel surgery were retrospectively identified from the Queensland Audit of Surgical Mortality (QASM) dataset. Clinical events were identified separately by the treating surgeon and subsequently a peer reviewer. Clinical events were classified in line with the "To Err is Human" campaign and compared. Patient care and identified clinical events were not re-analysed. Results: Out of 3576 General Surgery Notifications of Death to the audit, one third (n = 1145) were following bowel surgery. 178 (15.5%) of those cases underwent Second-Line Assessment (SLA) by a non-blinded peer surgeon. There was complete or partial agreement between the treating surgeon and SLA in 82.8% (101/ 122) of instances. In total SLA peer reviewers identified almost 3 times as many clinical events as treating surgeons (356 vs 122). The additional events identified were: inappropriate or not indicated care (N=73), error or delay (N=26), and failure of communication (N=18). Conclusion: Peer reviewers highlight clinical events that treating surgeons omit. This demonstrates the usefulness of the QASM process from a learning and self-improvement perspective. The reasons behind this discrepancy are not clear.

1:00 am
Incisional Hernia Repair with Mesh at Waitematā District Health Board – a 15-Year Analysis
Dr Alina Rankin

1:10 am
Better outcomes for patients with colorectal cancer diagnosed in the New Zealand bowel screening program: early experience 2012-2019
Dr Khalid Al Hinai
Purpose The NZ bowel screening pilot (BSP) ran from late 2011-2017 at Waitemata DHB. This study compared patterns of disease, treatment and survival outcomes of patients diagnosed with colorectal cancer (CRC) in the BSP with non-BSP patients. People aged 50-70 were screened until 2017, and people 60-70 from 2018 onwards. Screening was by immunochemical faecal occult blood testing with colonoscopy for positive tests. Method Data was prospectively collected on screening patients and retrospectively on all other patients with a histological diagnosis of adenocarcinoma of the colon or rectum at Waitemata DHB 2012-2019. Data obtained from the electronic patient information system with additional manual collection from the electronic patient record. Locality approval obtained via research office, full ethics approval deemed not required. Chi-square, Fisher's exact test and independent median tests used as appropriate. Results 1670 patients were included, 360 BSP and 1310 non-BSP. 864 patients were male (51.7%), median age 73 years (range 21-100). No difference in sex between BSP and non-BSP, but younger age in BSP patients (median 68 vs. 76 years, P<0.005). BSP patients had significantly lower T, N and M stage (P<0.005). 1022/1310 (78.4%) of non-BSP had the primary resected vs. 332/360 (92.2%) BSP patients (P<0.005). BSP patients were less likely to have acute surgery (1/360 [0.3%] BSP vs. 256/1300 [15.4%] non-BSP, [P<0.005]). All-cause mortality was 595/1310 (45%.4) for non-BSP patients vs. 43/360 (11.9%) BSP (P<0.005). Of those that died, median survival post-diagnosis was 14 months for non-BSP vs. 24 months for BSP (P<0.005). Conclusion BSP patients had earlier stage cancers and better overall survival than non-BSP patients.

1:20 am
Blood transfusion and venous thromboembolism in colorectal resection
Dr Evie Yeap
Purpose Transfusion is associated with outcomes such as venous thromboembolism (VTE) for surgical patients. Liberal transfusion may be worse for patients compared to a restrictive transfusion strategy. We aim to consider if transfusion is associated with higher rates of VTE and 30-day mortality after colorectal resection. We proposed transfusion with higher numbers of packed red cells would be associated with higher rates of VTE. Methods Data was collected retrospectively on the rates of VTE, 30-day mortality, transfusion and number of units transfused in colorectal resection patients at our tertiary institution. Subgroup analysis was performed for cancer patients. Results 1430 patients underwent colorectal resection over five years. 339 had a transfusion during their admission and 1091 did not. 258 patients received a transfusion of less than five units, 78 received five or more, and three patients received blood products besides red cells. In the transfusion group, 6.2% had a VTE complication compared to 1.4% in the no transfusion group. There was an associated increase in VTE with increasing units: 2.2% in the single unit group, 3.8% in those who received

two, 6.7% in those who received three and 10% in those who received four. In those who received five or more, the VTE rate was 10.3%. 30-day mortality was higher in the transfusion group: 6.8% compared to 1.5%. Similar rates of VTE were found in cancer patients: 6.2% in the transfusion group compared to 1.5%. Conclusion Transfusion is associated with worse outcomes including VTE and 30-day mortality in colorectal resection. The effect appears to be dose-dependent with higher numbers of transfused units being associated with higher rates of VTE.

1:30 am
Nasogastric tube decompression after abdominal surgery: a network meta-analysis of randomised controlled trials
Dr Joshua Kovoor
Background: Optimal postoperative nasogastric tube decompression (NGTD) is unclear. This network meta-analysis of randomised controlled trials (RCTs) aimed to determine relative patient outcomes after routine, selective and no NGTD after abdominal surgery. Methods: PubMed/MEDLINE, Embase, and Cochrane Library were searched to 16 July 2021 for RCTs comparing routine, selective and no NGTD after abdominal surgery. Outcomes included postoperative respiratory complications, nausea/vomiting (N/V), length of stay (LOS), and measures of gastrointestinal recovery. Network meta-analysis was conducted across the three treatment groups of routine, selective and no NGTD. Risk of bias was assessed using the Cochrane RoB 2. Registration: PROSPERO, CRD42021267031. Results: From 1,276 records, 23 RCTs of moderate quality were included. Compared to routine, no NGTD had lowers odds of pneumonia (OR 0.55) vs routine NGTD and lower odds of N/V vs selective NGTD (OR 0.20). For selective NGTD, time to first bowel motion, ICU LOS, and time to first bowel sounds were less compared to routine NGTD (-0.48, -1.01, -0.94 days, respectively). For no NGTD, time to first oral intake and hospital LOS was less vs routine NGTD (-1.25 and -1.3 days, respectively). First bowel sounds occurred earlier in selective NGTD compared to no (-0.95 days) NGTD. There were no further statistical differences between groups. Conclusions: No NGTD was associated with lower pneumonia, shorter time to oral intake and hospital stay vs routine NGTD. Selective NGTD was associated with shorter gastrointestinal recovery and ICU stay vs routine NGTD, and time to first bowel sounds vs no NGTD.

1:40 am
Nasogastric tubes are associated with increased complications when used for adhesional small bowel obstruction
Dr Humaira Mahin
Purpose: The current standard practice for managing adhesional small bowel obstruction (ASBO) involves the insertion of a nasogastric tube (NGT). Our study sought to understand the attitude of practising surgeons toward NGT usage and determine utilisation and outcomes from NGT usage in a tertiary surgical institution. Methodology: A questionnaire survey was designed and distributed to all general surgeons in two local health districts: Hunter New England and Illawarra Health services. In addition, a 5-year study of outcomes following admission for ASBO in a tertiary referral surgical institution was undertaken. A comparison was performed between patients who had an NGT inserted and those who did not. Outcomes assessed were: the need for operation, time to surgery, need for bowel resection, LOS, complications and outcome disposition. Results: 68% of surgeons surveyed believe that NGT insertion can save some ASBO patients from an operation. Over five years, 387 patients were admitted with 456 episodes of ASBO. NGT usage was associated with a higher rate of operative intervention: 68 of 222 (30.6%) v 12 of 194 (6.2%), p

12:30 am - 2:00 am
RESEARCH PAPERS

Scientific Session - Indigenous Health - Plaza Level Meeting Room P1

12:30 am
He Wānanga Whakarite: Preparing Māori for Selection Interviews
Dr Lincoln Nicholls
Background: Māori are significantly under-represented in the surgical workforce in Aotearoa New Zealand. There needs to be more effort and initiative action to address this lack of diversity in order to ultimately achieve proportionality so that more Māori surgeons are available to help treat and care for their communities. Methods: An independent kaupapa Māori wānanga (course) initiative, using a ‘by Māori, for Māori’ approach, and adhering to tīkanga Māori (Māori lore and protocols) was developed to support and prepare Māori Non-Training Surgical Registrars for the Royal Australasian College of Surgeons Surgical Education and Training (SET) interviews. This paper reviews the inception of the wānanga, its content, and shares experiences had by attendees. Results: Those who attended this wānanga agreed unanimously that this initiative dramatically improved their preparation for SET interviews. In 2020 and 2021, the wānanga produced a significant success rate amongst attendees with 80% of wānanga attendees selected for SET training positions in both years. Conclusion: This kaupapa Māori initiative illustrates a successful active measure that can be taken to support Māori doctors seeking selection in surgical training programmes. The initiative seeks to address inequity in the surgical workforce in Aotearoa New Zealand.

12:40 am
Colorectal cancer is diagnosed at a more advanced stage in Indigenous patients in the Northern Territory
Dr Matthew McMahon
Purpose: Indigenous Australians in the Northern Territory have a lower incidence of colorectal cancer (CRC) than non-Indigenous Australians but higher 5-year mortality. Reduced screening, access to treatment and completion of treatment are suggested to contribute to the mortality difference. Previous analysis of registry data, however, showed no significant difference between stages of presentation of CRC in the Northern Territory (NT) between Indigenous Australians (IndA) and non-Indigenous Australians (NI). This study uses contemporary registry data and hospital medical records to interrogate the presence and causes of the observed health disparity. Methods: A cohort study of NT Cancer Registry (NTCR) CRC patients from 2014-2017. 281 patients had adequate data for analysis. Principle exposure was Indigenous status and primary outcome was odds ratio (OR) of presentation with late-stage cancer (III and IV) compared with early-stage (I and II). Data was analysed using univariate and multivariate logistic regression. P<0.05 was considered significant. Results: Univariate analysis found a significantly increased chance of advanced CRC presentation for IndA vs NI (OR 3.22, 95% CI 1.27-8.13, P-value = 0.013). When adjusted for sex, tumour location, remoteness, tumour grade and presence of lymphovascular invasion, the result remained significant (OR 4.05 (95% CI 1.10-14.90, P-value = 0.0352). Conclusion: Where previous analysis of registry data had suggested no evidence that IndA in the NT presented with more advanced CRC, this study suggests the difference remains and that interventions targeting early diagnosis remain valid.

12:50 am
Ethnic disparities in computerised tomographic aortography use for diagnosing acute aortic syndrome
Dr Sameer Bhat
Purpose: Acute aortic syndrome (AAS) forms a group of life-threatening vascular emergencies with high rates of misdiagnosis. However, under- and over-investigation of patients using computerised tomographic aortography (CTA) carries significant risk. The aim of this study was to determine the incidence of AAS and whether CTA scans were performed in proportion to a patient's risk of AAS for different ethnic groups. Methods: All atraumatic thoracic CTAs performed in adults (>15 years old) with suspected AAS at Auckland City Hospital between January 2009 and December 2019 were included. Patients were risk stratified using the aortic dissection detection risk score (ADD-RS). The primary outcomes were the ratio of CTA scanning rates to rates of positive CTAs in the population, and the incidence of AAS. Results: In total, 1,646 CTAs were performed. Compared with patients of other ethnicities, Pacific Islanders (RR 2.33, 95%CI: 1.50-3.65; p=0.0001) and indigenous Māori (RR 3.03, 95%CI: 1.90-4.84; p<0.0001) had significantly higher age-standardised incidence of AAS. However, despite this higher AAS incidence, disproportionately fewer CTAs were requested in Pacific Islander (9.2 CTAs/AAS diagnosis; p=0.045) and Māori (9.2 CTAs/AAS diagnosis; p=0.062) patients compared with those of other ethnic groups (13.8 CTAs/AAS diagnosis). Conclusions: Despite the significantly higher age-standardised incidence of AAS among Māori and Pacific Islanders, disproportionately fewer CTAs were requested in these patients relative to the number of AAS diagnoses compared to patients of other ethnic groups. Therefore, clinicians should account for the increased risk of AAS in Pacific Islanders and indigenous Māori populations when investigating suspected AAS.

1:00 am
Monitoring Equity in the Receipt of Publicly Funded Bariatric Surgery at Waitematā District Health Board, Aotearoa (2010 - 2020)
Dr Michael Epiha
Purpose: Studies in Aotearoa show that Māori experience significantly lower access to bariatric surgery in the public system. Waitematā District Health Board (WDHB) in Aotearoa services over 600,000 people where Māori comprise 10% of this population. This study aimed to investigate whether Māori receive equitable access to bariatric surgery in the WDHB region. Method: A retrospective review of all patients referred to WDHB between 2010-2020 was performed in line with the Strengthening the Reporting of Observational Studies in Epidemiology statement. Results: A total of 6293 referrals were received over the study period, of which 2336 were accepted. Patients accepted on to the program were 52% European (n=1206), 24% Māori (n=566), 15% Pasifika (n=361), 5% Asian (n=121) and 3% Other (n=3.4%). Of those patients accepted on to the program, 984 proceeded to surgery. The highest number of operations were performed on European patients (69%, n=682) with Māori receiving 19% (n=183) of all bariatric procedures. Conclusion: Over a decade, Māori received 19% of all bariatric procedures at WDHB, surpassing population parity. The next step in our research is to further interrogate whether this achieves equity based on the prevalence of obesity-related disease burden for Māori in the WDHB region.

1:10 am
Equitable delivery of neurosurgical care in the Northern Territory: A Reflection from the Top End
Dr Annabelle Harbison
Background: Aboriginal and Torres Strait Islander people continue to experience inequity in the Australian heath care system. To improve health outcomes for First Nation patients, areas of need with respect to surgical service delivery must first be identified. Royal Darwin Hospital (RDH) is the referral centre for the Northern Territory (NT) and is the only facility providing neurosurgical care to the population, as such RDH is uniquely placed to capture data on the neurosurgical need of the entire Territory. The aim of this

retrospective cohort analysis is to better understand the barriers to providing neurosurgical care in the NT, between Indigenous and non-Indigenous patients. Methods: This is a retrospective cohort study, comparing the number of Indigenous patients to non-Indigenous patients undergoing neurosurgical procedures over a period of one year. Cases were sub-categorised into cranial versus spinal procedures and elective versus emergency surgery. All neurosurgical cases were included from July 2020 to July 2021. Sub-group analysis of patients currently waitlisted for elective procedures was also included for analysis. Conclusion: The NT has the highest proportion of Indigenous residents among its population nationally, an estimated 31%. It would be expected that this would be reflected in the incidence of Indigenous patients with neurosurgical ailments. Retrospective cohort analysis of all procedures over a year within the neurosurgical department at RDH however, disputes this fact, with the Indigenous population being over-represented amongst emergency cases and under-represented amongst elective cases. Identification of this discrepancy will assist in the identification of barriers to delivery of services in the Territory.

1:20 am
Indigenous Australians undergoing surgery for infective endocarditis in North Queensland
Dr Sigrid Theodore
Purpose: Infective endocarditis (IE) is associated with profound morbidity and mortality. Established risk factors of IE include, but are not limited to, rheumatic heart disease (RHD), prosthetic cardiac material, poor oral hygiene and intravenous drug use. There remains a paucity of literature surrounding the disease characteristics and postoperative outcomes of Indigenous Australians requiring surgery for IE. Methods: Indigenous Australians who underwent surgical management of IE at the Townsville University Hospital (TUH) between 2008 and 2021 were prospectively documented on a database. Data were subsequently extracted for retrospective analysis. Results: Of the 156 patients who underwent surgery for IE, 25 Indigenous patients fulfilled the inclusion criteria. Patients were predominately male (64%) and had a median age of 46 years. Preoperatively, 40% of patients had a history of rheumatic fever or RHD, 44% had diabetes and 76% had a history of smoking. Left-sided IE occurred in 96% of patients, with the majority of patients having gram positive causative microorganisms (24% Streptococcus species and 20% Staphylococcus species). Isolated valve replacement surgery was performed in 68% of cases. Early mortality (within 30 days) was 8% and survival at 1-year was 78% (95% CI: 54-90%). Conclusion: Indigenous Australians with IE requiring cardiac surgery present at a young age. Modifiable risk factors and complex comorbidities are common in this cohort. This study remains the largest cohort of Indigenous Australians requiring surgical management for IE. Preventative healthcare with a focus on dental and skin hygiene should remain a priority within this high-risk group of patients.

1:30 am
Time from emergency department to computed tomography in Maori vs Non-Maori patients following blunt trauma in the Bay of Plenty, New Zealand
Dr Celina Ledgard

12:30 am - 2:00 am
RESEARCH PAPERS INCLUDING REGISTRAR PRESENTATIONS FOR THE DONALD SIMPSON PRIZE

Scientific Session - Surgical History - Mezzanine Level Meeting Room M9

12:30 am
**A History of "Flesh-eating Bugs" (Necrotising Fasciitis): Clinical Consistency, Complicated Nomenclature and some related Confusion.
Dr Fiona Louie
The popularly termed “flesh eating infections” that are sometimes reported in the popular press, are a rather appropriately melodramatic description of Necrotising Soft Tissue Infections (NSTI), now generally termed Necrotising Fasciitis, a term devised by Wilson in 1952. This clinical entity has been recognised for millennia, with the conditions being described by Hippocrates as early as the 5th century BC. Historical descriptions have a consistence, that despite confusions of nomenclature makes confusion of diagnosis unlikely. Several notable cases stretching back into antiquity have been postulated to have been caused by this disease, based descriptions of symptoms and signs. Notable being the case of Herod the Great (c. 4 BC). In the 18th century, English naval surgeons, Gillespie, Blair and Trotter, described conditions referred to as Phagedaenic ulcer, Phagedena gangrene, Gangrenous ulcer, and Putrid ulcer. All suggests the “flesh-eating” characteristics of the disease. In 1871, Joseph Jones clearly documenting the condition which he termed hospital gangrene, when describing the Confederate army experience in the American Civil War. He described 2642 cases with a 46% mortality. In 1883 French dermatologist Jean-Alfred Fournier described necrotising infection of the perineum, now termed Fournier’s Gangrene. It does not seem to have been thought of a similar aetiology as Hospital Gangrene, at that time. Similarly, confusions persisted into the 20th century, particularly with the differentiation from Clostridial Gas Gangrene. This was of therapeutic and prognostic importance these severe soft tissue infections if not promptly recognised and treated have an

extreme morbidities and mortality.

12:50 am
The influence of clothing on health: one man's mission
Dr Peter Burke
Thomas Carlyle, British essayist, historian, and philosopher is quoted as having said, “I’ve got a great ambition to die of exhaustion rather than boredom”: such an affirmation certainly applies to Sir Frederick Treves, surgeon, author and historian. As an author, Treves produced an extraordinary range of work, encompassing surgical texts, case reports, history and travel books: possibly he is best remembered as the author of “The Elephant Man and other reminiscences”: his “Surgical Applied Anatomy”, first published in 1883, was so successful that it remained in print until the 14th edition was published, 79 years later in 1962! Treves also had a curious fascination for clothes, often referred to in his travel books, and in his 1882 essay, “The Dress of the Period in its Relation to Health”. He then wrote his major work on the topic, “The Influence of Clothing on Health” in 1886, published in London, Paris, New York, and Melbourne. In particular, Treves was most concerned about the anatomical and health consequences of contemporary female fashion, he was not alone: in 1880, Viscountess Harberton founded “The Rational Dress Society”, to “promote the adoption of a style of dress based upon considerations of health, comfort and beauty”. From ‘bloomers’ to ‘high heels’, this paper will examine the fads and fashions of the last half of the 19th century, through the eyes of one surgeon’s considered appraisal, and recommendations, regarding them.

1:10 am
From cups to machines - a history of negative pressure wound therapy
Dr Cameron Harrison
The use of negative pressure wound therapy (NPWT) has become routine and readily available for the management of both simple and complex wounds. While a seemingly modern invention, a long history precedes the current application and design of vacuum dressings. The use of cupping to provide negative pressure was first documented around 1500 BC in the Ebers Papyrus, and evidence of their use also recorded in 1000 BC in China for open wounds and to remove the “Yang”. Following the progression of negative pressure application to a more modern report, the use of a suction cups to remove infectious materials from tuberculosis lesions was documented in the early 19th century. Russian physicians first reported the use of wall suction for management of postoperative exudate in 1947, also including a gauze interface between suction and the wound bed. The designs and applications are described through the centuries, culminating in modern-day negative pressure wound therapy devices commonly termed “vac dressings”. By documenting the progression of these devices and applications, an appreciation of the ingenuity of our predecessors can be gained, as well as an understanding of how each innovative step has led to modern day available devices.

1:30 am
**The evolution of fluid resuscitation for burns victims
Dr Bharti Arora

12:30 am - 2:00 am
THORACIC TRAUMA

Scientific Session - Trauma Surgery - Mezzanine Level Meeting Room M3

12:30 am
Reducing trauma from intercostal catheters

12:45 am
Elements of a grading system for patient selection
Associate Professor Jeremy Hsu

1:00 am
Considerations in older patients
Dr Bhavik Patel

1:15 am
Complex chest wall injuries
Professor Martin Wullschleger

1:30 am
Keeping it real: Patient satisfaction vs. surgeon satisfaction
Professor Silvana Marasco

1:45 am

Discussion

12:30 am - 2:00 am
VIRTUAL EDUCATION - LESSONS LEARNT AND FUTURE PLANS

Scientific Session - Surgical Education - Plaza Level Meeting Room P2

12:30 am
Bedside clinical coaching with video conferencing: Corona Virus Disease Education Outcome (COVIDEO)
Dr Kevin Lah

12:45 am
Debate: That the Fellowship Examination is redundant
Associate Professor Peter Papantoniou, Dr Angus Gray

1:15 am
The candidate's experience of sitting a modified FEX in the time of the Pandemic
Dr Angus Gray
Royal Australasian College of Surgery exit examinations in orthopaedic surgery in 2020 and 2021 required several modifications to respond to the COVID-19 pandemic. Both the delivery and the format of the written and viva voce components were affected. Actual patients were replaced with video-based scenarios for two clinical examination sections. Candidates having sat these high stakes assessments were asked to participate in a survey. Their challenges, adaptations, and experiences before, during and after the examinations were explored.

1:30 am
The development and outcomes of Clinical Videos to replace actual patients in the viva sections of the FEX
Dr Angus Gray
The COVID-19 pandemic created major disruptions in surgical training and assessment. In order to hold exit Fellowship examinations at the Royal Australasian College of Surgeons (RACS) in 2020 and 2021, it was necessary to modify both the delivery and format of the written and viva voce components. In particular, in-person patient consultations were replaced with novel, video-based scenarios for two clinical examination sections.

1:50 am
Discussion

12:30 am - 2:00 am
WOMEN WHO LEAD

Scientific Session - Women in Surgery - Plaza Level Meeting Room P3

Women lead differently to men, and we will be hearing examples of how women have risen to the challenge of defining their own path to leadership.

12:30 am
Introduction
Dr Sarah Coll

12:35 am
International Leadership
Dr Annette Holian
Dr Holian has excelled in leadership positions in the Defence Force, the College of Surgeons and the Australian Orthopaedic Association. She will discuss the methods she prefers in facilitating change.

1:00 am
Surgeons and social determinants of health - the root cause and how do we help?
Professor Sharon Friel
Health inequities arise because of a toxic combination of poor social policies, unfair economic arrangements and bad politics. These, in turn, affect the circumstances in which people are born, grow, live, work and age. Why should these social determinants of health inequities matter to surgeons? The surgeon’s role starts, of course, with the patient who comes through the door. But the role can also extend to the health of the community that they serve. In both of these roles, individual and community, social determinants of health are crucial. They affect the sickness of the individual who consulted, of those just as ill who did not consult,

the underserved, and the health of the community. Ultimately, achieving good health and health equity requires action across the whole of society. However, surgeons and the health sector more generally is a good place to start building support and structures that encourage action on the social determinants of health equity. Surgeons have power. They are listened to, respected and can be pivotal in helping ensure the health improvement of all groups in society. Not infrequently, the medical community operates as an advocate for progressive changes in social policy and the health of the population. Surgeons can use their voice to raise awareness about the social determinants, increase multi-sector stakeholder understanding, and provide effective and persistent advocacy.

1:25 am
Getting the diversity ball rolling
Dr Jill Tomlinson

1:50 am
Transition from legal to medical practice
Professor Marie Bismark, Professor Marie Bismark

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06 May 2022

2:30 am - 4:00 am
PLENARY SESSION: THE DISPERSED WORKPLACE - LESSONS FROM THE EXTREMES

Plenary Session - *Cross Discipline* - Mezzanine Level Meeting Room M4

2:30 am
Opening and introduction
Dr Jennifer Ah Toy

2:35 am
Heart and Grit: Africa's dispersed health workplace
Professor Flavia Senkubuge

3:00 am
ANZJS: Workplace extreme in Australia
Dr Bridget Clancy

3:30 am
Self sustainability: Resilience in Extreme Circumstances
Dr Dan Pronk

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06 May 2022

4:00 am - 9:30 am
GSA INTERVIEW QUESTION WRITING WORKSHOP

Business Meeting - General Surgery - Great Hall Merivales Boardroom 1

4:00 am - 4:30 am
KEYNOTE LECTURE - ASSISTANT PROFESSOR RED HOFFMAN (ASHVILLE, USA)

Keynote Lecture - General Surgery - Mezzanine Level Meeting Room M4

4:00 am
Bent: Stories from the Road Less Travelled
Assistant Professor Red Hoffman

4:00 am - 4:30 am
KEYNOTE LECTURE - ASSOCIATE PROFESSOR COLIN MARTIN (BIRMINGHAM, USA)

Keynote Lecture - Paediatric Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

4:00 am
Parental influence on neonatal outcomes
Associate Professor Colin Martin
Necrotizing enterocolitis (NEC) is a complex disease with a multifactorial etiology. As the leading cause of intestinal morbidity and mortality among premature infants, many resources are being dedicated to neonatal care and molecular targets in the newborn intestine. However, NEC is heavily influenced by maternal and perinatal factors as well. Given its nature, preventive approaches to NEC are more likely to improve outcomes than new treatment strategies. The current presentation will focus on the parental influence on NEC incidence and diagnosis including maternal, environmental, and racial/ethnic contribution with an emphasis on modifiable risk factors.

4:00 am - 4:30 am
KEYNOTE LECTURE - DR KAREN MURPHY (CAIRNS, AU)

Keynote Lecture - Surgical Directors, General Surgery, Quality & Safety in Surgical Practice - Mezzanine Level Meeting Room M2

4:00 am
Dealing with the dysfunctional practitioner, lessons in quality and safety
Dr Karen Murphy, Dr Karen Murphy

4:00 am - 4:30 am
KEYNOTE LECTURE - DR NADINE HACHACH-HARAM (LONDON, UK)

Keynote Lecture - Women in Surgery - Plaza Level Meeting Room P3

4:00 am
Global surgery in our hands
Dr Nadine Hachach-Haram, Dr Nadine Hachach-Haram

4:00 am - 4:30 am
KEYNOTE LECTURE - PROFESSOR JOHANNES FAGAN (CAPE TOWN, SOUTH AFRICA)

Keynote Lecture - Surgical Education - Plaza Level Meeting Room P2

4:00 am
Academic teaching around Africa and beyond through open access publishing and videoconferencing
Professor Johannes Fagan
About 70% of patients with hearing loss and cancers of the head and neck live in lower and middle income countries. Yet access to care is extremely limited, with less than 5% of people in South Asia having timely access to affordable surgery. Open access publishing and videoconferencing presents excellent opportunities for sharing educational material to improve access and quality care. In this presentation the speaker shares his experience of open access publishing and videoconferencing in otolaryngology.

4:00 am - 4:30 am
THE ARCHIBALD WATSON MEMORIAL LECTURE

Keynote Lecture - Surgical History - Mezzanine Level Meeting Room M9

4:00 am
The Rosemount Repatriation Hospital, Brisbane
Associate Professor Cliff Pollard

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06 May 2022

4:30 am - 5:30 am
RACS ASC 2022 SECTION CONVENERS DEBRIEF MEETING

Business Meeting - *Cross Discipline* - Mezzanine Level Meeting Room M3

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06 May 2022

5:30 am - 7:30 am
COMPASSION DRIVING CARE, IS THAT QUALITY CARE?

Scientific Session - Quality & Safety in Surgical Practice, Surgical Directors - Mezzanine Level Meeting Room M2

5:30 am
Is compassion in care delivery a quality and safety issue?
Dr Bernadette Eather

5:50 am
Joining the Dots
Sanjeev Naidu

6:10 am
Questions and discussion

6:30 am
Compassionate care with so many cultures
Dr Sarah Coll

6:50 am
Reaching out to rural patients with compassionate care
Associate Professor Bernard Whitfield

7:10 am
Discussion

5:30 am - 6:00 am
KEYNOTE LECTURE - CAPTAIN ONNO BOONSTRA

Keynote Lecture - Military Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

5:30 am
A UN trauma system, do we need that?
Captain Onno Boonstra

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR MARTIN ZIELINSKI (ROCHESTER, USA)

Keynote Lecture - General Surgery - Mezzanine Level Meeting Room M4

5:30 am
Rapid management determination in small bowel obstruction
Professor Martin Zielinski

5:30 am - 6:00 am
KEYNOTE LECTURE - PROFESSOR OSCAR TRAYNOR (DUBLIN, IRELAND)

Keynote Lecture - Surgical Education - Plaza Level Meeting Room P2

5:30 am
Achieving the competencies of a 'day-one' consultant surgeon
Professor Oscar Traynor
A major revision of the Intercollegiate Surgical Curriculum Programme (ISCP) in 2021 transformed surgical training in these islands to an "outcomes-based" curriculum. Trainees complete training when they have achieved the competencies of a "Day-1" consultant surgeon. These competencies focus on core knowledge, clinical judgement and technical skills but also on Generic Professional Capabilities (GPCs) required by all doctors. The GPCs are complemented by Capabilities in Practice (CiPs) which address the essential capabilities which a surgeon needs to practice effectively as a consultant, e.g. conduct ward rounds, run outpatient clinics or conduct a "night on-call". Underpinning the new ISCP is the Learning Agreement drawn up by trainer and trainee and the MultiConsultant Report (MCR) made collectively by all supervising trainers at the end of each rotation. Trainees also complete a "Self-Assessment" using the same parameters as the MCR. RCSI responded to the new ISCP by introducing specific targeted approaches to the elements of the curriculum. A new e-logbook with advanced analytics provides objective information on the performance of trainees, trainers and training sites and incorporates a dashboard for indicative numbers of index surgical procedures. We also initiated specific simulation-based teaching for conduct of ward rounds, outpatient clinics and nights on emergency take. These initiatives use trained simulated patients with clinical "conditions" which are mapped to the curriculum. Trainees receive structured teaching and feedback with regular assessment which feeds into their portfolio. The switch to an outcomes-based curriculum has been well received by all. Reference: www.iscp.ac.uk

5:30 am - 7:30 am
RESEARCH PAPERS

Scientific Session - Surgical History - Mezzanine Level Meeting Room M9

5:30 am
Sir Alan Hibbert Newton FRACS and the first use of penicillin in Australia
Mr Glendon Farrow
The story of the discovery of penicillin by Fleming, and its translation into clinical practice by Florey and Chain is well known. Less well known is the role of Sir Alan Newton, Foundation member and subsequent President of the RACS throughout WW2, in the approval and procurement of penicillin for a child dying from meningitis in June 1943. That child subsequently recovered and is alive today. The child's father, a Naval Surgeon at HMAS Kuttabul told his son he was "off to pull some strings". At RPAH was the 118 US General Hospital manned by Johns Hopkins Hospital staff. Two infectious disease experts, Macpherson Brown and James Bordley were consulted. The son of Sir Alan, LEUT Hibbert Newton, was also paymaster at HMAS Kuttabul. What happened next can be inferred from secret government records of the time. The success of this highly experimental treatment was noted at the highest government levels leading to the despatch of CSIRO scientists to Boston to learn more. By 1944 Australian production provided for all troops in the SW Pacific, and penicillin was then offered for civilian use, the first of any country to do so. This presentation describes the circumstances of Sir Alan's involvement, the top-secret communications at governmental level to procure penicillin, and the almost miraculous arrival of One Million Units on dry ice, by Liberator bomber, island hopping through the Pacific at the height of the Pacific War.

5:50 am
Sandford Jackson: A Titan of Queensland Surgery
Dr Samuel Bryant
In 1882, Ernest Sandford Jackson moved to Brisbane to live and practice medicine. The benefit of this to the burgeoning profession of surgery in Queensland cannot be overstated. Regarded as perhaps the first truly modern surgeon to practice in the state, Jackson was a pioneer both within and beyond the operating theatre. Born in 1860, Jackson attended the University of Melbourne where he attained his medical qualifications prior to his 18th birthday. Jackson's move to Queensland to hold the post of Junior Resident

Surgeon at the, then named, Brisbane Hospital, heralded a long and illustrious career. Rising quickly to the position of Superintendent, Jackson instigated significant advancements in surgical and aseptic techniques to his own practice based off the, then contemporary, early European work into bacteriology and infection. Jackson went on to have a profound impact on the medical field outside of his clinical work. Among other achievements, he was institutional in the founding of the nation's first school of nursing, in conjunction with Matron, Miss Weedon. In his later years, Jackson became a founding father of the University of Queensland School of Medicine, alongside other well-recognised names such as Goddard, Duhig, and Meyers. In addition to balancing private practice and Military Service, Jackson can be credited with having contributed to various professional and government bodies, including to the founding of the British Medical Association's Queensland Branch and the Australasian College of Surgeons. This report endeavours to memorialise the remarkable career of one of Queensland's first surgeons, and his legacy in the surgical profession.

6:10 am
Standing on the shoulders of Giants - Pioneering Australian General surgeons in the Modern Era.
Dr Mohamed Afzal
The 20th and 21st Century have seen general surgery and its sub-specialties progressed leaps and bounds. We have benefited from the vision, courage, and sacrifice of brave and innovative surgeons. Because of such giants we stand taller and have a wide array of tools and technique at our disposal to treat a variety of general surgical diseases. For diseases such as melanoma, inflammatory bowel disease, biliary disease, colorectal cancer, GORD and liver failure, Australian General surgeons have been at the forefront of innovation and advancement. We explore the work of four such surgeons that have significantly impacted the way in which we treat diseases that once caused significant mortality and morbidity to our patients. Professor Russel Strong performed the first liver transplant in Australia and pioneered pediatrics live donor liver transplantation placing the Liver Transaplant Unit at Princess Alexandra Hospital at the forefront of world practice. Dr Victor Fazio, a highly regarded colorectal surgeon pioneered and perfected several surgical techniques to treat inflammatory bowel disease and colorectal cancer, improving the quality of life of thousands all around the world. Professor John Thompson, a pioneer of the sentinel lymph node biopsy procedure and the isolated limb infusion technique which significantly reduced morbidity related to previous treatment of regionally advanced melanoma. Finally, Dr Leslie Nathanson, a great surgical innovator who developed multiple surgical devices that played a significant role in advancing minimally invasive upper gastrointestinal surgery.

6:30 am
The evolution of open abdominal aortic aneurysm repair at the Princess Alexandra Hospital
Dr Kam Fai (kelvin) Ho
Definitive surgical repair of abdominal aortic aneurysms (AAAs) evolved in the second half of the 20th century based on war experience, with surgeons beginning to take a direct approach to cardiovascular lesions. During this period, interest around aortic disease developed resulting in advances in diagnosis and treatment paradigms. In Australia, the first open AAA repair was performed in 1954, prior to the establishment of formal Australasian Vascular Surgical Units, with contemporary vascular surgeons travelling overseas to broaden their exposure. The first Australian Vascular Unit was established by Dr Sam Mellick at the Princess Alexandra Hospital (PAH) in 1963, with units opening subsequently around Australia. In 1977, Magee et al., published the experience of the PAH Vascular Surgery Department in the management of ruptured AAAs over the first 11 years. In their review of 168 cases, a remarkable improvement in survival from 11% in the initial 5-year period to 61% in the final 5-year period was demonstrated – a formidable feat in an era where patients were diagnosed clinically. The authors outlined their decision making and emphasised the importance of prompt diagnosis, resuscitation and post-operative care. Their insight into the concept of physiological age – "advanced chronological age alone is no bar to operation" – remains acutely relevant today. Whilst the operative technique described in paper remains largely unchanged, the management of AAA has advanced with axial imaging and minimal invasive techniques. In this review, we revisit the experience from the infancy of Australian vascular surgery and compare that to our current practice with open AAA surgery at the PAH.

6:50 am
Blessed Niels Stensen: From Parotids to Priesthood
Dr Rhys Youngberg
"One of the strangest figures in all our history", according to Sir William Osler, Niels Stensen's contributions to science and medicine were truly extraordinary. Living through childhood illness, the plague, and the siege of Copenhagen, Stensen began to study medicine in 1656 at age 18. He later moved to Amsterdam, where he discovered the excretory duct of the parotid gland which now bears his name. His studies took him across Europe, where he developed an interest in neuroanatomy, lymphatics, and muscles, publishing Specimen on Muscles and Glands in 1664. His anatomical studies led him to palaeontology, after his dissection of a shark's head in Florence led to the realisation that previously described "tongue stones" were, in fact, fossilised shark's teeth. This progressed to an interest in geology, wherein Stensen is credited with four of the defining principles of stratigraphy in his Dissertation on a Solid Contained Naturally Within a Solid. From this same publication, Stensen is credited as laying the foundation for crystallography. Brought up in a Lutheran household, Stensen converted to Catholicism in 1967, beginning his theological studies which would ultimately lead to his becoming the bishop of Titiopolis in 1677. He continued his studies in

neuroanatomy, however, and through his rejection of dogma prescribed by noted authorities such as Galen and Descartes, helped to separate the study of science and medicine from philosophy. Having laid the foundations of palaeontology, geology, and crystallography, and revolutionising neuroanatomical research, Stensen was beatified by the Pope in 1988, and made patron saint of scientists.

7:10 am
Creating lines through circles – A History of deciphering skin tension lines
Dr Alexa McNaught
Knowledge of skin tension lines enables surgeons to plan and execute optimal wound closure. Application of this fundamental knowledge is sacrosanct to all surgeons working with complex pattern wounds or skin excisions. We present a historical review of the methods and evaluate the published literature relating to skin tension lines. The original 19th century work of stabbing cadavers by Karl Langer and Guillaume Dupuytren described the mechanical properties of skin and led to the publication of optimal incisions. Thereafter the literature has noted approximately 46 papers relating to skin tension lines with varying methods of discovery. The noteworthy study by Borges described relaxed skin tension lines (RSTL) and Kraisell's wrinkle lines. One of the most recent publications on skin tension lines was in 2018 by Paul SP [6], who has described Biodynamic Excisional Skin Tension lines (BEST) lines by investigating the biophysics of skin with tensiometers.

5:30 am - 6:30 am
THE PETER JONES ORATION

Keynote Lecture - Paediatric Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

06 May 2022

6:00 am - 7:30 am
RESEARCH PAPERS

Scientific Session - Surgical Education - Plaza Level Meeting Room P2

6:00 am
Impact of COVID-19, Gender, Race, Specialty and Seniority on Mental Health during Surgical Training: An International Study
Dr Joshua Kovoor
Background: We conducted an international, prospective, cross-sectional study determining relative impacts of COVID-19, gender, race, specialty and seniority on mental health of surgical trainees. Method: Trainees across Australia, New Zealand and UK enrolled in a program accredited by the Royal Australasian College of Surgeons or Royal College of Surgeons were included. Outcomes included the short version of the Perceived Stress Scale, the Oxford Happiness Questionnaire short scale, the Patient Health Questionnaire-2, and non-validated measures. Predictors included trainee characteristics and local COVID-19 prevalence. Multivariable linear regression analyses were conducted to assess association between outcomes and predictors. Results: 205 trainees were included. Stress was associated with number of COVID-19 patients treated ($p=0.0127$), gender ($p=0.0293$), race ($p=0.0012$), seniority ($p=0.001$), and COVID-19 prevalence ($p=0.0122$). Happiness was associated with country of training ($p=0.0026$), race ($p=0.0258$), and seniority ($p<0.0001$). Depression was associated with seniority ($p<0.0001$). Greater COVID-19 prevalence at the trainee's location was associated with greater reported loss of training opportunities ($p=0.0038$), poor working conditions ($p=0.0079$), personal protective equipment availability ($p=0.0008$), relocation to areas of little experience ($p<0.0001$), difficulties with career progression ($p=0.0172$), loss of supervision ($p=0.0211$), difficulties with pay ($p=0.0034$), and difficulties with leave ($p=0.0002$). Conclusion: This is the first study to specifically describe the relative impacts of COVID-19 community prevalence, gender, race, specialty, and seniority on trainee stress, happiness, and depression internationally.

6:10 am
Virtual interactive surgical skills classroom: a parallel-designed, non-inferiority, adjudicator-blinded, randomised controlled trial (VIRTUAL)
Miss Maria Georgi
Introduction Virtual classroom training (VCT) is a novel educational method that permits accessible, distanced interactive expert instruction. We aimed to evaluate the efficacy of VCT in comparison to face-to-face training (FFT) and non-interactive computer-based learning (CBL) for basic surgical skills training.

Methods 72 participants recruited from five London medical schools underwent stratified block randomisation into three equal intervention groups based on subjective and objective suturing experience. VCT was delivered via the BARCO weConnect platform and FFT was provided by expert instructors. Optimal student-to-teacher ratio was used, 12:1 for VCT and 4:1 for FFT. The assessed task was interrupted suturing with hand-tied knots. The primary outcome was post-intervention Objective Structured Assessment of Technical Skills (OSATS) score, adjudicated by two blinded experts and adjusted for baseline proficiency. Results VCT was non-inferior to FFT (adjusted difference 0.44, 95% CI: -0.54 to 1.75, delta 0.675), VCT was superior to CBL (adjusted difference 1.69, 95% CI 0.41 to 2.96) and FFT was superior to CBL (adjusted difference 1.25, 95% CI 0.20 to 2.29). FFT alone was associated with student travel expenses (mean £4.88, SD 3.70). Instructor hours used per student for VCT and FFT were 0.25 and 0.75, respectively. Conclusion VCT has a similar educational benefit to FFT and is a suitable modality of high-quality surgical skills education. VCT provides greater accessibility and resource efficiency compared to FFT. VCT satisfies the requirement for social distancing during the COVID-19 pandemic and is better than non-interactive CBL. VCT has the potential to improve global availability and accessibility of surgical skills training.

6:20 am
What are the Enablers and Barriers to Fellows Teaching on RACS Courses?
Dr Warren Hargreaves
Introduction The Royal Australasian College of Surgeons (RACS) is the body approved for training surgeons and maintaining the practice standards of specialist surgeons in Australia and New Zealand. In addition to the traditional apprenticeship model, the RACS provides a range of educational courses for trainees and Fellows. Due to the specific nature of the content, most courses are delivered by Fellows, pro bono. At present there are insufficient participating Fellows to sustain this model of training. This research project aims to explore the enablers and barriers to Fellows teaching on RACS courses, in order to develop strategies to increase participation in teaching. Methods A qualitative study employing thematic analysis was used to study the research question. Informed by a literature search, a set of questions was developed to guide semi-structured interviews. Fellows were interviewed in person or via Zoom. Interviews were recorded, transcribed, then analysed for themes. Results The interviews provided rich information regarding the factors that influence a surgeon’s decision to teach on RACS courses. Surgeons reported issues with time and competing interests, unfavourable course logistics, and a lack of knowledge of how to engage with the RACS and the teaching process. Several surgeons suggested solutions to improve low recruitment. Conclusions This novel study has identified some of the enablers and barriers to teaching on RACS Courses. Mechanisms to overcome several of these barriers are proposed, and could be readily instituted by the RACS, without additional capital expenditure. The results of any intervention would be apparent in a short space of time by examining faculty participation on RACS Courses.

6:30 am
Learning and teaching clinical decision making in surgery
Dr Wendy Crebbin
Background: This paper is drawn from a much larger study on learning and teaching clinical decision making (CDM), a core competency of the Royal Australasian College of Surgery (RACS), during the four stages of surgery:- Diagnosis and management: Preparing for a procedure: Intraoperative decision making: Postoperative reflection and review. Methods: This was a qualitative study using thematic analysis to identify key themes until saturation (no new themes emerging). It involved interviews and focus groups of medical student, registrars (HMO’s), surgical trainees and senior surgeons. Results: For each of the stages there is a sequence of learning beginning from relying on external resources and gradually developing internal resources to guide and direct the learner’s CDM. In the first three stages those internal resources involve much more than cognitive and/or technical skills. Built through experience, multisensory and kinaesthetic memories expand to facilitate the ability to cope with complexity, balance gaps in information with the need for timeliness, recognising issues and the need for an alternate strategy. The skill to reflect and review changes from emotional reactions to recognising the need to learn from events and outcomes and continue to improve performance. Some of the recommended teaching approaches are the same across all four stages whilst others are stage specific. Conclusion: CDM can be taught and both trainees and seniors can benefit from understanding the processes involved. An accurate recognition of the CDM development of junior team members by their seniors will enable them to target their teaching to the most appropriate level.

6:40 am
Surgical education during the COVID-19 Pandemic: challenges and innovation experienced by student surgical societies across Australia and New Zealand
Miss Laure Taher Mansour
Purpose: The COVID-19 pandemic has resulted in unprecedented challenges for surgical education. Student surgical societies have been arduously working on creative ways to deliver educational events. The Australasian Students’ Surgical Association (ASSA), a medical student-run organisation uniting surgical societies, aimed to evaluate the changes in events run by student surgical societies across Australia and New Zealand during the pandemic. Methods: A Google Forms survey was distributed to the presidents of 23 student surgical society presidents in Australia and New Zealand. The survey contained 5 demographic questions, a record of 2019-2021 events, 13 Likert items and 6 open questions, assessing changes to surgical education and skills workshops, event cancellation rates and financial impact. Results: Twenty out of

23 surgical society presidents (87% response rate) participated in the survey. 90% were based in Australia and 10% in New Zealand. Mean committee size was 16 ± 13 students . Educational event cancellation rates varied from 0% in 2019, 46% in 2020 and 20% in 2021. Commonly reported benefits during the pandemic were financial savings and increased speaker diversity, while disadvantages included fewer skills workshops and 'Zoom fatigue'. The most reported impact of COVID on societies was a significant shift towards virtual modalities. Innovative approaches that were implemented include social media-based educational resources and infographics, hybrid workshops and creation of podcasts. Conclusion: Student surgical societies were significantly impacted by the pandemic causing major cancellations. However, several innovative approaches have been developed to overcome these challenges and deliver educational events.

6:50 am
Do DIVerse mEntoRS encourage InTerest in surgical specialtY training? Preliminary data from the Otago DIVERSITY Study
Dr Lucy Guazzo
Introduction: Women, LGBTQIA+ identifying, and first nations people remain severely underrepresented in surgery despite medical schools in Australia/Aotearoa New Zealand graduating more diverse student cohorts. Over 50% of domestic graduates from Australasian medical schools were female in 2019; however, women only represented 29% of applicants for surgical training. This study explores medical students' attitudes to surgical training and evaluates if exposure to diverse mentors on surgical rotations influences them. Methodology: This 2-year longitudinal prospective study invited 4th and 6th year Otago University Medical Students to answer an online questionnaire regarding demographic information and attitudes to surgical training prior to their clinical surgical rotation. A post-rotation questionnaire was completed to assess students' exposure to diverse Registrar and Consultant mentors (Female, Maori/Pacific Islander, LGBTQIA+ Identifying) and examine changes in attitudes towards surgical training. We present the preliminary data from the 2021 cohort. Results: One hundred and twenty-one students completed the pre-rotation survey, with 54 students completing both. 98.1% of students had exposure to female mentors, 18.5% Maori/Pacific Islander mentors and 5.5% to LGBTQIA+ mentors. Following their surgical rotation, students attidudes positively changed towards interest in a surgical career, exposure to positive surgical role models, and accessibility of surgical training to underrepresented groups (Female, Maori/Pacific Islander, LGBTQIA+ Identifying). Conclusion: Exposure to diverse surgical teams positively impacted medical students' attitudes towards surgical careers and their accessibility for minorities. Data collection throughout 2022 will allow further insight.

7:00 am
Are we preparing general surgery trainees for their role as clinical leaders? A New Zealand survey
Dr Tracey Barnes
Introduction The Royal Australasian College of Surgeons (RACS) recognises management and leadership as a core competency. This research aimed to identify clinical leadership behaviours New Zealand General Surgery trainees are developing in clinical practice. Methods New Zealand General Surgery trainees were invited to participate in this mixed methods study using an online questionnaire, comprising of the Clinical Leadership Survey with additional free-text questions about leadership development. Data was analysed using descriptive statistics, simple linear regression and general thematic analysis. Results Surgical trainees agreed they were leaders, demonstrated clinical leadership behaviours and regularly used transformational leadership behaviours in clinical practice (62/75 junior vs 64/75 senior, p=0.150). Leadership behaviours significantly increased with age ($p <= 0.001$) and higher qualification (p=0.002) but no differences were found between genders, those with/without self-perceived leadership experience or training level. Only a quarter of participants reported receiving leadership training, despite half completing a professional skills course or higher degree. Three clinical leadership themes emerged from the analysis of the qualitative data: leadership responsibilities, leading from within a team and the leadership learning environment. Conclusions Surgical trainees perceive themselves as leaders but leadership behaviour does not increase during surgical training. One-off interventions are of limited value. Leadership curricula and skills need to be clearly defined for surgical trainees with longitudinal development opportunities provided to support skill accumulation throughout surgical training programmes.

7:10 am
Unaccredited surgical trainees - perspectives and models for practice, an integrative review
Dr Carina Cutmore
Purpose: Unaccredited trainees comprise over 20% of the NSW Junior Medical Officer (JMO) workforce, with the majority prevocational surgical training positions. Prevocational trainees spend several years in these roles prior to specialty training. This study compares the key recommendations identified by the 2020 NSW Ministry of Health (MoH) Review of Unaccredited Positions, with a literature review and pilot focus group. Methods: In this integrated review, findings from a comprehensive literature search are compared to qualitative feedback on trainee experiences, gained through informal discussions which were kept anonymous. Participants commented on issues identified in the MoH review, and their experiences in unaccredited surgical training. Content analysis identified themes from literature and deidentified transcripts. Results: JMO experiences of unaccredited training refined several key themes from the NSW MoH review: i. length of employment, ii. access to planned opportunity for education and training and iii. feedback on performance. Additional domains were identified in participant experiences, including lack of access to

part-time or flexible positions, continuity of care with patients and access to mentorship. All participants identified wellbeing and avoidance of burnout as a consideration in their employment and training, with part-time and shift work raised as a preferred method of prevocational training. Expanding length of training and financial burden during prevocational years were additional themes. Conclusion: This review expands existing frameworks for unaccredited surgical training. Our preliminary findings have identified key domains for a future larger study, and informed local training practices.

7:20 am
Pregnancy during Surgical Training: A Survey of Australian and Aotearoa New Zealand Experiences
Dr Wendy Liu
Purpose: Females account for 14% of fellowed surgeons in Australia but represent 30% of SET trainees. This project explores the pregnancy-related experiences of surgical registrars and surgeons during training. Methods: A cross-sectional electronic survey of female surgical trainees and surgeons working in Australia and AoNZ was distributed via email and social media. Results: There were 116 complete responses, of whom 33.6% (n=39) were pregnant during surgical training. The majority (84.6%, n=33) were working over 40 hours a week during their 3rd trimester, and 82.1% (n=32) were worried their work schedule would compromise their or their baby's health. Despite this, 33.3% (n=13) of responders continued working beyond 38-weeks gestation. A majority (66.7%, n=26) experienced pregnancy-related complications, most commonly attributed to a physically taxing job, long hours and interrupted sleep. As a result of their experiences, 33.3% (n=13) of trainees considered leaving surgery. In addition to institutional barriers, 87.2% (n=34) were concerned that requests for accommodations would be perceived negatively by colleagues and supervisors. Breastfeeding was important to 89.7% (n=35), but 41% (n=16) stopped early due to challenges expressing between clinical duties and a lack of suitable lactation facilities. Importantly, 94.9% (n=37) reported a desire for greater mentorship. Conclusion: Despite concerns for their and their babies health, pregnant surgical trainees worked long hours late into pregnancy and felt unable to request accommodations. They had significantly higher rates of complications, and a third considered leaving surgery. To retain talented and dedicated surgeons, our culture must change to support pregnancy and ensure mentorship is widely available.

6:00 am - 7:30 am
RESEARCH PAPERS

Scientific Session - Military Surgery - Mezzanine Level Meeting Room M7, Mezzanine Level Meeting Room M8

6:00 am
Plastic Surgery Pioneers of the Antipodes
Dr Justin Yousef
Background: Plastic and Reconstructive Surgery (PRS) can trace its origins as far back as 3000 BC. Despite this, it remained a relatively rare and unestablished branch of surgery until the devastating injuries of the World Wars necessitated reconstruction. Returning war- time surgeons used the skills they had learned on the battlefield to continue PRS in Australia and New Zealand. We examine the significant contributions of Australian and New Zealand surgeons to the founding of PRS as a global specialty and provide an account of the strenuous dedicated competition that led to the development of microsurgery and advances in reconstruction. Methods: A comprehensive review of medical, medical humanities, and history databases (PubMed; MEDLINE; Web of Knowledge; Anthropology; Encyclopaedia of ancient history; JSTOR) and non-digital printed texts was conducted using multiple search terms and filters including Reconstruction; Plastic Surgery; Burns; Flaps; and Microsurgery). The search was restricted to publications that focused on the period between 1818 CE to current. Results: Significant contributions of surgeons from the Antipodes occurred during several periods including the Industrial era, World Wars, Post-war and in the modern age [1] Conclusions: Stirred by their wartime experience, surgeons from Australia and New Zealand laid the foundations of the global success of Plastic Surgery in the modern age and helped establish it as a specialty in its own right 1. E, B. and K. MF, War, facial surgery and itinerant Kiwis: The New Zealand plastic surgery story. . Australasian Journal of Plast Surgery, 2018. 1(1): p. 51-53.

6:15 am
The Extraordinary Life of Dr James Barry, Britain's First Female Doctor
Dr Rhys Youngberg
Awarded a diploma from the Royal College of Surgeons of England in 1813, Dr James Barry served as a military surgeon for the British Army until his retirement in 1859, having attained the rank of Inspector General of Hospitals - the second highest medical office in the British Army. It was only after his death in 1865 that a post-mortem examination revealed that Barry was, in fact, a female - a secret known only to a few benefactors throughout his life. Born Margaret Ann Bulkley, Barry conspired with his mother and some close family friends to enter medical school. Changing his name, Barry enrolled at the University of Edinburgh medical school, where he was an exceptionally diligent student. Graduating in 1812, he moved to London to study at the United Hospital of Guy's and St Thomas', before starting his military career as

Hospital Assistant. Travelling throughout his career, Barry quickly rose to prominence in Cape Town, becoming first the personal physician to the Governor, then Colonial Medical Inspector. Barry was an outspoken advocate for the oppressed, effecting improvements in sanitation, nutrition, water systems, conditions for enslaved people, prisoners, and the mentally ill, and provided sanctuary for people afflicted by leprosy.

6:30 am
Epidemiology of Surgical Cases at a Multi-national Role III Field Hospital: Operation Inherent Resolve
Dr Daniel Chan
INTRODUCTION: Sustained combat and counter terrorism military operations in the Middle East over an extended period has been subject to variability in trauma aetiology and surgical caseload. This study examines the surgical caseload of a Role III field hospital during Operation Inherent Resolve (OIR). METHODS: A retrospective review was conducted on consecutive surgical causalities that underwent operative procedures at our combat Role III field hospital during OIR, Phase IV Support Stabilization (2017- 2021). Inclusion criteria was all consecutive operative cases performed at our institution, during the identified period. Disease and non-battle injury (DNBI) casualties were included. De-identified data was collected from a prospectively recorded operative case-log. RESULTS: A total of 516 surgical encounters were performed during this period. The mean age of the surgical patients was 31 years and 97% were male. Patients consisted of Host Nation Nationals (48%), U.S. service members (34%) and other allied Coalition service members (16%). The primary surgical site involved the upper or lower extremities in 309 (60%) of cases, head and neck in 159 (31%) of cases, and thoraco-abdominal region in 138 (27%). Surgical specialty utilization was predominately General Surgery (39%), Orthopaedic Surgery (36%), and Otolaryngology (15%). CONCLUSION: The importance of surgical workload and patterns of injury data from the deployed military trauma system is essential to assess and guide future casualty care, pre-deployment surgical training, and requisite surgical skill sets.

6:45 am
Autologous Fresh Whole Blood Transfusion Training - a narrative review and report of U.S. military experience
Dr Daniel Chan
Purpose: The increasing use of blood products for pre-hospital/pre-surgical resuscitation of trauma patients has been accompanied by United States (U.S.) military forces routinely utilizing autologous blood donations as a mechanism to train for the collection and administration of fresh whole blood (FWB) in austere environments. Methods: We report on the experience of a deployed multi-national military hospital (U.S. Army Role 3 Hospital Center) in implementing and executing a safety protocol and training plan that incorporates autologous FWB transfusions to train walking blood bank (WBB) personnel in blood collection as well as training pre-hospital medics on transfusion. Results: Autologous blood transfusion training has been safely utilized as a training tool for more than a decade in the U.S. military. Published literature and recent deployed experience suggest this training is associated with a reduction in preventable battlefield deaths, and both major and minor adverse events occur rarely. No adverse events were noted in our experience of 32 successful autologous transfusions. Further prospective research is required in this field, particularly relating to the clinical significance of any haemoglobin, ferritin, and biochemistry changes with repeated donations or delayed transfusion. Conclusion: With appropriate safety processes, autologous FWB transfusion training is feasible, high fidelity, and low-risk.

6:00 am - 7:30 am
THE MYRIAD CAUSES OF SMALL BOWEL OBSTRUCTION, AND HOW TO TREAT THEM

Scientific Session - General Surgery - Mezzanine Level Meeting Room M4

6:00 am
Evidence-based strategies to reduce adhesion formation
Dr Peita Webb

6:20 am
Diagnosis and management of the early post-operative SBO
Dr Ariel Knight

6:40 am
How to repair the strangulated hernia
Dr Damian Fry

7:00 am
Malignant SBO
Dr Pranavan Palamuthusingam

7:20 am
Discussion

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06 May 2022

6:30 am - 7:30 am
AN UPDATE ON NECROTISING ENTEROCOLITIS

Scientific Session - Paediatric Surgery - Mezzanine Level Meeting Room M5, Mezzanine Level Meeting Room M6

6:30 am
An update on research
Associate Professor Colin Martin
Necrotizing enterocolitis (NEC) is the leading cause of intestinal morbidity and mortality among premature infants. Although the etiology is unclear, NEC is most commonly associated with prematurity and low birth weight. The incidence of NEC in the United States ranges from 10-15% in low birth weight infants, and it incurs an economic burden between $500 million and $1 billion annually. An immature and underdeveloped immune system coupled with postnatal physiologic stressors (hypothermia, anemia, hypoxia) are thought to disrupt intestinal barrier function leading to bacterial translocation, sepsis, and a profound systemic inflammatory insult. The pathophysiology is considered to be multifactorial. Despite an established body of literature, currently no therapeutic strategies exist that have been shown to improve outcomes in the vulnerable and at-risk population. The current presentation will discuss current updates in translational research and controverses in NEC.

6:45 am
An update on medical management
Dr Peter Schmidt

7:00 am
Au update on surgical management
Dr Catherine Langusch

7:15 am
Discussion

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06 May 2022

8:00 am - 9:00 am
CARE BEGINS WITH A COMPASSIONATE CULTURE

Scientific Session - Surgical Directors, Global Health, Quality & Safety in Surgical Practice - Mezzanine Level Meeting Room M2

8:00 am
The Real Cost of Care without Compassion
Dr Bridget Clancy

8:30 am
Questions and discussion

8:00 am - 9:30 am
RESEARCH PAPERS

Scientific Session - General Surgery - Mezzanine Level Meeting Room M4

8:00 am

Effect of Surgical Humidification on Local and Systemic inflammation and Peritoneal Trauma in Colorectal Cancer Surgery: a Randomised Controlled Trial

Mr Michael Flood

Background: Pre-clinical studies indicate that dry-cold CO2 (DC-CO2) leads to more peritoneal cellular damage, inflammation and hypothermia compared to humidified-warm CO2 (HW-CO2). The aim of this study was to compare the effects of DC-CO2 to HW-CO2 insufflation on the peritoneum and core body temperature in patients undergoing minimally invasive surgery for colorectal cancer (CRC). Methods: This was a bi-institutional study where patients undergoing laparoscopic or robotic colectomy, or proctectomy were assigned to DC-CO2 or HW-CO2 in a 1:1 ratio. Body temperatures were monitored prior to and during surgery. Peritoneal biopsies were taken at the start of surgery, and at 1 and 3 hours. Blood sampling, for cytokine assessment, was performed at surgery and during the hospital admission. Peritoneal biopsies were subjected to scanning electron microscopy to evaluate mesothelial cell damage. Results: Sixty-five patients were enrolled, 34 in the HW-CO2 group and 31 in the DC-CO2 group. All patients experienced an initial degree of intraoperative body temperature drop. HW-CO2 restored, and maintained normothermia (≥36.5oC) by 3 hours, DC-CO2 did not ($p<0.001$). The DC-CO2 group also experienced increased peritoneal damage ($p=0.012$). C-reactive protein levels were significantly higher in the DC-CO2 group ($p=0.004$). HW-CO2 patients had a shorter mean length of stay, when stratified by resection type (rectal: HW-CO2 11.6d vs DC-CO2 15.4d, $p=0.027$; colon: HW-CO2 5d vs DC-CO2 7.2d, $p=0.047$). Conclusions: This randomised control trial is in accord with animal studies supporting the routine use of HW-CO2 in patients undergoing minimally invasive CRC surgery.

8:10 am

Does NELA accurately predict mortality in Australia?

Dr John Kefalianos

Purpose The National Emergency Laparotomy Audit (NELA) Risk Prediction Calculator is widely used in Australian healthcare to estimate patient mortality risk within 30 days following an emergency laparotomy. The purpose of this study was to determine how well-calibrated the NELA score is to the assortment of Australian hospitals contributing to the Australia and New Zealand Emergency Laparotomy Audit (ANZELA) and to assess the consistency of performance across these hospitals. Method This was a multi-site retrospective cohort study of all patients who underwent an emergency laparotomy in hospitals that contributed to the ANZELA from June 2018 to August 2021. Categorical and numerical data were analysed using a Mann-Whitney U Test. The Indirect Method of Standardisation was used to determine the Standardised Mortality Rate (SMR). Results A total of 4723 patients were identified from 26 hospitals. Documentation was incomplete for 1924 patients, leaving 2799 patients included in the analysis. The median NELA scores for patients who died was 22.1% [Range 1.3% to 87.9%] compared with 3.8% [Range 0.03% to 95.5%] for those who did not ($p <0.001$). Overall, 186/2799 (7%) patients died within 30 days of their operation. The NELA scores predicted 262/2799 (9%) deaths. Therefore, the SMR was 186/262 (71% [95% CI 61% to 82%]). Seven hospitals performed less than 40 laparotomies and were excluded from the analysis of individual institutions. The SMR for 18/19 included hospitals fell within two standard deviations of the total SMR for the ANZELA cohort. Conclusion Mortality in the ANZELA patient cohort was significantly lower than predicted by NELA. Mortality outcomes were consistent between Australian hospitals that contribute to the ANZELA.

8:20 am

Anatomy of the cisterna chyli: A systematic review

Miss Sara Moazzam

Background: In 1651, French physician Jean Pecquet first discovered the cisterna chyli, a dilated sac at the caudal end of the thoracic duct which collects lymph from the abdomen and lower extremities. The cisterna chyli is of clinical importance for surgeons operating in the retroperitoneum and interventional radiologists wishing to access the central lymphatic system but to date, textbook descriptions of its anatomy are vague and rarely account for the large amount of variation that has been reported in literature. Method: We investigated the detectability and anatomical characteristics of the cisterna chyli in a systematic review of 49 human studies dating to January 2022. Studies describing the anatomy and radiology of the cisterna chyli in both health and disease were included with no language or past date restrictions. Result: The cisterna chyli is embryologically unique among other lymphatic structures and shows significant variation in many aspects of its anatomy: including its vertebral location (ranging T10–L3); dimensions (ranging 2–32mm in maximal diameter and 13–80mm in maximal length); morphology; drainage; and presence. Recent literature reports that the size of the cisterna chyli can differ with certain pathologies, though its usefulness as a marker of disease is disputed. Conclusion: The cisterna chyli is a highly variable structure whose form and function is under-researched. Knowledge of its anatomical variations has important clinical relevance for surgeons and interventional radiologists alike. With the growing sophistication of laparoscopic surgery and lymphatic interventional radiological techniques, further studies of this cisterna chyli are warranted.

8:30 am

Defining patterns of liver enzyme derangement in acute cholangitis

Dr Siu Cheung Lok

Purpose: Diagnosis of acute cholangitis (AC) using Tokyo Guidelines 2018 (TG18) requires evidence of cholestasis. This is defined as hyperbilirubinemia or liver enzyme derangement (LED) 1.5 times above the ULN. Clinically, patterns of LED can be categorised into cholestatic, hepatocellular, and mixed patterns depending on the dominant enzymes deranged, and though cholestatic patterns are typical of biliary obstruction, other enzymes also rise variably. The patterns of LED in AC have not previously been characterised or defined. Method: Retrospective review of 318 AC patients, diagnosed using TG18, undergoing ERCP between 2016-2020, was performed. Demographics, severity grading, aetiology of cholangitis, and liver enzymes at presentation and within 48 hours were collected. Patients were separated into cholestatic, hepatocellular, and mixed groups based upon the dominant enzyme derangement. Comparisons were made between groups. Results: On initial biochemistry, cholestatic patterns were the most common (56%) followed by mixed patterns (26.1%) and hepatocellular (17.6%). Cholestatic patterns were identified to be more commonly associated with AC regardless of aetiology and severity of disease. Interestingly, derangement patterns did not worsen after presentation, or with severity of disease. Conclusion: This study is the first to examine LED patterns in AC and proposes a structured definition to patterns of derangement. Though a majority of AC patients present with cholestatic patterns, this study demonstrates that a significant number do not, thus validating the broad criteria for LED in TG18.

8:40 am
Malignant Polyp Survival Analysis of those with Residual Disease or Metastatic Lymphatic Disease
Dr Andrew Zamit
Purpose Malignant polyps are a treatment dilemma for clinicians. Guidance on treatment is provided by multiple guidelines, which rate the risk of either residual disease or metastatic lymphatic disease based on a number of pathological risk factors. However, it is unclear when patients proceed to colorectal resection, how the presence of residual disease or lymphatic disease affects overall survival. Method A population wide analysis of malignant polyps diagnosed in Queensland from 2011-2019 was completed using data from the Queensland Oncology Repository (QOR). Patients original pathology and subsequent resection pathology was reviewed and analysed. Results 1,646 patients were identified with a malignant polyp. 836 patients proceeded to a colorectal resection, with the remaining 810 patients having a polypectomy and surveillance alone. 84 patients had residual disease in the bowel wall on follow-up colorectal resection, 68 patients had involved nodes. Using both a log-rank and univariate Cox regression analysis, there was no significant survival difference in survival for those with residual disease compared to those without, with a Hazard Ratio of 1.25 (95% CI: 0.57-2.73, p=0.574). However, using a log-rank and univariate Cox regression analysis, there was a significant difference in survival for those with lymphatic disease, compared to those without – hazard ratio: 2.17 (95% CI: 1.08-4.40, p=0.031). Conclusion Residual disease in the bowel wall at subsequent colorectal resection, does not result in a change in the overall survival for those with a malignant polyp. However, metastatic disease to lymph nodes seen on colorectal resection is associated with a decrease in overall survival.

8:50 am
Development and Validation of a Multivariable Prediction Model in Open Abdomen Patients for In-hospital Mortality
Dr Adam Cristaudo
Purpose: The use of the open abdomen (OA) technique for managing abdominal catastrophes has become the standard of care in the past decades. Single prognostic factors have been identified in a previous systematic review regarding in-hospital mortality (IHM). Unfortunately, no prognostic multivariable models for IHM exist. The aim is to develop and validate a multivariable prediction model from a retrospective cohort study involving three hospital's databases. Methodology: Fifty-five variables were evaluated to develop a multivariable model. Univariate and multivariable logistic regression analyses were performed for on a developmental data set from two hospitals. Receiver operator characteristics analysis with area under the curve (AUC) and 95% confidence intervals (CI) were performed on the developmental data set (internal validation) as well as on an additional validation data set from another hospital (external validation). Results: Five-hundred and forty-eight patients managed with an OA. Five variables remained in the multivariable prediction model for IHM. The AUC for IHM on internal validation were 0.80 (95% CI: 0.74-0.86) and 0.79 (95% CI: 0.70-0.88) on external validation. Conclusion: A multivariable prediction model for IHM was externally validated using the five predictor variables.

9:00 am
Poorer outcomes associated with sarcopenia following emergency laparotomy: a systematic review and meta-analysis
Dr Ryan Cohen
Background Despite the negative effect of sarcopenia on postoperative outcomes being well recognised in the elective setting, there remains a paucity of studies describing this phenomenon in the emergency setting. This systematic review and meta-analysis aimed to compare short- and long-term postoperative outcomes following EL in patients with and without sarcopenia. Methods A systematic review using PRISMA guidelines was used to identify studies comparing perioperative outcomes following emergency laparotomy for patients with and without sarcopenia. A subsequent meta-analysis was conducted. Results Twelve studies reporting the outcomes of sarcopenia following emergency laparotomy were identified. Sarcopenia was significantly associated with higher 30-day and 1-year mortality rates following emergency laparotomy (OR

3.50, p < 0.01; OR 3.49, p < 0.01, respectively). Additionally, sarcopenia was significantly associated with unfavourable functional outcomes at discharge following emergency laparotomy (OR 2.44, p < 0.01). Discussion Opportunistically identified on cross-sectional imaging, Sarcopenia is a valuable predictor of short- and long-term morbidity and mortality following emergency laparotomy. Further studies are required to identify the most appropriate diagnostic criteria of sarcopenia and better define this physiological phenomenon.

9:10 am
Safe Introduction of Robotic General Surgery within a regional centre in Australia
Dr Anh Vu
Purpose Robotic surgery is an exciting new technology that potentially enhances minimally invasive surgery. The challenge facing general surgeons is to introduce this safely. This research examines the early introduction of robotic surgery to a regional centre in Australia focusing on patient safety and complications. Method This retrospective non-inferiority study compared the post-operative outcomes of laparoscopic and robotic general surgical procedures, matched by surgeon and operation type. General surgical operations included: sleeve gastrectomy, gastric bypass, ventral and inguinal hernia repair, right hemicolectomy, left colonic resections and ventral rectopexy. Primary outcome measurement was post-operative complication. Results 159 consecutive robotic and 290 matched laparoscopic general surgery patients were identified between August 2018 and January 2021. The robotic group had a total of 34 complications for 159 patients (21.4%) compared to the laparoscopic group of 66 complications for 290 patients (22.8%). Robotic surgery was not inferior to laparoscopic general surgery operations in terms of overall complications. Conclusion A robotic approach for minimal access surgery is gaining popularity in Australia. We were able to demonstrate that robotic surgery has safely been introduced in our institution for general surgery, based on non-inferiority of complication rate to standard laparoscopy.