AUSTRALIAN
Anaesthetist
THE MAGAZINE OF THE AUSTRALIAN SOCIETY OF ANAESTHETISTS • SEPTEMBER 2019

ANAESTHESIA IN THE DIGITAL AGE

- Ultrasound, the new fifth pillar of clinical examination
- Electronic health records • My Health Record • Apps for the anaesthetist
- From lurker to influencer: advanced use of social media
- Anaesthetic Twitter for beginners
- Meeting the cyber-security challenge

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Australian Society of Anaesthetists

PALEXIA® IR

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FOR PATIENTS WITH MODERATE TO SEVERE PAIN:[1]

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*Analgesia not solely derived from opioid agonism. ^S8 analgesic. †Non-inferior efficacy (5-day sum of pain intensity difference); secondary endpoint, primary endpoint was met. Significantly lower incidence of constipation, nausea and vomiting (nominal $p<0.001$ for all events); PALEXIA® IR 50mg vs. oxycodone IR 10mg.

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References: 1. PALEXIA IR Approved Product Information. **2.** Schug S. ANZCA Bulletin 2018 Not all opioids are the same. **3.** Raffa RB. *Curr Med Res Opin* 2014; 30(12):2579–2584. **4.** Pergolizzi J *et al. NEMA Research Group, Naples, Florida, USA* 2017. **5.** Hartrick C *et al. Clin Ther* 2009; 31(2):260–271.

Before prescribing, please review the Product Information available at www.seqirus.com.au/PI

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2019 ASA ANNUAL GENERAL MEETING

Please join us to hear reports from key Committee Chairs and the presentation of Awards, Prizes and Research Grants.

Time: 3:30pm on Monday, 23 September 2019
Venue: Pyrmont Theatre
Sydney International Convention Centre

Visit **www.asa.org.au** for previous minutes and related documents.

ASA
Australian Society of Anaesthetists

AUSTRALIAN
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THE MAGAZINE OF THE AUSTRALIAN SOCIETY OF ANAESTHETISTS

The Australian Society of Anaesthetists (ASA) exists to promote and protect the status, independence and best interests of Australian anaesthetists.

Letters to *Australian Anaesthetist*:
Letters are welcomed and will be considered for publication on individual merit. The Medical Editor reserves the right to change the style or to shorten any letter and to delete any material that is, in his or her opinion, discourteous or potentially defamatory. Any major revisions required will be referred back to the author for approval. Letters should be no more than 300 words and must contain your full name and address. Please email editor@asa.org.au to submit your letter or to contribute.

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ASA
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A MEMBER SOCIETY OF THE WFSA

REGULARS

NEWS

FEATURES

ANAESTHESIA IN THE DIGITAL AGE

LIFESTYLE

INSIDE YOUR SOCIETY

WOULD YOU LIKE TO CONTRIBUTE TO THE NEXT ISSUE?

The December issue of *Australian Anaesthetist* will focus on medico-legal issues. If you would like to contribute with a feature or a lifestyle piece, the following deadlines apply:

- Intention to contribute must be emailed by 4 October 2019.
- Final article is due no later than 16 October 2019.

All articles must be submitted to editor@asa.org.au. Image and manuscript specifications can be provided upon request.

REGULAR

ASA EDITORIAL FROM THE PRESIDENT

DR SUZI NOU
ASA PRESIDENT

Everywhere you look, there is digital technology around you. Often this technology is new. Who had an iPhone ten years ago? Five years ago? How recently have you made the transition from Microsoft to Apple or the other way around? Technology brings with it the opportunity to break barriers in providing health care. For example, with smaller ultrasound technology we can provide ultrasound-based care from our smart phones. However technology is only as good as the operator behind it.

In this edition of *Australian Anaesthetist*, Royse et al[1] make a compelling case for keeping abreast of ultrasound technology and embracing point-of-care ultrasound as a means to assist clinical evaluation of patients.

Technology brings with it the opportunity for improved efficiency, whether it be in the workplace or via applications ('apps') on our personal devices for our own benefit. Juniper[2] provides a comprehensive list of the many and varied apps that are available so that your smartphone can "function as a continuation" of your mind and enhance your professional performance. One app that is still available but no longer acquiring new content is for our flagship journal, *Anaesthesia and Intensive Care*. This change was due to the outsourcing of the journal to Sage Publishing, which has brought many more benefits, as described by the journal's Chief Editor, John Loadsman[3] in this edition.

When considering efficiencies in the workplace, the electronic health record (EHR) and the Australian Government's My Health Record (MHR) comes to mind. The EHR and MHR both have the potential to offer a vast number of benefits as outlined by Grossi[4] and Fairweather[5] respectively in this edition. However, a number of studies attribute the EHR to burnout in doctors[6]. Introduction of the EHR is inevitable and the challenge for anaesthetists as well as all users, will be engaging with this process so that it doesn't stand for 'Errors Happen Regularly' but 'Everyone Has Responsibilities'.[7] On this note, the ASA has been meeting with the Australian Digital Health Agency to discuss how the MHR could be "a useful tool in our workflow".[5]

Through social media we can break social barriers and create communities that can quickly share information, and opinion, be it positive or negative, at faster speeds than before. This edition features two articles on social media. Selak (@GongGasGirl) covers the basics of Twitter,[8] my preferred platform for quickly canvassing opinion, and invites you to join her impressive community. Some ASA accounts you may wish to follow are @ASA_Australia, for general updates from the Society, @ASA_NSC for updates regarding the National Scientific Congress, @presidentsnou, the official account of the ASA President and @ASA_ODEC for some of the latest news about where the Overseas Development and Committee have been working.

Ma[9] (@scruff888) writes further about the considerations of social media for, like it or not, you probably already have a digital profile. While we consider Twitter, LinkedIn, WhatsApp as social media platforms, don't forget that the humble email can be regarded a form of social media. An email sent to a list of recipients can be easily and widely disseminated potentially without the original author being aware.

With all these opportunities, come challenges. In social media communications, a useful code of conduct is the Mayo Clinic 12-word social media policy: Don't Lie, Don't Pry, Don't Cheat, Can't Delete, Don't Steal, Don't Reveal.[10] If in doubt, don't undervalue a phone call or face to face conversation. Whether communication be via email, on social media or face to face, we should continue to strive for a culture of safety and demonstrate emotional leadership by recognising our emotions, the emotions of those around us and assuming that "our colleagues are intelligent, well-educated and want to do a good job".[11]

Another challenge we face as we willingly, or not so willingly embrace the advances in digital technology is

the increasing risk of cybercrime. As Papatheohari[12] writes, healthcare is highly targeted and 'uniquely vulnerable'. Is your practice protected? Thankfully this article provides some useful tips to safeguard your practice and patients.

I hope you enjoy this edition of *Australian Anaesthetist* as much as we have enjoyed preparing it for you and make use of its availability via print and via the *Australian Anaesthetist* app. I encourage you to perhaps explore a new app, review your protection from cyber-crime or dabble in social media. Perhaps I may even see you on Twitter where you're welcome to follow me @snouzin and contribute, say, to the discussion on the intra-operative role of concentrated 20% albumin or the official account of the ASA President, @presidentsnou.

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CONTACT

To contact the President, please forward all enquiries or correspondence to Sue Donovan at: sdonovan@asa.org.au or call the ASA office on: 02 8556 9700

REGULAR

LETTERS TO AUSTRALIAN ANAESTHETIST

DO WE NEED TO TURN ON VOLATILES?

Responding to 'ANZCA Part 1 Examination Guidelines', *Australian Anaesthetist* June, page 88, Dr Akl says trainees may be "forgetting to turn the volatile on".

Increasingly, trainees are struggling to find a reason to turn the volatile on in the first place. Volatiles are well known for their adverse environmental cost: 10,000 times higher than propofol[1], as well as higher drug acquisition costs: 2 to 10 times higher[2].

Volatiles also increase PONV, emergence delirium, airway complications and are a potent trigger for malignant hyperthermia.

A possible increase in cancer recurrence and mortality has been associated with volatiles[3] and is currently undergoing randomised trials in Melbourne's Peter McCallum Cancer hospital (VAPOR-C Trial).

Less well known adverse effects of volatiles include inhibition of insulin and insulin resistance – leading to hyperglycaemia[4] and possibly promoting ketoacidosis.

Increased postoperative pain has also been associated with volatiles[5,6], as well as increased surgical field bleeding[7].

While volatiles still have a place in anaesthesia, it may be that they are turned on less and less often by both trainees and anaesthetists.

Dr David Lam FANZCA
Melbourne, Victoria

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CAMPBELL VENTILATOR

Enjoyed the article on Duncan. Thought you might like a little more background.

In 1976 the ASA National Meeting was conducted at the Chevron Hotel at the Gold Coast and I was organising the 'trade display'. John Uhlir and Stan Coleman drove up and bought the very new Campbell ventilator. At that time there were very few efficient ventilators. After an initial demonstration it was obvious, not only to anaesthetists, but also to competing companies that this was a significant advance in mechanical equipment. At some stage (we had employed security) someone poured sugar into the inlet of the ventilator and then turned it on.

With the fluidic structure of the machine the sugar was soon distributed throughout the mechanism making it inoperative. The Ulco men were badly distressed and threatened to abort their participation in the meeting, but we finally convinced them to stay, so they spent the evening taking the ventilator to pieces and cleaning it thoroughly. Even if they had have gone home I don't think this episode of sabotage would have altered the long term popularity of the ventilator.

Regards,

John Hains
Brisbane, Queensland

CORRECTION

The ASA apologises for the clinical error in the cover photograph of the June 2019 edition of the *Australian Anaesthetist*, whereby a bag of intravenous fluid was disconnected without being clamped to avoid air filling the bag. This is not good practice.

The ASA aims to always encourage only the highest standards of anaesthesia.

ASA UPDATE FROM THE CEO

MARK CARMICHAEL, ASA CEO

One of the difficulties of preparing my article each edition is the fluid nature of the many activities and events the Society is involved in. Recent elections, upcoming meetings and government engagement are always influencing activities and these past few months have been no different.

The recent Federal election has provided a degree of certainty to matters, but not necessarily any clear answers. I refer in particular to the ongoing MBS Review. While Minister Hunt has retained the Health Portfolio and remains our key point of contact, it is still not yet clear where this matter will finish.

In my June article I noted the long-term nature of this matter, starting in 2015 when Professor Brian Owler was the Federal AMA President and the Honourable Sussan Ley was responsible for the Health portfolio. In the intervening years the ASA via its senior officer bearers has beat a regular path to Canberra to meet with a range of senior government staffers and ministerial advisors, in order to prosecute the case for anaesthesia.

Despite encouraging signs from the Minister in late 2018, the final determination on the Review in terms of anaesthesia remains unknown. It is still very much a live debate, with uncertainty remaining around any final determination of what changes will be implemented. Following the release of the Anaesthesia Clinical Committee's Report, the Department of Health in February of this year, formed the Anaesthesia Implementation Liaison Group (AILG). The ASA was offered a seat and is represented by former ASA President Dr Andrew Mulcahy. ASA Economics Advisory Chair Dr Mark Sinclair is also on the AILG as the AMA representative. The AILG is in dialogue with the Department, however these were put on hold when the election was called. Discussions have now resumed and it remains unclear which direction the government and the Department of Health will move.

Importantly the ASA is 'at the table' which can only be a good thing. The difficulty though is that discussions such as these take a long time and it may not be possible to achieve everything we would hope for. I would ask members to recognise that the Society and its representatives do have the specialties and their patient's welfare at the forefront of all discussions. While we await further developments from the AILG and the government, I would encourage all members to visit the MBS Section of the ASA website to familiarise yourself with all that has happened over the past nearly four years!

While on the subject of elections, I am delighted to inform you all, that ASA Board Director Dr Andrew Miller has recently been elected President of the AMA Western Australia section. I am sure you will all join with me in congratulating Andrew on his election. The ASA has a strong relationship with the AMA both Federally and at a State level, and Andrew's election will only serve to strengthen this association.

The 2019 Sydney National Scientific Congress (NSC) is shaping up as the leading anaesthesia meeting to be held in Australia in 2019. Congratulations to Convenor Dr Anne Jaumees and Scientific Convenor Associate Professor Alwin Chuan and all of the Committee members who have worked so hard to ensure the Congress is a resounding success. A tremendous educational offering, wonderful social events, very strong delegate numbers and a completely sold out exhibition all point to a hugely successful congress. I do hope that all of you who are attending enjoy the congress and the lovely city that is Sydney. As always there will be a comprehensive wrap-up of the NSC in the December edition of *Australian Anaesthetist*.

Looking ahead, the 2020 Congress will be a combined meeting with our New Zealand colleagues. It will be held in Wellington, New Zealand from October 16- 20. The New Zealand Society have things well underway from a planning perspective and I encourage as many of you as possible to reserve those dates

In closing, I would once again like to acknowledge the work and friendship of retiring ANZCA Chief Executive Officer Mr John Ilott. ASA and ANZCA do work very closely on many things, and I would like to say that it has, over the past four years, been a pleasure working and collaborating with John. I would like to thank him, and wish him and his family, all the best in his retirement.

NEWS

INTRODUCING AIRWAY LEADS TO PRIVATE HOSPITALS IN AUSTRALIA

Since the publication of the first American Society of Anesthesiologists difficult airway management guidelines in 1993, there has been a significant fall in airway-related adverse events in many countries. Despite these declining figures, problems with airway management in the perioperative period remain a major cause of adverse outcomes. These include patient mortality and catastrophic morbidity as well as long-term adverse effects on patients, relatives and the health care team.

Unfortunately, there is often a disconnect between new airway management equipment and techniques, anaesthetists managing difficult airways at the coalface, other anaesthetists with similar interests and health care administrators. Subsequently, a small number of airway management cases with catastrophic outcomes continue to occur. The incidence of failed intubation is approximately 1 in 1 to 2,000 in the elective setting, 1 in 300 during rapid sequence induction in obstetric patients and 1 in 50 to 100 in the intensive care unit. While alarming, these figures fail to reflect the catastrophic impact on the patient, relatives, the anaesthetist and health care workers involved in each case.

Difficult airway management outcomes are often favourable but tragic outcomes still occur:

- https://www.scotcourts.gov.uk/search-judgments/judgment?id=328e86a6-8980-69d2-b500-ff0000d74aa7
- https://www.timesandstar.co.uk/news/17016621.catastrophic-errors-led-to-death-of-mum-at-cumberland-infirmary-coroner-rules/
- https://www.huntspost.co.uk/news/doctor-apologises-to-family-for-crucial-error-made-during-routine-knee-operation-at-hinchingbrooke-hospital-1-5240567
- https://www.judiciary.uk/wp-content/uploads/2018/06/Sharon-Grierson-2018-0034_Redacted.pdf

Although these case are from the United Kingdom, similar cases occur around the world including Australia. It is fair to state that every experienced anaesthetist has a number of difficult airway management cases that have left them with a 'learning point(s)' in their professional career. Unfortunately, the benefits of many years of service are frequently forgotten after rare catastrophic events. We are often judged not on the enormous quality of care we provide but frequently on the uncommon adverse outcomes.

Many anaesthetists provide assistance to colleagues with difficult airway cases, educate anaesthetic assistants and direct airway management equipment procurement. Yet these same anaesthetists are often unrecognised for this work and find problems ensuring appropriate equipment, education and expertise are at hand for safe airway management and patient care.

It is an incentive by both the Australian Society of Anaesthetists and the Australian and New Zealand College of Anaesthetists to recognise individuals who up to now have fulfilled this position as the 'go-to-person' for airway management advice and counselling. Acknowledgement of these individuals for their work by their peers will provide the gravitas to ensure safe airway management in all anaesthetic areas.

Airway leads may look towards some or all of the following to fulfill their position:

- Ensuring appropriate difficult airway equipment is readily available
- Actively engaging in airway device procurement
- Providing airway management education to health care workers
- Liaising with the intensive care unit and emergency department, especially in rural and remote areas

In Australia, we hope to establish a network of Airway Leads throughout both private and public sectors to assist each other and improve airway management in anaesthesia. Should the Airway Lead require advice from the network, they should contact the Airway Management Special Interest Group (SIG) Executive Board member of their state for assistance or Keith Greenland.

NOMINATING FOR AIRWAY LEADS AT YOUR INSTITUTION

The aim is to have one Airway Lead in each Australian health facility that provides anaesthesia. Those interested in nominating an airway lead should talk to the chairperson of the private hospital and fill in the form that can be found at http://www.anzca.edu.au/fellows/special-interest-groups/airway-management and send it to sq@anzca.edu.

For further information, contact Keith Greenland, via sq@anzca.edu.au

Keith Greenland

NEWS

DONATION TO LIFEBOX

ASA President Dr Suzi Nou recently presented Interplast CEO Prue Ingram with a cheque for $26,000 – a donation to Lifebox from the ASA.

A decision was made early in the planning stages for the National Scientific Congress 2018 held in Adelaide that the ASA would not be offering congress satchels, and gifts would only be offered to the four major speakers.

The NSC 2018 organising committee allocated the budget for these two items to our charity of choice, Lifebox; a charity that is close to the heart of many anaesthetists. Our donation received a significant boost, to the tune of just over $6000, with the proceeds of our hugely successful 'Wine Wall'. The wines were sourced and the wall coordinated and successfully run by Dr Kris Usher who collected a great selection of wines.

There were smiles all round as many delegates went home happy having picked up some superb wines. This was only possible due to the generosity of the following companies who supported this venture and the wineries who were willing to donate their exceptional produce of the vine! Thank you to all those who contributed to the success of this event.

Dr Simon Macklin
Convenor NSC 2018

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Anaesthesia and Intensive Care

ANAESTHESIA AND INTENSIVE CARE EDITORIAL FELLOW

Dear Colleagues,

Applications are invited from ASA, NZSA, or ANZICS members within their final year of specialty training or within two years of obtaining their specialist qualification for the position of Anaesthesia and Intensive Care Editorial Fellow, 2020.

As with our current editorial positions, the position would be honorary and would be undertaken alongside the applicant's usual employment or training. The term would be for 12 months commencing February 2020.

The successful appointee would be exposed to both the production and editorial aspects of the journal, and would be involved in reviewing submissions, commissioning reviews, contributing to book and media reviews, and undertaking other journal activities, including social media development, all under the supervision of current editorial and/or production staff.

The appointee would be encouraged to attend Editorial Board meetings and the Editors' session at the annual ASA National Scientific Congress. It is anticipated that this activity would be eligible for CPD credits (to be negotiated with the Australian and New Zealand College of Anaesthetists).

Applications will be judged on the basis of applicant's demonstrated interest in research and medical publication. Previous publications experience is desirable but not essential.

Applications should take the form of a one page covering letter indicating the reasons for wishing to undertake this activity, a current CV, and the names of two referees.

Applications should be addressed to the Chief Editor, Anaesthesia and Intensive Care via email aic@asa.org.au by 31 December 2019.

Applicants will be notified of the outcome of their application by mid-January 2020.

Kind regards,

A/Prof John Loadsman
Chief Editor, Anaesthesia and Intensive Care

FEATURE

ULTRASOUND, THE NEW FIFTH PILLAR OF CLINICAL EXAMINATION

The concept of point-of-care ultrasound (POCUS) has emerged to describe a brief, goal-focused examination performed by the treating clinician at the patient's bedside in real-time, to answer specific clinical questions.[1]

Anaesthetists began performing POCUS with transoesophageal echocardiography (TOE) for cardiac surgery soon followed by ultrasound-guided nerve blocks and ultrasound-guided vascular access. However, rather than TOE, transthoracic echocardiography (TTE), also referred to as focused TTE and focused cardiac ultrasound (FCU or FoCUS), has been the real game-changer. FCU may be performed before induction of anaesthesia, alerting the anaesthetist to identify 'hidden dangers' and take pro-active action to avoid perioperative cardiovascular compromise or avoid surgery that is too high risk altogether. In a real example, an elderly patient presenting for hip fracture surgery had a TTE prior to commencement of anaesthesia. Congestive cardiac failure and pulmonary oedema were identified, prompting surgical delay for haemodialysis.

On the other hand, if TTE rules out previously suspected structural cardiac disease and abnormal haemodynamic state (such as hypovolaemia, vasodilation or heart failure) then the anaesthetist may avoid unnecessary investigations or procedures that may delay the surgery. In another example, an elderly patient presented for an emergency laparotomy for bowel perforation with clinical features of heart failure, however, his preoperative TTE revealed normal ventricular function and hypovolaemia. TTE in this patient shifted the haemodynamic management plan from inotropes and postoperative ICU care to fluid replacement and postoperative normal ward care. FCU could be conceptualised in the same way as airway assessment. Pre-induction assessment alerts the anaesthetist to anticipated difficulty in airway (or cardiovascular) management, enabling proactive measures to avoid loss of the airway (or loss of haemodynamics). FCU has been integrated into specialist training of emergency medicine and critical care.

Although not yet a formal requirement for anaesthesia training in Australasia and New Zealand, ANZCA professional

FEATURE

Table 1. Applications of ultrasound for anaesthetists (reproduced with permission from *Australian Journal of Ultrasound Medicine*)[9]

Ultrasound type	Indications	Clinical examples
Transthoracic Echocardiography	Hypotension Shortness of breath Peri-arrest Age > 65 years Unable to exercise Known cardiac disease Unstable symptoms or signs consistent with heart disease	A 70-year-old patient for total hip replacement who cannot exercise due to osteoarthritis – unidentified aortic stenosis. Undiagnosed hypotension in the PACU – a vasodilated state. During trauma resuscitation – hypovolaemia consistent with blood loss. 55-year-old patient with ischaemic heart disease and cardiomyopathy undergoing major surgery – mild systolic failure only and valves normal – proceed as planned. 80 year-old patient is short of breath and hypotensive after hip fracture surgery – severe right heart failure – decision to palliate.
Lung ultrasound	Tachypnoea or dyspnoea Suspected pleural effusion or pneumonia Screen for pneumothorax after central line insertion Any cause of hypoxia Peri-arrest to rule out pneumothorax Chest trauma to identify hemothorax or pneumothorax Undiagnosed fever (pulmonary aspiration of gastric contents)	A 27-year-old lady has shortness of breath after emergency Caesarean section – right upper lobe consolidation – consistent with aspiration. Routine chest examination on an ICU ward round – more than half the patients will have some pathology. Examination for pneumothorax after a difficult central line insertion. A cardiac arrest call with pulseless electrical activity – pneumothorax identified. A 24-year-old man with seatbelt injury is short of breath and hypoxic – a large haemothorax with lung consolidation (contusion).
Abdominal ultrasound	Peri-arrest Bladder scan Suspected abdominal aortic aneurysm Foetal viability (heartbeat)	A 45-year-old trauma victim with abdominal injury and severe hypotension – free peritoneal fluid identified. An elderly patient is anuric after a prolonged operation without a catheter – a bladder scan to identify whether the bladder is full (obstruction) vs empty (renal failure). An elderly patient with flank pain and hypotension – possible aneurysm. A 26-year-old pregnant patient has the vaginal bleeding – foetal heartbeat is seen demonstrating foetal viability.
Gastric ultrasound	Screening for gastric contents	A 55-year-old diabetic patient for emergency surgery has full stomach with solid contents.
Venous ultrasound	Screening for deep vein thrombosis	A patient presenting for multiple repeated skin grafts with a swollen leg – ultrasound reveals a femoral DVT.
Procedural ultrasound	Ultrasound-guided regional anaesthesia Ultrasound-guided venous access Ultrasound-guided intercostal catheter insertion Ultrasound-guided pericardial effusion drain insertion	A 45-year-old motor vehicle accident patient has limb fractures, shortness of breath and hypotension, and venous access is not successful. Ultrasound used to locate veins and guide access, femoral nerve block under ultrasound guidance inserted for post-operative pain relief and an ultrasound-guided insertion of an intercostal catheter to manage pneumothorax.

PACU, post anaesthesia care unit; ICU, intensive care unit; DVT, deep venous thrombosis

document PS46[2] describes a guide for training and practice in FCU, and questions on this topic have arisen in the final anaesthesia examination.

The initial emphasis of POCUS was on cardiac ultrasound but has spread to other body regions such as lung ultrasound, abdominal and gastric ultrasound (to determine fasting status) as well as assessment for deep vein thrombosis and raised intracranial pressure (other examples are summarised in Table 1). This practice has gained the term 'Whole body ultrasound' or 'WHOBUS'.[3] Emphasis is still on performing discrete ultrasound examinations (for example cardiac or lung ultrasound).

As the knowledge and skill of practitioners increases, POCUS should be considered as 'ultrasound assisted clinical evaluation' or 'ultrasound guided procedures'. In practice, the future anaesthetist or perioperative physician is expected to be capable of performing basic ultrasound examination for multiple organs as part of their bedside evaluation. It does not mean they have to perform every ultrasound examination on every patient, but rather use ultrasound to assist evaluation where clinically indicated.

Why is this important? The problem is that even when performed by experienced consultant anaesthetists, conventional clinical evaluation is often only 50% accurate.[4] Clinical ultrasound increases the diagnostic accuracy enormously. The rest is quite simple: better information leads to better decision-making. The literature is quite clear that the use of perioperative ultrasound will improve diagnosis, which in turn will change management.[5,6] However, does the change in management affect patient outcome?

…the future anaesthetist or perioperative physician is expected to be capable of performing basic ultrasound examination for multiple organs as part of their bedside evaluation.

There's much less literature that examines the impact of POCUS on patient clinical outcomes after surgery. The highest-level data is a randomised pilot study[7] examining the impact of FCU prior to hip fracture surgery. This study showed a 39% relative difference favouring ultrasound for a composite of major morbidity and mortality outcomes at thirty days after surgery, which was sustained at one year.[8] However, this was a small pilot study and a larger trial is required to demonstrate benefit in outcome. Such a trial could apply to larger patient populations than hip fracture and may even be more positively impacted by the addition of ultrasound of the lung and for DVT.

The practice of POCUS has actually influenced ultrasound engineering to develop smaller and more portable machines that are still able to produce high enough image quality to make important decisions in acute medical care. These hand-held ultrasound machines are small enough to be carried and will usher in the era of 'personal ultrasound'. The major imaging companies (Sonosite, Philips and GE) have all released portable ultrasound devices which vary in price and capability. If wireless enabled, these devices enable rapid sharing of obtained images with archive storage, or for a second opinion from an expert.

The latest device from Butterfly IQ utilises a novel method of producing ultrasound, which is formed by 9,000 micro-machined sensors, effectively digitalising the transducer and enabling control of the physical properties of the sound wave. This enables one probe (compatible to most commercially

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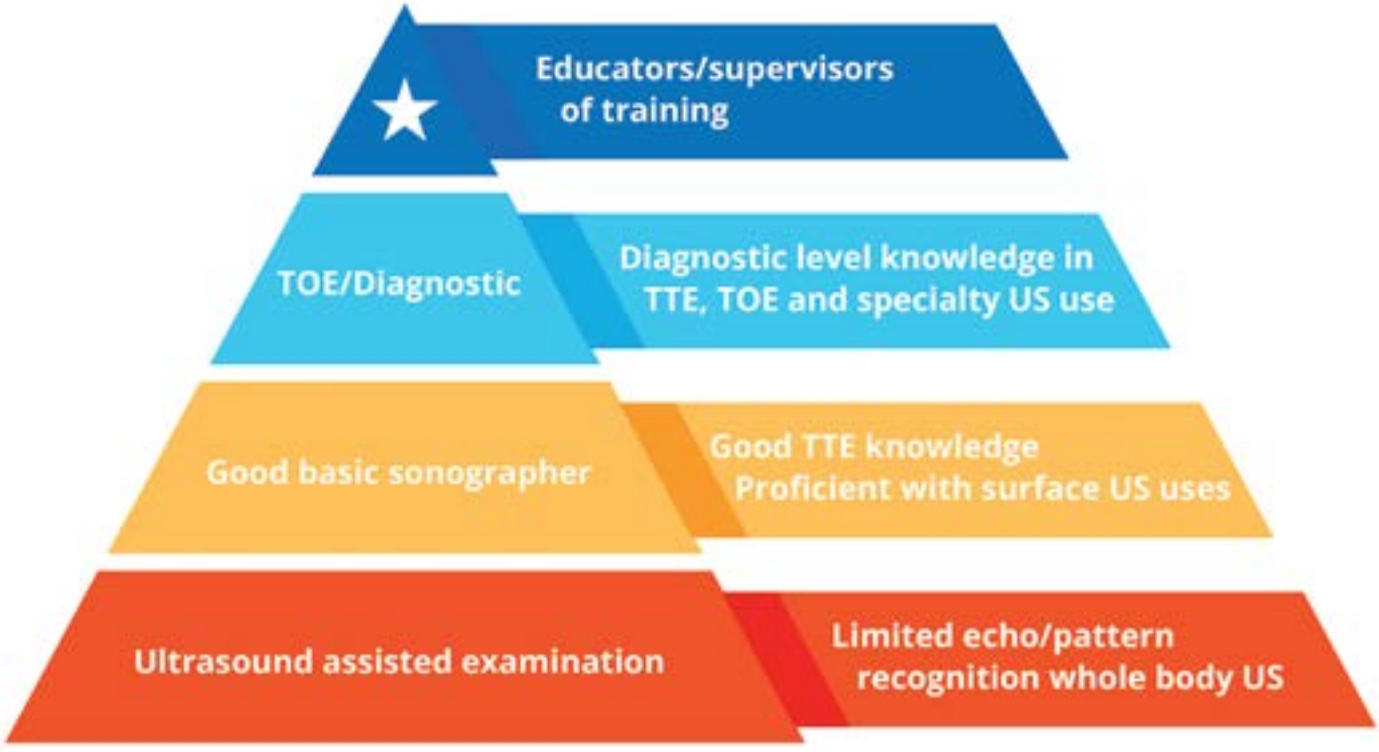

Figure 1: Ultrasound expertise pyramid
The 'expertise pyramid'. Four levels of expertise are shown, starting with ultrasound-assisted examination, suitable for all physicians, and the star at the top of the pyramid representing teachers, supervisors of training, or heads of echocardiography laboratories. TOE = transoesophageal echocardiography; TTE = transthoracic echocardiography. Reproduced with permission from *Australian Journal of Ultrasound Medicine*.[9]

available smart phones) to emulate any transducer, linear, curved or phased array, allowing whole body ultrasound with one probe. However, the disruption in practice enabled by personal ultrasound devices will similarly cause disruption in the need to rapidly educate and upskill anaesthetists in how to perform and interpret whole body ultrasound to at least a basic level, using two-dimensional and colour flow Doppler.

So how do we rapidly upskill our anaesthetists and perioperative physicians to become proficient at basic perioperative ultrasound? The first step is psychological – accept that not everyone has to be an expert! Everyone starts as a beginner, and then progresses over time in skill in areas of ultrasound that are relevant for that practitioner. This concept is described by the expertise pyramid (Figure 1). The second step is to 'own our space' and determine what is acceptable scope of practice in our specialty. Step three is to define pathways to competency in the three key areas of knowledge, hands on learning, and practice. Step four is to teach on scale. No single group or organisation will be capable of teaching all its anaesthetists and perioperative physicians, and so multiple pathways to competency should be facilitated. However, the use of digital learning to deliver knowledge and interpretive practice, combined with experiential learning through workshops, simulators, and bedside teaching will improve the ability to scale up to meet the demand in POCUS education. Finally, it is important to remove practical and political roadblocks to encourage anaesthetists to adopt this technology.

CONCLUSION

Perioperative ultrasound is arguably one of the most important developments in anaesthesia and perioperative medicine. Perioperative ultrasound will continue to be important until basic ultrasound is taught to all medical students and becomes the 'normal practice'. Many universities worldwide are already incorporating clinical ultrasound into their curricula. This is an exciting challenge for all anaesthetists in the next decade.

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Perioperative ultrasound is arguably one of the most important developments in anaesthesia and perioperative medicine. Perioperative ultrasound will continue to be important until basic ultrasound is taught to all medical students and becomes the 'normal practice'.

FEATURE

ELECTRONIC HEALTH RECORDS – FLYING TOO CLOSE TO THE SUN?

Recently I had the pleasure of visiting the Museo Civico Archeologico di Bologna. The Egyptian exhibits included stone tablets used as sales contracts and a medical record on papyrus. Anaesthesia records from the early 1900s have many similarities to some current anaesthesia charts.

The development of computing through the 1970s and 1980s allowed the possibility of an electronic health record (EHR). The widespread implementation of the EHR has been advocated by the Institute of Medicine for many years.[1] The potential benefits of using information technology were heralded as being transformative by providing more relevant, timely, patient-centric information producing safer and more cost effective healthcare. Some challenges with the implementation of the EHR were anticipated and other pitfalls have become apparent.

PROS[2]

1. Improved data accessibility[2]

Paper charts create voluminous patient histories that need to be stored, retrieved, and maintained. It can be frustrating trying to access the patient's previous anaesthesia chart only to be informed the history is stored off site and inaccessible in a timely fashion.

2. Integrated care

Results of crucial investigations and consultations need to be readily available to avoid duplication and minimise transcription errors. Patients receive care in different geographical locations and in various sectors of Australia's complex healthcare system. Having a centralised, up-to-date patient history is essential to provide safe care.

3. Computerised order entry

Having automated tabs for entering data, ordering investigations and prescribing treatment can save time and reduce errors compared with handwritten orders.

4. Clinical decision support[3]

There are many ways that healthcare practitioners may be prompted to improve patient care. Drug charts may contain reminders about thromboprophylaxis, drug interactions, allergy alerts, dose advice cross-referenced to the patient's age, weight and hepatorenal function.

Other advice may be incorporated such as immunisation schedules, antibiotic prophylaxis guidelines and other clinical practice guidelines. Quick links to the latest peer reviewed medical evidence and advice may be made available.

5. Patient specificity and 'meaningful' care[4]

Doctors may be linked electronically to actual patients in real time so they receive notifications about relevant changes such as when orders are due or alerts about abnormal results. Patients may have access to their own record empowering them to play a more central role in their own care.

6. Preventive health

Cancer screening and prompts for risk factor management such as hypertension, cholesterol, and diabetes may help prevent and better manage chronic disease. The database can easily be checked to ensure patients have not 'slipped through the net' with regard to relevant investigations and follow ups.

7. Big data mining

De-identified data may be used for medical research.

8. Utilisation of resources

Patient use of services may be tracked to allow for the planning and optimisation of fiscal resources.

9. Coordinated care

Emailing information and referrals is an efficient method of communication.

CONS[2]

1. Productivity

Increased time spent by health professionals entering data into computers detracts directly from the time they spend with patients. In anaesthesia, completing the EHR may be a significant distraction compromising vigilance and patient safety. Productivity decreases with the introduction of EHRs. The delays in data entry reflect unmet display needs, deficiencies in operating system software, hidden dependencies in distributed systems and inadequate interfaces.[5] While medicos are often early adopters of new technology, they need to be involved in the development of the EHR to ensure it remains 'fit for purpose'.

2. Lack of interoperability with different information systems

In an ideal world, there would be a single operating system or at least the opportunity for a system that could readily share data and communicate without hindrance. Having to use different information systems often leads to duplication of investigations and consultations. Frustration, delays and compromises in patient care may occur due to IT deficiencies.

3. Cost

EHRs are expensive to develop, purchase, implement and maintain. The initial hardware, software, logistical support and ongoing education required to optimise success may be prohibitive.

4. Continuous maintenance

An EHR is not static. Instead it requires continuous data entry to maintain a contemporaneous accurate record that accurately reflects the patient's circumstances. It also requires 'back-end' maintenance to secure the integrity of the data.

5. Depersonalisation

In addition to less patient interaction, emailing information inevitably leads to less professional-to-professional verbal and face-to-face communication. Something is lost. The opportunity for clarification, reassurance and empathy may be compromised.

6. Privacy

Ensuring patient data remains private has been a major challenge and concern for patients and health care providers. This is an ongoing problem and complying with legislative requirements may be difficult.

7. Incomplete and inaccurate records

Due to production pressure or software that is not user friendly, fields may be left blank or pre-existing templates ('cut-and-paste'), may be used inappropriately compromising the quality and accuracy of the data.

8. Hybrid paper and electronic systems

Inevitably most health professionals currently use a hybrid system. This may have its own pros and cons. Until more universally integrated systems are adopted, this is the reality.

Rather than being an 'Icaruan' aspiration, the EHR is inevitable. As clinicians and researchers, anaesthetists need to be involved in the development, implementation and maintenance of this technology to ensure that it remains 'fit for purpose'. The meaningful use[4] of the EHR should augment the personised care of patients and not detract from it. There are known and unknown pitfalls in this space.[5] This is a dynamic process that requires patience, understanding, diligence and commitment of appropriate resources to ensure success.

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FEATURE

MY HEALTH RECORD

Imagine a world where with one click (and a two-step authentication) you could access your patient's entire medical and surgical history, along with medication history and provider names.

No more "Which cardiologist did you see?", "What operation did you have?" or "What were the results of that test?" Gone will be the days of veterinary-type medication guessing-games based on poor spelling or tablet colour, looking for scars to ascertain what operations have been done, or third-hand assumptions of test results based on a layperson's interpretation. When your patient says "Oh, it's in the file doctor" – it actually will be.

This is the promise that the Australian Government's MyHealth Record (MHR) offers.

The current MHR began its life in 2012 as the Personally Controlled Electronic Health Record (PCEHR) or eHealth Record. The PCEHR was an opt-in health record marketed at GPs and was accessed by GPs via their software, and by patients after registering for an Identity Verification Code (IVC) to facilitate the creation of an Australia.gov.au account and access their record for the first time. Low consumer and health-care professional (HCP) uptake at 17% prompted a review and public consultation process in 2013.[1]

In March 2016 PCEHR was relaunched as MyHR, and a governing body was established – The Australian Digital Health Agency, colloquially referred to as The Agency. This was still an opt-in record. In 2019 after months of publicity, controversy and extension of the opt-out period, all Australians were provided with a MHR unless they chose to opt-out. Currently, 90.1% of Australians have a MHR.[2]

Many, but not all, GPs will be sending Health Summaries to the MHR. Some, but not many specialists, will be uploading. Some, but not all, hospitals will send discharge summaries (either directly or indirectly via clinical portals). PBS prescribing information is automatically uploaded, and some private radiology and pathology companies will be uploading investigation results. To date, no cardiology services are yet uploading cardiac investigations. If GPs are participating, vaccination information will also be uploaded.

Australia is not alone in its quest to deliver an integrated and comprehensive digital health platform for its citizens. A 2015 World Health Organization (WHO)

Global Health Survey of its member states on eHealth revealed nearly 60 countries with an Electronic Health Record.[3] Greater than one-third of these have no legislation underpinning the use of the system, and all of them have widely varying inputs and user uptake. Only China, Jordan, Norway, Oman, Turkey and Uzbekistan have comprehensive uploads from laboratory, pathology, X-ray, pharmacy and vaccination sources. In addition to medical event summaries, these are the information streams that Australia aims to capture in each person's MHR.

Despite the media-catastrophising and hyped-up alarmism, Australia has been diligent in enshrining the underpinning protective legislation for patient privacy in its MHR. Currently, the legal protections supporting the MHR are substantially greater than those that protect individual doctors' paper or electronic records which are covered by the Privacy Act 1988 (Commonwealth). Originally the MHR was covered by the My Health Record Act 2012, but after community and organisational concern a new bill was introduced – My Health Records Amendment (Strengthening Privacy) Bill 2018. The bill prohibits the MHR from being used for the purpose of underwriting a contract of insurance, determining whether to enter into a contract of insurance or matters of employment. A Court Order must be provided for unauthorised release of information from the MHR unless directly related to health-care provision. The single, central repository of data regarding the health of 90.1% of Australians makes data security concerns over breach of the system as a whole highly relevant.

There is no governance over the information entering or leaving the MHR except by the patient. They can access and edit their record, and control access over who else accesses their record, by distributing access codes to approved users. They have a tracked record of who accesses their MHR and can set alerts to flag access events. This may be reassuring for patients, but to anaesthetists, this is concerning. Firstly, if faced with an unconscious patient who cannot provide an access code, the MHR will be inaccessible and provide no utility. Secondly, there is little organisation of Shared Health Summaries that are entered by GPs and vast amounts of irrelevant information (e.g. left knee pain in 1978, rash in 1993) crowds and distracts from information which should be prominent so that it is easily spotted in time-poor consultations. Thirdly, since patients are rarely well-informed regarding the vast range of matters that affect their anaesthetic, they could inadvertently refuse to upload or may delete documents that they regard as embarrassing or particularly personal. Examples might be HIV or HCV status or having had a difficult airway event during a sensitive procedure.

The single, central repository of data regarding the health of 90.1% of Australians makes data security concerns over breach of the system as a whole highly relevant.

Accessing the MHR in private and public hospitals will be considered separately here. Public hospital access is a fiasco and varies from state to state, and in Victoria, and Western Australia will vary from hospital to hospital. When approached, staff at The Agency stated that doctors should ask their hospital administrators the best way to use the MHR from within their hospitals. This melange of access pathways means that it is not possible to produce a comprehensive list of access methods for public hospitals across the country.

In all Queensland public hospitals, clinicians will use Queensland Health's 'The Viewer' to access the patient's MHR. It is predicted that 80% of Queensland public hospitals will have an electronic record by 2020, but there are no plans to digitally interface Integrated Electronic Medical Record (iEMR) and MHR. In NSW public hospitals, clinicians will use the HealthNet Clinical Portal. In the Northern Territory public hospitals, clinicians will use the eHealthNT Clinical Portal (NTCP)[4], and in Tasmania, work is still underway to connect public hospitals to the MHR.[5] In the remaining jurisdictions, clinicians will need to contact their individual hospital administrators.

Clinicians working in private hospitals, or their private rooms can access MHR in three ways.

Firstly, private hospitals are developing their access pathways. Some have a mobile app, like the Ramsay MyPatient + App.[6] The app will only provide access to a doctor's own patients, and in the case of anaesthetists, this will mean the patients on a booked list where the anaesthetist is scheduled to administer the anaesthetic. This requires prior download and regular updates of the application, clerical accuracy and timeliness in bookings and will not include most emergency bookings. This access is 'Read-only'. The app is very sluggish when loading patient information, poorly supported by IT with no real-time access to assistance, suffers long turnarounds for problems with log-in and queries and only inpatients have a MHR link such that it is not possible to glean information about patients in the days preceding a case. Annoyingly the app only works in portrait orientation, and in reality, it is not of any clinical utility to anaesthetists since even after the patients have been admitted the 'My Theatre List' functionality will never link to MHR.

Other hospitals such as Mater Misericordiae Hospitals have a post-hoc scanned medical record (SMR) called Verdi with a MHR link which is available to clinicians on their own devices. St Vincent's Hospitals are using deLacy which is a SMR which includes a link to the MHR (also available on clinician's own devices). For practitioners who predominantly work

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in one location, these platforms might prove simple and easy to use for read-only access. However, if anaesthetists work in multiple locations, using a different app or SMR for each hospital loses its utility.

The second way to access the MHR is via the Provider Digital Access Portal (PRODA). This is also read-only access and does require a multi-step process to gain access in the first instance, but once familiar with the log-in, the user interface is intuitive. Users will need to visit www.humanservices.gov.au, enter the Health Professionals area, and log on to PRODA. This would seem counterintuitive to the first time user since the registration page comes after the log-on page. Practitioners will need to register as a seed organisation (requiring an ABN) and await the registration email before using the service. AHPRA number and passport details are required for verification. An app exists but has received universally poor reviews in the app store, so clinicians can create a bookmark and visit the link on their devices. The patient's Medicare number or DVA number is needed to search, which will not always be available on bookings.

Although the user interface is intuitive and well organised, patient histories are poorly organised, and information pertinent to the anaesthetist is most likely found in any of multiple Shared Health Summaries entered by GPs which can include large amounts of irrelevant and outdated information to wade through. This relates back to the fact that there is no governance over information in the record. The MHR in this respect is akin to a digital filing cabinet with too few dividers, whose contents haven't been organised for several decades. PBS uploads should however give an accurate picture of the patient's current prescribed medications, and the medications icon is clearly visible within the record.

The third way to access MHR is via conformant patient record software. At the current time no anaesthetic billing software is conformant whereas most GP Patient Record Software has been made conformant. The user interface for many of these older, and retrofitted types of software can make it difficult to glean information about patients easily. This is however, the only type of access that would allow anaesthetists to upload any information to the MHR, rather than being read only like the other access pathways.

To become conformant, software must meet the requirements of being secure, encrypted and being certified as such by The Agency. Conformant software assigns unique staff member identification codes and provides a digital trail of MHR access. A full list of conformant software is available on the MHR website.[7]

In situations where their patient has had an anaphylactic reaction, or proven to be a difficult airway, anaesthetists might require upload capability. There is currently no place within the MHR where a DA alert or anaphylaxis note would belong. A Shared Health Summary or Discharge Summary would easily get lost amongst others and the vital importance of airway information in the MHR would be eroded. Therefore pressure needs to be applied to software manufacturers to rapidly become conformant and to The Agency itself to offer more than education and support of a substandard product and listen to the concerns of specialists. Working groups need to continually emphasise the importance of this matter.

What has been described by some as a complex space could be more accurately described as a quagmire of confusing access pathways travelling through a spider's web of compliance hurdles. Education and support will only serve to highlight to specialists what MHR can't do. Education and support will however serve to help specialists decide whether or not the MHR is the right tool for the job. Given that it is currently the only tool which seeks to cross the silos of medical care, it would be a tragedy to find that it was unable to do so simply because of an inability to connect software versions, universal access to upload and viewing/download information, and use of intuitive and user-friendly interfaces. If anaesthetists cannot upload vital information to the MHR, and cannot regularly and rapidly access and peruse the MHR it cannot become a useful tool in their workflow. The utility of having a cross-silo repository for all patient information will be entirely lost if it cannot fit the existing workflows of clinicians. To add a clunky, slow, low-yield tool to an already busy workflow means that it will be discarded by busy clinicians under the law of diminishing returns. Unless the issues that face the medical community in making the MHR work are addressed, the issues of privacy and security which dominate the mainstream press will become irrelevant since there will be little of value contained within the record.

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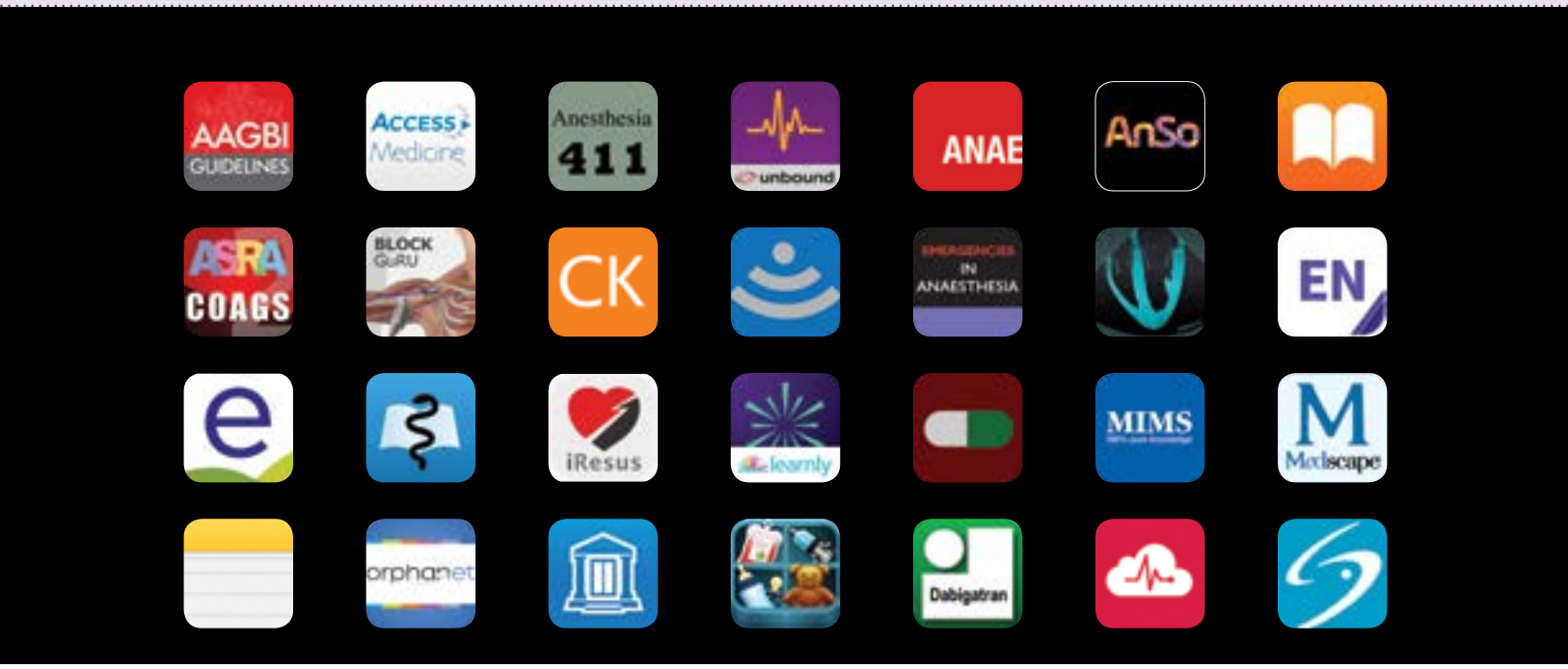

APPS FOR THE ANAESTHETIST

THE EXTENDED MIND

Active externalism[1] is the idea that objects within the environment can function as a continuation of the human mind; cognition is off-loaded into the environment through physical, sociocultural or technological means.

Although often described in a derisive manner by those who equate use of technology with social disengagement, active information retrieval through technological means has much to offer in enhancing performance in the clinical environment – enhancement that has been clearly demonstrated in research on clinician performance.[2] The next generation of digital natives expect this now and in future practice.

SMART ANAESTHESIA

Smartphone use in anaesthesia is ubiquitous[3] and a powerful ally in employing active externalism for the modern anaesthetist. The stigma associated with use of personal devices in the healthcare setting is still detectable,[4] but likely to fall at a rapid rate with generational change.

Downloadable mobile applications ('apps') are one route through which a smartphone's utility can be exploited. Apps are generally downloaded from distribution platforms (e.g. App Store, Google Play Store, Cydia), but can also be 'side-loaded' – most commonly in the installation of enterprise apps.

The sheer number of apps available to the anaesthetist is overwhelming. In this short article I will give an overview of prominent apps with utility in extended cognition for anaesthetists and anaesthetists-in-training. For the sake of brevity I will be excluding internet browsers, through which 'web apps' and the utility of the entire world wide web can be accessed.

Medical apps in Australia do not undergo scrutinisation by the TGA unless tied to the use of a registered medical device.[5] Without any formal oversight, apps are of variable quality and are not all reliable for safe clinical practice. The clinician must understand the benefits, limitations and risks associated with use of apps when making clinical decisions, critically analysing the services and content offered.[5]

PERSONAL REFERENCE

This class of apps allow you to create and collate a personal collection of notes for later retrieval. A range of media formats are supported. Content can be categorised into themes and sub-themes, and is searchable and shareable. Your collection can be synchronised with a sister desktop application. Most widely

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used are *Endnote* (Clarivate Analytics) and *Notes* (Apple).

DRUG REFERENCE

As expected, these apps provide a compendium of drug-related information, for example appropriate dosing and contraindications. Some offer intelligent drug interaction warnings based on a drug list entered. Apps of higher quality include *AusDI* (Medical Director), *iMIMS Australia* (MIMS), *IBM Micromedex Drug Ref* (IBM). These offer institutional login to avoid expensive personal subscription. Free alternatives include the US-centric databases *Epocrates* and *Medscape*. More locally, Frank Shann's critical-care drug booklet is now digitised in the form of *DrugDoses* (Oliver Karam).

ANAESTHESIA AND MEDICAL REFERENCE

Textbooks and libraries

This group of apps consists of standalone accompaniments to hard-copy printed anaesthesia textbooks, for example the *Westmead Anaesthetic Manual* (McGraw-Hill Australia) textbook companion app, and app 'libraries' where many anaesthesia texts can be accessed via institutional login or personal subscription. Library apps include 'native' library apps such as *Books* (Apple Inc), or third-party library apps such as *Indextra* (Indextra AB), *SkyScape* (Skyscape Medpresso), and *AccessMedicine* (Unbound). Many anaesthesia and medical texts are accessible via these libraries, including the *Anaesthetic Crisis Manual* (Borshoff), and the popular *Oxford Handbook of Anaesthesia* (Oxford Press).

Anaesthesia reference

Other apps present anaesthesia-related knowledge independent of any 'hard' publication. For example *AnaesthesiaCentral* (Unbound Medicine) aims to provide a comprehensive anaesthesia knowledge database, *Learnly Anesthesia* (Firecracker Inc) aims to improve trainee knowledge of anaesthesia sciences, *Anesthesia 411* (Crystal Clear Solutions) provides a collection of common surgical procedures and their anaesthetic implications. Some apps are aimed at anaesthesia subspecialty practice; *Pedi-Anesth* (Starship) and *Pedi Safe Paediatric Anesthesia* (Case Pearls & STAT Checklist) both focus on paediatric anaesthetic practice.

Medical reference

Apps designed as medical references have much to offer the perioperative physician. Notable examples are the extensive, albeit expensive, *UpToDate* (UpToDate), and the open-access *Medscape* (WebMD).

Regional reference

There are a plethora of reference apps created by regional enthusiasts specifically cataloguing the knowledge-base of regional anaesthesia practice. These apps are particularly useful for the aspiring regionalist as they provide a tool for succinct revision of block details, including ultrasound references, immediately prior to undertaking the task at the bedside. A popular app written by local anaesthetists is *Nerve blocks* (C & S Publishing). Others include *BlockBuddy* (Western Reserve Anesthesia Education), *Block GuRu* (University Hospitals Birmingham NHS Foundation Trust), *SonoAccess* (SonoSite), and *AnSo* (Sumo Enterprises).

ECHO reference

Reference apps for clinical echocardiography include *ECHO Views – Transesophageal Echocardiography* (iAnaesthesia LLC), which catalogues 28 reference views for perioperative TOE.

ANAESTHESIA GUIDELINES

Anaesthesia practice guidelines

These apps are designed to present specific practice guidelines for clarity and ease of use at the bedside. Research has demonstrated a higher adherence to consensus clinical practice when they have been employed by clinicians.[2] Amongst others; *ASRA Coags* (American Society of Regional Anesthesia and Pain Medicine) regional anaesthesia guidelines, and *AAGBI guidelines* (AAGBI (Association of Anaesthetists of Great Britain and Ireland)).

Perioperative medical guidelines

These apps aid in perioperative planning and management. The comprehensive *eTG complete* (Therapeutic Guidelines) and the UK equivalent *BMJ Best Practice* (BMJ Group) contain collections of consensus guidelines; analgesic, antibiotic, and cardiovascular guidelines amongst others. *The ACC Guideline Clinical App* (American College of Cardiology) contains their guideline for perioperative management of the cardiac patient for non-cardiac surgery. Several apps are dedicated to perioperative management of anticoagulants, such as *Managing Dabigatran (HealthObs)* and *Reversing Warfarin* (New Zealand Blood Service). *CLOTS* (Peter MacCallum Cancer Centre) is a DVT risk assessment tool that aims to guide perioperative thromboprophylaxis efforts.

Anaesthesia crisis and trauma management

Apps dedicated to anaesthesia crisis management require a special mention.

These apps intend to not only provide relevant clinical guidelines, but to also mitigate the role of detrimental human factors in crisis management by aiding clarity of diagnosis, decision-making, and management through good app design. Examples include *iResus* (Resuscitation Council [UK] Trading) ALS guidelines, the aforementioned Anaesthetic Crisis Manual via *Books* (Apple Inc), *Oxford Emergencies in Anaesthesia* (Indextra AB) via its standalone app or various library apps, and *ASRA LAST* (American Society of Regional Anesthesia and Pain Medicine). An example targeted to paediatric practice is *Pedi Crisis 2.0* (SPA Paediatric Crisis Checklist). Trauma management guidelines are presented in the app *MyATLS* (MyATLS), the companion app to the widely attended ATLS course.

Rare Diseases

A notable app dedicated to the cataloging of rare medical diseases is *Orphanet* (MOBILE HEALTH). Rare diseases with specific implications for anaesthesia care have relevant guidelines provided, for example Malpuech-Michels-Mingarelli-Carnevale syndrome! *Eponyms* (Ossus GmbH) catalogues all eponymous diseases for ease of reference.

ANAESTHESIA JOURNALS

Journal-specific apps offer the same service as the printed journal but with the convenience of access and consumption on a mobile device, an example being *Anaesthesia* (Wiley Publishing). Of greater utility, some apps are designed to allow access to entire collections of journals as curated by, or for, the user. *Read* (QxMD) is particularly powerful. It offers enterprise login via ANZCA or hospital library credentials, removing the need for repetitively entering account details across journals in order to access content. The app auto-retrieves the full-text pdf of a selected article for saving or sharing. Apps with a similar functionality include *BrowZine* (Third Iron), *ClinicalKey* (Elsevier), *Prime: Pubmed Journals & Tools* (Unbound Medicine), *Cochrane Library* (The Cochrane Collaboration). *Papers 3 – Reference Manager* (mekentosj.com) provides the user with a platform to organise their personal collection of papers for easy retrieval. This periodical itself is available via the app *Australian Anaesthetist* (Rose Technology).

CALCULATORS

These popular apps assist in the calculation of clinical scores and other indices based on patient data – avoiding the need for the recollection of cumbersome formulae. *Calculate by QxMD* (QxMD Medical Software) and *MDCalc Medical Calculator* (Clinical Decision Support) are comprehensive calculator apps. Formulae include A-a gradient, anion and osmolal gap, MDRD eGFR, RCRI, GCS, NYHA Function, CCS Angina Class, STOP-BANG, CHA2DS2-VASc, UKELD, HAS-BLED, and APACHE II amongst others. An array of available apps such as *Anesthesiologist* (Vikas O'Reilly-Shah) and *Pedi-Anesth* (Starship) calculate appropriate dosing and sizing of commonly used anaesthetic drugs and equipment based on patient metrics. *OpioidCalculator* (FPMANZCA) is a powerful app developed by our own college; users input a complete tally of all patient analgesic medication and a MEDD is produced with equivalence for single agent dosing.

CROWDSOURCING

Finally (and perhaps the most frequently used of apps) are those that serve as the 'virtual tearoom' and where the wealth of knowledge and opinion found within our peer group can be accessed. Peers, either known or unknown to the user, can be accessed real-time via messaging apps with group-messaging capabilities such as *WhatsApp* (WhatsApp), or through social media platforms such as *Twitter* (Twitter), and *Facebook* (Facebook) (employing the relevant handles and groups).

APPS FOR THE ANAESTHETIST IN 2019

The smorgasbord of applications as outlined above have the potential to be of great utility to the clinical anaesthetist. This overview has hopefully provided some insight into the capabilities of apps currently on offer, and distilled the offerings to a digestible level for the uninitiated.

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FEATURE

FROM LURKER TO INFLUENCER: ADVANCED USE OF SOCIAL MEDIA

Love it or hate it, social media is here to stay. Gone are the days where you waited for the newspaper to be delivered to your front door, or for the next edition of the journal to arrive in the post.

If you want to know what has been published in the *British Journal of Anaesthesia*, you will be opening your Twitter app and following @BJAJournals to find that they have published an article in press* on how "a single bolus of andexanet effectively reverses apixaban anticoagulation and reduces blood loss in experimental trauma"![1]

* Articles in press are reviewed, accepted articles to be published in a future volume/issue to be determined. They are usually available online and citable using their DOI (digital object identifier).

Social media brings new challenges to how we communicate and interact with other professionals, our patients and the community at large. As social media becomes ubiquitous, we need to understand what the risk is if we engage, and the risk of how we engage.

SOCIAL MEDIA PRESENCE

Have you ever searched for your name on an internet search engine? You may be surprised to learn how much of your identity may already be available to the public. You may also be surprised by the fact that patients may not only be rating your performance online but may also be making comments in private discussion groups.

Deciding to have a social media presence allows individuals to have some control in their narrative. You can decide how much (or little) you want to share and allows you to curate your online presence. You can be a 'lurker' and silently watch the discussions, or you can be an 'influencer', contributing to the conversation and building a strong presence.

BUILDING YOUR SOCIAL MEDIA NETWORK

When you first enter the social media scene, it may feel like you are drinking from the firehose. To manage the information overload, you should curate your 'following' list with known colleagues and institutions and review posts that contain relevant hashtags, such as

#anaesthesia and #anesthesiology (Figure 1).[2] By following a few profiles and a small group of hashtags, you slowly begin to build a network that works for you.

You begin to notice that you will be drawn to people with similar interests as you; so beware of the echo chamber. As you find your place, it's worth exploring the diversity of ideas on social media. It is through seeking diversity that you are able to challenge dogma and build strong networks.

EFFECTIVE USE OF SOCIAL MEDIA

Professor of Anesthesiology, Perioperative and Pain Medicine at Stanford University, Ed Mariano (@EMARIANOMD), advocates use of social media by doctors, suggesting it allows for research and practice exposure, global interactions and lifelong learning (Figure 2, on next page).[3] Consultant anaesthetist and current President of Regional Anaesthesia United Kingdom, Dr Amit Pawa (@amit_pawa), eloquently summarises the professional role of social media as "learn, link, laugh" (Figure 3, on next page).[4]

Learn

Social media is an affordable and efficient way to disseminate up-to-date information to the public. Journals are now leveraging on social media to generate interest in new articles and organising Tweetchats, which are like virtual journal clubs that allows users from around the globe to interact and discuss topics of interest.[5]

Post-publication review of articles has moved beyond the 'letter to the editor', which may or may not see the light of day, to open commentary of published material without editorial redaction. This was seen recently on Twitter after the *American Journal of Emergency Medicine* published a paper on the role of gender in emergency endotracheal intubation which concluded that women "are not inferior to male physicians in performing emergency endotracheal intubation".[6]

Link

The use of social media to share and develop ideas such as the #FightFatigue and #TheatreCapChallenge campaigns has allowed widespread dissemination of the message and build momentum for the cause. In the #FightFatigue campaign, the Association of Anaesthetists, in conjunction with the Royal College of Anaesthetists and Faculty of Intensive Care Medicine, were able to drive their message of the dangers of fatigue to a massive audience and receive backing from high profile organisations including the World Sleep Federation. The campaign's strong prominence secured support from numerous NHS trusts and secured a meeting with England's Chief Medical Officer, Professor Dame Sally Davies, that set the foundation for ongoing engagement.[7]

As you find your place, it's worth exploring the diversity of ideas on social media.

Connecting communities of practice through social media can bring people from around the globe together and reduce duplication of ideas. In my own personal experience, social media allowed me to connect with Emma Plunkett (@emmaplunkett) and Michael Farquhar (@DrMikeFarquhar) to progress ANZCA's work on fatigue and with Frank Swinton (@frankswinton) on the issue of environmental sustainability. These virtual introductions resulted in productive 'in real life' (IRL) face-to-face meetings at the last Winter Scientific Meeting of the Association of Anaesthetists in London. At a local level, in one tweet, I was able to meet a community of anaesthetists from around Australia and New Zealand with an interest in environmental sustainability.

Medical conferences can also be enhanced through social media. Defining a hashtag for the meeting and registering it with Symplur (symplur.com) allows conference organisers to monitor activity online. The hashtag can then be used to publicise and generate interest in the event. As the convenor of the recent Combined SIG meeting (#CombiSIG19), I used my social media profile to attract

Figure 1

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Figure 2

speakers like Marjorie Stiegler (@DrMStiegler) and build interest over the preceding months that resulted in a record number of attendees. The conference hashtag is then used during the event to allow attendees to share with those who are unable to attend. The propagation of conference material through social media promotes equity of access, particularly for those who are financially/socially disadvantaged.

Figure 3

Laugh

Social media can have a psychological benefit if treated in the right way. By bringing people of similar interests together, you realise that you're not alone with the trials and tribulations you encounter. Connecting with like-minded individuals allow you to share war-stories and provide support through encouragement and experience.

KEEPING OUT OF TROUBLE ON SOCIAL MEDIA

Patient confidentiality

When you are sharing experiences, be mindful that you do not divulge the identity of patients. The confidentiality of the patient can be inadvertently broken by details of the case (time, location, etc). Breach of confidentiality not only erodes the public's trust in the profession, it can also result in disciplinary action and legal action.

Privacy

Depending on what social media platform you use, you can adjust your privacy settings to restrict the access to your content. This does not mean your content will not be discoverable. Consider your posts as the potential front page of the newspaper or an email that is sent to your boss. Employers are now searching social media platforms as a way of 'background checking' potential employees. When in doubt, pause.

Professionalism

As a healthcare professional, we strive to provide accurate advice that is free from conflict. This standard should be the same online. Consider providing references for your advice by adding links to your posts and always declare your conflicts of interest. You should also be clear that you're not appearing to speak on behalf of your organisation unless you are authorised to do so.

Social media has a democratising effect by breaking down the hierarchy seen within the hospital setting. This has the benefit of building positive collaborations that may not necessarily occur in real life. Interactions should always be respectful, speaking as though you are sitting next to one another at a meeting. Any online behaviour that is considered bullying, harassment or defamation is unacceptable and should not be tolerated.

Social media can blur the boundaries of the doctor-patient relationship. When sharing information online, be very clear that you are not providing specific medical advice or establishing a therapeutic relationship.

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ANAESTHETIC TWITTER FOR BEGINNERS

WHAT IS TWITTER?

Twitter is a social media platform where users share their thoughts, expertise and resources in tweets of 280 characters or less. It is a news and social networking service where anyone can join and see what others write (unless set to private). Users 'follow' other users who are of interest to them.

WHY TWEET?

Twitter can be a great place to keep up to date with breaking news, latest anaesthetic controversies and real time discussion. Social media addresses our increasing need for immediacy. It's not uncommon for a news story to break on Twitter and then be picked up by mainstream media days later. In medicine, Twitter can be used to announce new research, techniques or safety alerts. Tweeting with colleagues can stimulate further reading and discussion. Peer review of scientific literature and bedside practice is frank, immediate and often lightened with humour. Where else can you have an international multi-disciplinary debate about which Star Wars character would be the most difficult to intubate?

Twitter can be a great place to keep up to date with breaking news, latest anaesthetic controversies and real time discussion.

A professional account allows the sharing of information and networking with others. Conversations can traverse specialities and geography, enriching learning. Live tweeting during conferences is a way of focusing the attendee's attention by writing tweets which act as notes, and provides the added benefit of allowing those at home to follow the conference. It connects the on-site community and allows the inclusion of distant participants.

Official accounts from scientific journals such as Anaesthesia *(@Anaes_Journal)* have vibrant and interesting content. Novel content dissemination strategies include 'free for a day' papers and 'tweetchat' – an online journal club where authors and editors make themselves available to answer questions from anyone on Twitter. Participants follow the discussion using the allocated hashtag.

Twitter allows dismantling of usual hierarchical structures. I have had meaningful direct engagement with politicians, medical experts, professional

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colleges and celebrities. Reciprocally, it allows those in power to have direct access to the community without the usual layers of bureaucracy – the ultimate ear to the ground. Access to free medical education on social media is of particular importance to health care professionals in low to middle income countries where conference fees can be prohibitive.

Doctors and medical students experience adverse mental health at alarming rates. Social media can provide a sense of community despite the geographic and craft group diversity. Twitter can provide psychological safety where users can be free to be authentic away from their workplace. Many reach out after-hours during moments of personal and professional difficulty. The support is available at all hours and is given genuinely and generously.

Twitter can provide psychological safety where users can be free to be authentic away from their workplace.

SAFETY FIRST

Users who identify as health care professionals are required to abide by social media policies set by their employers, regulatory authorities and professional bodies. All policies include obligations to respect patient confidentiality, maintain appropriate patient-doctor boundaries and be professional. Anaesthetists should be mindful that some social media platforms are public (Twitter, LinkedIn, YouTube) and others can be set to private (Facebook). Regardless of level of privacy settings, every post can be captured by screenshot and shared across social media platforms. Individual tweets can be lifted out of a thread and taken out of context. Be particularly mindful when posting pictures to avoid the inadvertent inclusion of identifying features in the background which can be seen when magnified.

TWITTER LANGUAGE

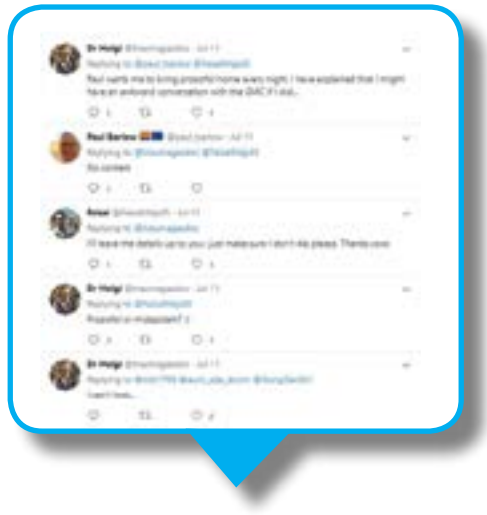
- Handle: Your username (mine is *@GongGasGirl*).
- Tweet: A 280 character message.
- Retweet: A share of someone else's tweet which then appears on your feed
- Feed: The tweets which appear on your homepage. It consists of your tweets, and other peoples tweets you have shared.
- Mention (@): A way to include another user's handle in a tweet. The other user is notified of their inclusion.
- Direct message (DM): A private message between two or more people. You can only DM someone who follows you.
- Hashtag (#): A tool which allows filtering to find topics of interest. Followed by a keyword or phrase. Can be created by you or pre-existing.
- Blue tick after user handle: Signifies a Twitter verified account. This is particularly important if you are Madonna *(@madonna)* as it distinguishes you from fake Madonna accounts. High profile users can apply to have their account verified.

TWITTER SET UP

In order to be part of the conversation, start by creating a profile. There are 330 million Twitter users, your future Twitter community needs a way of finding you. Thoughtful set up will allow more meaningful interaction with others who share your interests. Your handle can simply be your name *(@jamesdgriffiths)* or something more creative which describes you *(@scruff888, @ketaminh)*. Be mindful of your handle length as when others mention ('@' you) it consumes some of their 280 characters. In front of the handle you then place a label – some use their name (*Tracey Tay* or *Hellomynameis*), some use it to further describe their interests (*Volatiles are forever*).

Your Twitter account can include two pictures. The profile picture is the image other users will see next to your tweets. Some use a professional photo for this (particularly physicians from North America), some use an Avatar, some use a non-identifiable image. The other picture is a header which is seen when others click on your profile.

Create a brief biography which incorporates your interests plus as much personality as you are willing to share. This will be what others see when they click on your handle. Some insert hashtags here (*#foamed, #foamgas, #meded*) to show their interests and allow others to find them. Many include a disclaimer such as 'tweets my own' to differentiate from official use. Further optional details can be included such as location and date of birth.



ANONYMOUS OR REAL

Accounts can be personal, professional or official. They can be anonymous or real, corporate beige or authentic and colourful. Some users share their personal and professional lives to create an interesting and vibrant online persona (*@traumagasdoc*). Identifiable accounts tend to be more professionally engaging, particularly when medical topics become contentious. A comment from a known

expert will carry more weight than if from an anonymous account. I personally enjoy exchanges with a number of anonymous and known anaesthetists. Anonymous accounts often include content which is more edgy and social. Some individuals choose to have multiple accounts which cater to their different interests.

If you tweet at a conference, remember to include the hashtag so that others can appreciate and respond to your contribution.

HOW TO INTERACT

Novice users can simply 'lurk' initially – reading conversations and threads without participating. You can then engage more actively using actions to 'like', 'retweet', 'retweet with comment' or 'reply' to a tweet. There is a great deal of anaesthetic Twitter traffic related to airway, allergy, safety and mental health. Filtering of tweets is essential as there are over 500 million tweets sent each day. A great time to start experimenting with Twitter is during medical conferences. Most anaesthetic conferences now have a hashtag (*#NSC19* – the ASA's National Scientific Congress 2019). Entering the hashtag into the search box will locate all tweets which include that hashtag. You can filter them according to 'top' – tweets that have been highly engaged with or 'latest' showing the most recent tweets first. The community of live tweeters will work hard to summarise, interpret and share content. If you tweet at a conference, remember to include the hashtag so that others can appreciate and respond to your contribution. By following an anaesthetic conference, you will quickly find other people of interest. You can then branch out to other events which are not familiar to you – this is an easy way to keep up to date with medical advances occurring outside the silo of anaesthesia.

YOUR FIRST TWEET, GO AHEAD '@' ME

You are now ready to create your first tweet. Click on the feather icon. Start typing your message in the 'What's happening?' box, and then click 'tweet'. You could start with 'This is my first tweet, how did I go @GongGasGirl?'. I will be notified and I will give you a warm welcome!

WHO TO FOLLOW

Unlike Facebook, you don't have to know somebody to follow their account. Start by following people or organisations you know and are interested in. Many conferences now include speaker handles in their programs. As your interaction with Twitter grows, the algorithm will suggest people for you to follow based on your interests. Handles with a large number of followers usually (but not always) represent authentic active accounts where users are interacting frequently.

WHO TO UNFOLLOW

Unlike Facebook, if you find an account is no longer of interest to you, or if your feed is swamped with excess content, it is perfectly acceptable to unfollow. More

seriously, if content is offensive or you are subject to abuse, you can block and report the account. Blocking an account disables their ability to view your content and you can no longer see theirs. While many anaesthetists tweet on a range of topics, I tend to limit tweeting about topics which become heated quickly – these include politics, vaccination and opioids. If someone is no longer providing education or joy, it's probably best to just step away from them as you would in real life.

Good luck and have fun on the Twitter train!

Dr Tanya Selak
@GongGasGirl

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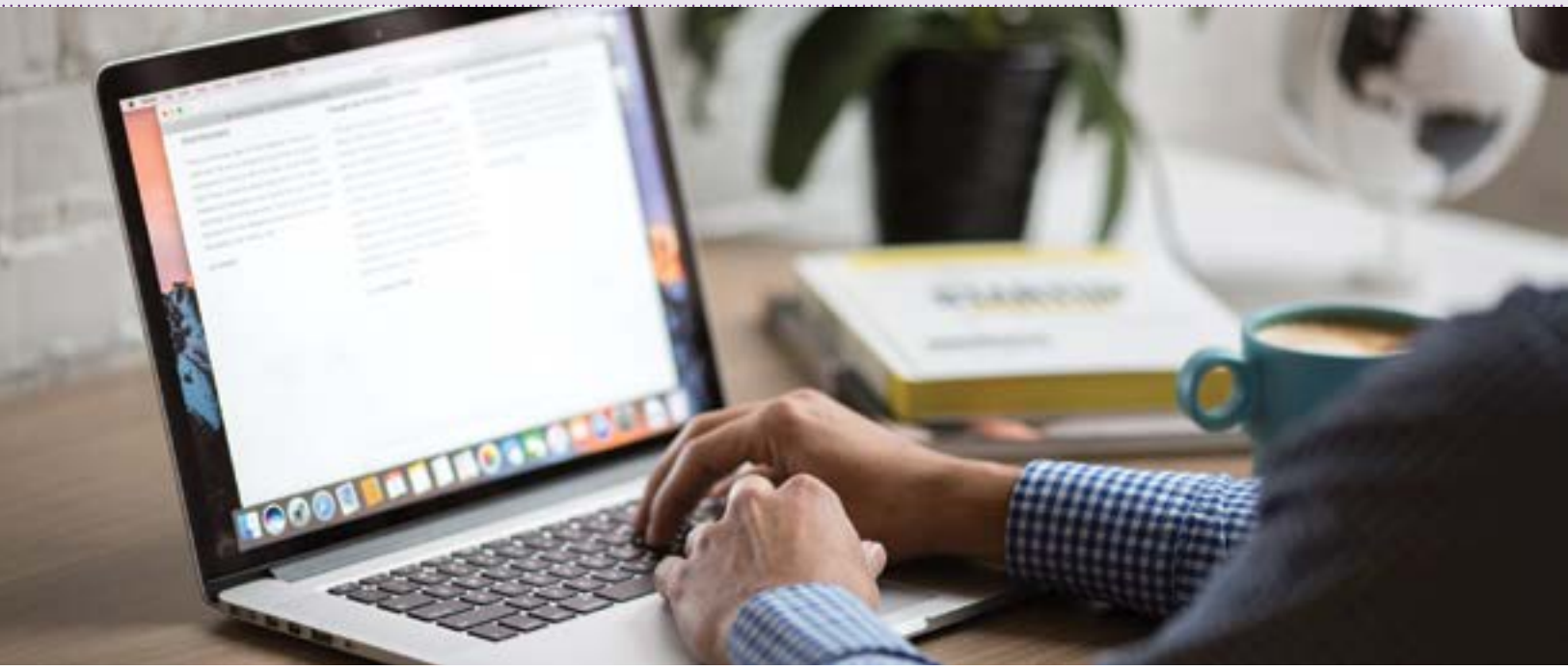


MEETING THE CYBER-SECURITY CHALLENGE

In May 2019, after stating "we have proved that it is possible to become number one" and despite claiming $150 million in profit per year, a technology startup announced it was abruptly shutting down.

The creators of GandCrab 'ransomware' (ransom software) had earned enough to retire. GandCrab is just one of the many varieties of ransomware that can paralyse enterprises by encrypting data, with the perpetrators demanding payment in exchange for a promise to decrypt the files. Ransomware attacks are now increasing by 350% per year.

While there are online solutions that may unlock files in some cases, the nature of data encryption means that some attacks are literally impossible to solve within a human lifetime. Even some large US towns have resorted to paying six-figure ransoms to the perpetrators, but one in five companies that pay a ransom do not get their data back and may be subject to further demands. Paying external tech experts is tempting – but there is evidence that in some cases, such companies have simply paid the ransom themselves.

Prevention is obviously the key, and should be a particular focus for healthcare providers, as demonstrated by the WannaCry 'malware' (malicious software) attack that shut down large parts of the UK's National Health Service in 2017.

Healthcare is a prominent target with numerous Australian healthcare providers having already experienced cyber attacks.

It ranks as the third most targeted industry for ransomware attacks; and it ranks second in seeking cyber incident response services.

Our sector is uniquely vulnerable. It is fragmented, with critical data stored across vast numbers of small enterprises, many of which maintain their own servers requiring constant updating.

Conversely, some of the larger organisations such as the NHS are vast indeed. In some cases, the staff responsible for cyber-governance may lack awareness of practices at the service delivery level. Although it was generally assumed that the NHS attack was due to the use of outdated operating systems such as Windows XP, in fact most vulnerabilities were due to failures in updating modern, fully-supported operating systems. The service, aware of the risks, had already examined a third of its local authorities for cyber-security compliance. Not a single one had passed inspection.

As a sector providing life-saving care, and in possession of highly sensitive data encompassing many facets of patients' lives, providers may be seen as especially likely to comply with ransom demands.

We live in an increasingly digitised world; over 20 billion devices are projected to be interconnected by 2020. Yet organisations ask: is this threat real for me and my workplace?

The answer is illustrated by a recent Australian healthcare organisation where a user simply clicked a message which had popped up reading 'Gift Notification'. This simple action was enough to allow the release of hundreds of malware items into the organisation's systems, and to send them out into the wider community as well. While in this case the incident was quarantined before it crippled the service provider, the organisation may not be as fortunate next time.

IF YOU SUSPECT DECEIT, HIT DELETE!

Cyber terminology is becoming unhappily commonplace in our daily professional and personal lives:

- Phishing is the fraudulent attempt to obtain sensitive information by disguising itself as a trusted entity in an electronic communication.
- Malware is a contraction of 'malicious software' and encompasses many forms of computer code which can destroy, disseminate or encrypt data.
- Ransomware, 'ransom software', is a type of malware that threatens to publish the victim's data or perpetually block access to it via encryption unless a ransom is paid. It is often spread through phishing emails that contain malicious attachments or links.
- Viruses are fragments of computer code that are spread when people transmit information to each other – for example, malware that is contained in an email.

- Worms are similar to viruses, but do not require active transmission – the code itself is enough to cause the infection to spread to other systems and harm them.

Approximately 43% of cyber-attacks are targeted at small businesses

IMPLICATIONS

For healthcare entities that have been subjected to a cyber-attack, the ramifications have been both severe and pervasive:

- Patient impact.
- Reputation impact – breaches attract significant publicity.
- Fines for private organisations.
- Time taken to recover.
- Cost to respond and recover (NB you are encouraging crime by paying the ransom).
- Loss of planned and future revenue.
- External scrutiny.
- Stress of dealing with the incident.

Recognising that there is no such thing as perfect protection, entities are compelled to make conscious decisions regarding what it will and won't do to protect itself; balancing risk and cost. Healthcare is depicted in the middle of the spectrum, but business complexity in our sector is rapidly increasing. There is growing data interoperability, digitisation, internet-connected medical devices, consumerisation and mobility. These changes will continue to raise the risk profile of healthcare, requiring an ongoing investment in security and education.

ACTIONS

At the most basic level, organisations need to ensure that data itself is backed-up and kept secure.

Professional storage involves regular and frequent backups on a strict schedule. Backups can be made on an hourly and daily basis so that data can be 'rolled-back' to a desired date before trouble arose. However, creating backups is only one half of the issue – organisations also need to know how they can re-integrate backed-up data once it is recovered.

APPROXIMATELY 30% OF USERS OPEN PHISHING EMAILS

- Never enter personal information in a pop-up screen.
- Beware of links in emails that ask for personal information.
- Never email personal or financial information.
- Communicate personal information only via phone or secure websites.
- Make sure you don't get hooked!

FEATURE

US surveys indicate that most medical professionals have concerns about cloud storage, and most have not embraced it. But it has certain advantages, providing for seamless and continuous updating of server security by professionals. Reputable providers will have multiple levels of redundancy that can protect from malware as well as physical threats such as fire, flood and theft. Anaesthetic billing software providers may be able to advise practices on cloud providers with whom they have integrated.

Approximately one-third of businesses believe a lack of end-user cyber security education was a cause of ransomware infection.

But technical solutions are only part of the response. Despite patients placing their trust in our healthcare services to safeguard their information and ensure it is not accessed inappropriately, market insights highlight that a large portion of clinical and other staff think they bear no responsibility for cyber security. So education is crucial. Approximately one-third of businesses believe a lack of end-user cyber security education was a cause of ransomware infection. Education and awareness programs should be continuous and targeted at each of the key failure points:

- general online cyber security poor behaviour
- password security
- email phishing penetration
- and indiscriminate Internet activity.

As healthcare continues to digitise, responses to the following questions will assist you determine if your own entity has room to improve.

Do you:

- Conduct a cyber-security risk assessment at least annually?
- Have a formal plan for managing cyber-security issues?
- Back-up critical systems and data at least daily on a physically separate hard drive?
- Have anti-virus programs installed on every device and server?
- Restrict who has 'administrator' credentials?
- Never use work devices for personal use?
- Install operating system patches on a timely basis?
- Maintain a register of end user devices and what information is accessed and by whom?
- Know what to do in the event of a cyber-security incident?
- Ensure you do not continue to use end-of-life systems that have no vendor support?
- Conduct regular user penetration testing (i.e. phishing simulation)?
- Conduct regular business continuity testing?

To counter the escalating cyber risk, the Australian Signals Directorate has published the 'Essential Eight' framework as part of its *Strategies to mitigate cyber-security incidents*. This is the most

FACTS AND FIGURES

- The health industry is the worst culprit for Australian notifiable data breaches.
- In most cases, it takes companies about six months to detect a data breach.
- Internet of Things (e.g. wearables) cyber-attacks were up by 600% in 2017.
- The annual cost of cybercrime damages is expected to hit $5 trillion by 2020.
- The average cost in time of a cyber-attack is 50 days.
- 95% of data breaches have cause attributed to human error.
- Cyber-security skills are in huge demand and thousands of jobs remain unfulfilled locally.
- Cybercrime is the fastest growing crime and quickly becoming more profitable than the illegal drug trade.

recognised local cyber-security framework to assist organisations to determine their exposure and to guide activities commensurate with individual risk profile and threat concerns.

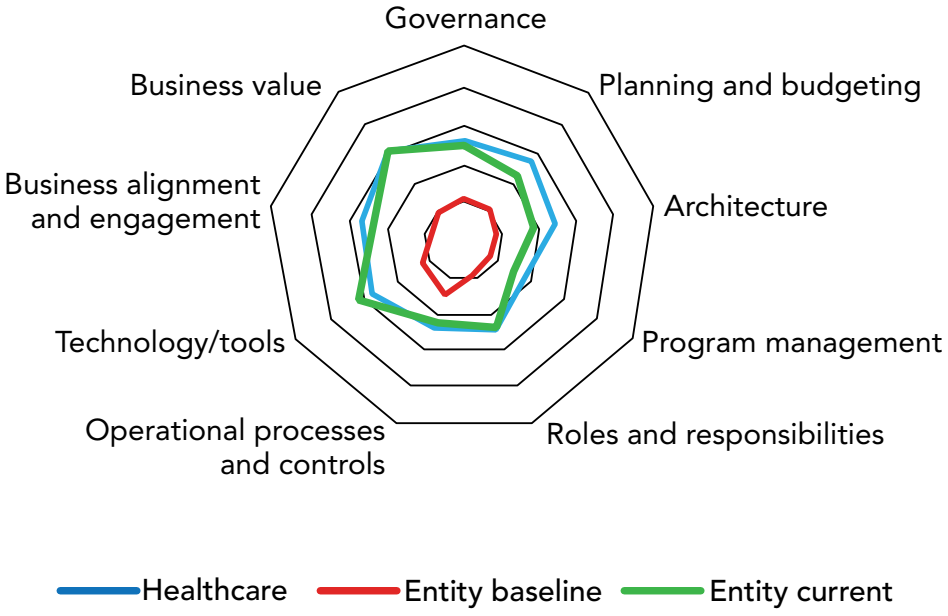
The eight points are grouped into two categories: prevention and recovery. In addition, there are process maturity benchmarks that enable assessment and industry comparison. A local healthcare provider's benchmark is depicted on the right.

At an individual level we should assume greater responsibility for cyber-security in our professional and personal environments: are you prepared to take the Cybersmart Pledge?

John Papatheohari
Group Director of Information, Cabrini Technology and Digital Transformation

with Dr Mark Suss
Melbourne, Victoria

Cyber-security process maturity benchmark



GET CYBERSMART – TAKE THE PLEDGE

1. To treat suspicious emails with due caution:
   a. Not opening email attachments;
   b. Not clicking on any link included within the email;
   c. Not forwarding the email internally to a work email ID; and
   d. Not replying to the email.
2. To protect my network username and password; this is your identity on the network and can be protected by:
   a. Not sharing your password with others;
   b. Creating a complex password;
   c. Changing default passwords; and
   d. Not using your work passwords for personal websites.
3. To lock my PC before walking away from my desk; this will prevent other people accessing my computer.
4. To shut down my PC at the end of the day.
5. To always remember to close my session when sharing a computer and using tap-on/tap-off;
6. To not browse websites inappropriate for my job or click on unrelated URL links (e.g. adverts).
7. To not connect any system not supplied by my organisation to the network without IT services' approval.
8. To not use software that has not been approved by IT services.
9. To report suspected security concerns to the IT service desk.
10. To promote cyber-security awareness within my organisation and the health sector.

I agree to abide by the cybersmart pledge 10 directives

FEATURE

TAKING THE SOCIETY'S JOURNAL, *ANAESTHESIA AND INTENSIVE CARE*, FURTHER INTO THE DIGITAL AGE

Most Society members will have noticed by now that, since the beginning of 2019, *Anaesthesia and Intensive Care* (AIC) is being published in partnership with SAGE Publishing.

Our previous entirely independent inhouse publication model has served the Society well since the Journal's inception in 1972. This model has evolved through various iterations from submission and publication on paper only to online submission and then distribution via all of paper copies, online access and mobile app.[1,2] The pace of progress in digital scholarly communication has increased exponentially in recent years, however, making it very much more difficult for us to keep up with the industry standards.[2] A move away from entirely in-house production and distribution would be one of the more significant things to occur in the history of the Journal, so the decision to move to partnership with an independent scholarly publisher was, therefore, not taken lightly.

WHY CHANGE?

The background for this decision was outlined in the Journal Report presented to the Society's Annual General Meeting in 2018 and also discussed in some detail in the editorial series announcing the change in the Journal itself.[1,2] The main reasons were twofold: to facilitate the implementation of industry-standard digital publication features that could not be readily provided in-house, and to mitigate the viability risk inherent in our in-house production model.

The viability risk was not something that had been fully appreciated until relatively recently but the Journal has been heavily dependent at any given time on just two or three highly skilled production staff working within quite bespoke production and publication systems. The coincident departure or extended leave of the majority of these staff, an event that occurred twice during 2015-2016, highlighted the human resource fragility of the Journal's production and distribution arrangements.

Independent in-house publication has also come at the cost of not being included in the publisher 'big deal' bundles purchased by institutional libraries, resulting in falling subscriptions and advertising revenue, and thus also threatening long-term Journal viability.

At the same time, scholarly communication has become increasingly complex, and along with that the

expectations of both authors and readers. Publishers are thus now required to be advanced technology providers, something that is also nearly impossible for societies to achieve in-house. While our bespoke journal website and mobile app allowed a unique degree of independent control, that same bespoke nature significantly limited the degree to which we could rapidly adapt to the changing face of scholarly communication and the balance of benefit has shifted. Moreover, as with most society journals, the editors and editorial board members are all clinicians and/or academics in the relevant specialty fields, so very few of us have any formal education in scholarly communication, and that includes the author! This makes it essentially impossible for us to stay completely in touch with the bewildering requirements for the effective maintenance of a truly up-to-date scientific publication. These necessary digital resources and expertise are, however, precisely the bread and butter of independent publishing companies.

As might be expected for a change of this magnitude, transition to the new arrangements has been complex and challenging.

WHY SAGE PUBLISHING?

With these factors in mind, in 2016 the Editorial Board convened a sub-committee to consider outsourcing production. By mid-late 2017 it was becoming increasingly obvious that this change would be necessary and inevitable, so expert advice was sought and in early 2018 a publishing consultant was engaged by the Society to assist in the process. Proposals were then sought from suitable publishers, a shortlist was made, presentations were held in mid-2018 and SAGE Publishing was ultimately selected by the Society as the Journal's publishing partner for the immediate future.

A CHALLENGING TIME

As might be expected for a change of this magnitude, transition to the new arrangements has been complex and challenging. The timing of the contractual arrangements meant that the timeframe for transfer of manuscripts from our old submission system and setup of the new submission arrangements would be extremely tight for publication of the early issues of Volume 47 (2019). As a result, the first issues for the year have each been somewhat delayed, both with online publication and even more so with print distribution. Publication is, however, gradually moving back into the usual schedule.

Authors, reviewers and editors have also had to adapt to the new submission system. There are some similarities in the interfaces, processes and workflows, but also many important differences. These have and will continue to present challenges but we hope everyone involved will be patient with us as we get used to the new arrangements.

Regular app users will also have noticed the lack of new content accessible via that platform since the beginning of the year. The AIC app drew its content from the previous website and this is no longer possible due to its bespoke nature and the decommissioning of the old website. Few publishers continue to maintain apps for their journals anymore, so a new bespoke app would need to be commissioned by the Society to function within the current publication arrangements. This would also require complex workarounds so at this point it is a potential project that remains under consideration. SAGE's AIC website is, however and unlike our previous website, platform responsive so it automatically adapts and functions well on personal devices, substantially reducing the potential benefit of rebuilding a separate app. A full-issue PDF can also be downloaded from the website for subsequent offline reading.

NEW BENEFITS HAVE BEEN REALISED

Along with a responsive design website, partnership with SAGE has already brought several other industry-standard features to AIC, including:

- e-Publication ahead of print, substantially reducing the time from acceptance to publication.
- Assignment of digital object identifiers (DOIs) to all new papers as well as our entire back catalog.
- Open access alternatives for authors.
- Version tracking.
- ORCID (Open Researcher and Contributor ID) integration for authors.
- Publons integration for recognition of peer reviewer contributions.
- Altmetrics for individual papers.
- Linkage with social media.
- Integration with data repositories such as Figshare.
- Perpetual electronic archiving of the journal in CLOCKSS.

MAKE THE MOST OF OUR NEW AIC PUBLISHING PARTNERSHIP

As before, online access to all content more than 12 months old is completely free to everyone (journals.sagepub.com/home/aic). Members can have immediate access to the more recent content and this process is also similar to previously: log into the ASA website (asa.org.au) first with your Society username and password, navigate to Educate ▸ Anaesthesia and Intensive Care, and follow the links from there. ASA website visitors who haven't logged in yet will instead see Educate ▸ Publications ▸ Anaesthesia and Intensive Care and will then be presented with a login screen. A link to the login screen for Members can also be found on the old journal website (aaic.net.au), and also on the new SAGE AIC website (Access Options ▸ Society in the top right corner).

Members will continue to receive a print copy of the latest issue unless they opt-

FEATURE

out. Choosing not to receive print issues provides environmental and cost benefits so please contact membership@asa.org.au if you don't need to receive a print copy and prefer to access the journal online only. Keep in mind that online access to both individual new articles as well as full-issue PDFs will be available well before the journal arrives in print form, so do consider this option.

To ensure Members are aware when new issues are accessible, notices will be distributed via email from the ASA when new issues appear online. Additionally, announcements will be made by the ASA via social media. Readers and anyone else can also sign on directly with SAGE for individual e-content alerts for full issues and/or when individual papers are published online ahead of print. Please visit the SAGE registration website (journals.sagepub.com/action/registration) for more information about creating a profile for this purpose.

After several years of consideration and planning, this new step forward for the Journal into the digital age has been both necessary and challenging. Some substantial benefits have, however, already been realized and there should be more to come. We are confident this development will better allow the Journal to continue to effectively fulfill its mission on behalf of the Society for its Members.

John Loadsman
Chief Editor
Anaesthesia and Intensive Care

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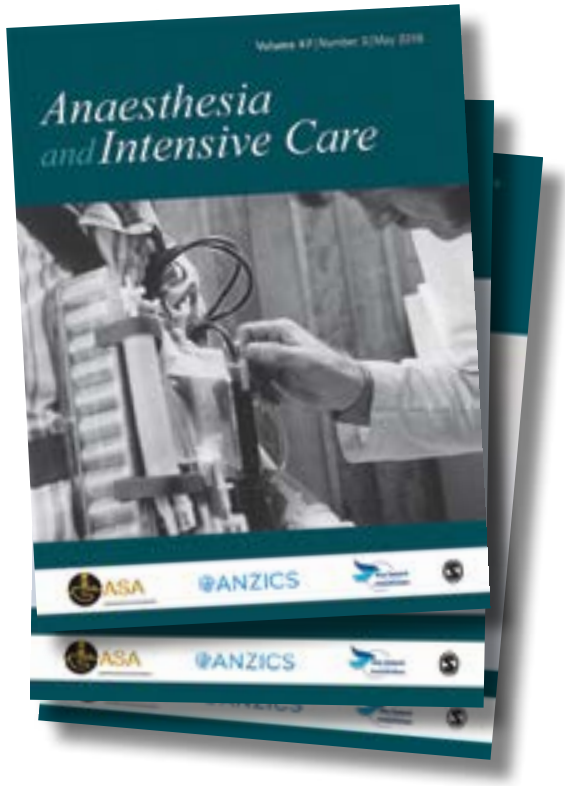
1. Loadsman JA. 'Why does the Australian Society of Anaesthetists have a journal? Part I'. *Anaesth Intensive Care* 2019; 47: 7-9.
2. Loadsman JA. 'Why does the Australian Society of Anaesthetists have a journal? Part II'. *Anaesth Intensive Care* 2019; 47: 116-119.



DONATIONS WELCOME

As we go to print the ASA is pleased to announce that both the Harry Daly Museum (HDM) and the Richard Bailey Library (RBL) have been granted deductible gift recipient status by the Australian Taxation Office (ATO). By receiving this endorsement from the ATO it means that any cash donations to the HDM and RBL are now tax deductible.

This also means that if you are donating an object to the HDM or a book to the RBL it may also qualify as a tax-deductible donation. For more information regarding donating an item to the HDM or RBL; or for information regarding making a cash donation please contact the **ASA's Curator, Librarian and Archivist on 02 8556 9708 or email BMcMartin@asa.org.au**


View of downtown Calgary

CANADIAN ANESTHESIOLOGISTS' SOCIETY – 2019 ANNUAL MEETING

CALGARY, ALBERTA – 21-24 JUNE 2019

It was my first time in Canada, so I was really excited to visit Calgary. The city parallels my hometown of Brisbane in that it is a busy city with main industries of energy, finance, transportation, technology, manufacturing and tourism. It also has a splash of culture with its micro-breweries, quaint cafes and green leafy parks every couple of blocks.

The location of the CAS meeting was the Telus Convention and Exhibition Centre in downtown Calgary, right next to Olympic Park and the Glenbow Museum. It was the perfect location, with many restaurants and cafes just a stone's throw away.

The conference started on Friday night with a Welcome Reception at the Exhibition Hall. It was great to meet up with a couple of Australian trainees who were also attending the CAS meeting, and we enjoyed exploring the exhibition stands as a group – relishing in the subtle differences between Australian anaesthesia and Canadian anaesthesiology. For example, it was pleasing to know that Australia is quite technologically advanced with our visco-elastic haemostatic assays of coagulation, using the ROTEM Sigma cartridges in many of our hospitals, whilst the cartridge technology is not available in Canada yet – anaesthesiologists are required to pipette each vial themselves. Furthermore, Australian anaesthetists are proficient in the use of Target Controlled Infusion (TCI) pumps – in fact, trainees are expected to understand the intricacies of the models for the primary exam – yet Canada currently only use manual pumps.

I was also intrigued to learn about the differences in anaesthesiology training whilst attending the Trainee Reception in the same evening. Canadian final year medical students are required to choose their specialty prior to graduation, as their first year job will be as a PGY1 Anaesthesiology Resident.

> …Australia is quite technologically advanced with our visco-elastic haemostatic assays of coagulation, using the ROTEM Sigma cartridges…

Whilst this 'stream' will include ICU and ED rotations, the five-year training program commences immediately after medical school. Residents undertake formative oral examinations each year with their final exams in fifth year the equivalent of our fellowship examination (although the content contains material from our primary examination). The

FEATURE

model is competency based rather than the traditional apprenticeship model. The change was introduced due to multiple environmental influences, such as pressure to maintain efficiency of care, changing patient safety requirements, and introduction of resident duty hour restrictions. This significantly impacted the amount of time available for clinician supervision of trainees, and led to the need to assess individual learners according to standard definitions of 'competency'. It was very interesting to hear trainees' experience with the program, including one resident who had worked in the UK for five years prior to moving to Canada. In contrast to the UK and Australia, anaesthesiology residents are rarely left unsupervised – particularly after hours.

Our very own Australian anaesthetist, Dr Kate Leslie, delivered Saturday's plenary presentation. Having seen Dr Leslie present previously at ANZCA ASMs, I was delighted to hear where her research is up to currently – and I eagerly await the outcomes of her BALANCED trial later this year – an evaluation on the effect of general anaesthesia with a deep (BIS = 35) or light (BIS = 50) anaesthetic. Her talk on 'Depth of Anaesthesia and Long Term Outcomes' was a great reminder to me about the difficulty of validating our depth of awareness monitors in measuring 'excessive' depth and the concomitant risks.

Whilst there is robust evidence to support the use of fibrinogen concentrate over cryoprecipitate, it appears a cost barrier in Australia still prevents its routine use.

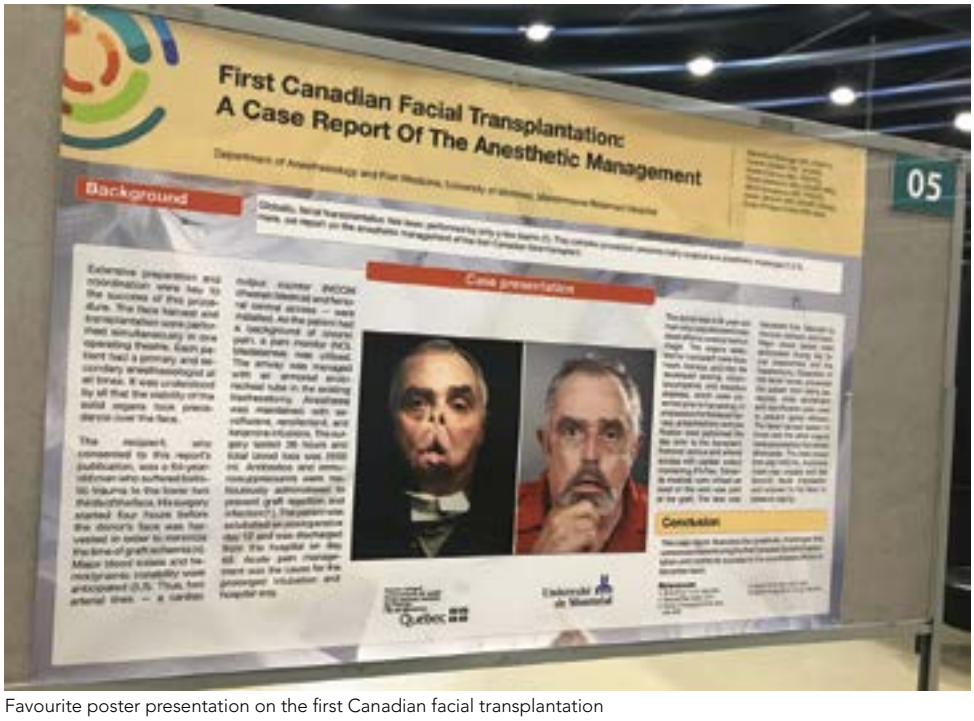
I attended a diversity of talks across the day, ranging from interesting cases in cardiac anaesthesia (an uncorrected AV canal abnormality with Eisenmenger syndrome requiring a phaeochromocytoma resection!) to Preventing Perioperative Neurologic Injury During GA (a great Part 2 revision session!) The highlight on Saturday was the Update in Perioperative Blood Management. I really enjoyed this session both as revision for my transfusion practices in the exam, but also as an example of difference in practice between Canada and Australia. It appeared to me that thrombo-elastometry measurements were still a fairly new and novel concept in regional and rural centres in Canada, perhaps even more so than Australia. In this respect, I consider Australia quite ahead! However on the flip side, Canada is routinely recommending the use of fibrinogen concentrate and prothrombinex concentrate rather than cryoprecipitate in their transfusion guidelines. Whilst there is robust evidence to support the use of fibrinogen concentrate over cryoprecipitate, it appears a cost barrier in Australia still prevents its routine use. Watch this space…

During the breaks in the exhibition hall – I really enjoyed watching the anaesthesiology residents participate in the 'Simulation Olympics'. The teams of 3-4 were presented with a number of crisis scenarios such as power failure, cardiac arrest, LA toxicity and CICO – they were judged on their clinical performance and anaesthetic non-technical skills. It was a novelty for me to hear them request

Attending the CAS meeting


Hannah on the glass deck, Calgary Tower

Trying out Cook's cricothyroidotomy cannula



Favourite poster presentation on the first Canadian facial transplantation

"100 micrograms of epinephrine and 500cc of ringers lactate" rather than "100micrograms of adrenaline and 500mL of Hartmanns". There were a number of very interesting posters presented as well.

On Sunday I attended the critical care update for anaesthesiologists which provided some useful insight into sedation, ventilation strategies and massive haemorrhage strategies. Frailty is a topical area in anaesthesia so I was glad to attend a session on it to learn what Canadian anaesthesiologists think of the issue. The concept of prehabilitation, post op HDU and post-operative complications were all discussed.

As mentioned in my application, I have an interest in obstetric anaesthesia so my two favourite sessions for the day were the obstetric session 'Cardiac Arrest in Pregnancy' and 'Symposium on the Obstetrical Patient with Cardiac Disease'. I was impressed at the capabilities of the Montreal Heart Centre in managing what sound like nightmare/textbook fellowship exam questions – the obstetric patient with a Fontan circulation and no antenatal care who presents dyspnoeic; the patient with a patent ductus arteriosus who presents with fatigue in second trimester; or the obstetric patient with coarctation of the aorta and a berry aneurysm… It was a highly engaging and stimulating session – I learnt that a slowly uptitrated epidural is not always the answer!

Monday's sessions continued my interest on the obstetric and cardiac theme – I thoroughly enjoyed listening to the pro-con debate on a topic I'd previously done a journal club presentation on – Carbetocin vs Syntocinon: Superiority or Non-Inferiority? It was a relief to know my knowledge was still up to date! The symposium on patients with adult congenital cardiac disease that followed was a reminder of the advancements in medicine meaning we now see patients with heart disease who have survived to adulthood when they previously had not.

In conclusion, I am extremely grateful for the unique opportunity to attend the CAS Annual Meeting through the generous CIG scholarship from the ASA. I intend to present the highlights of the conference at my hospital's morning meeting and encourage my fellow trainees to apply for the scholarship in the future. It has refreshed my knowledge and strengthened my interest in a number of anaesthesia subspecialty areas. It has certainly reaffirmed my commitment to a progressive and responsive education in Australia. The experience will be one I will never forget, thank you!

Dr Hannah Bellwood
Princess Alexandra Hospital, Brisbane, Queensland

REGULAR

CPD – JUST DO IT

The AHPRA CPD registration standard states that Australian anaesthetists are "required to participate regularly in CPD that is relevant to their scope of practice". Anaesthetists are required to meet the requirements for CPD set by "the relevant specialist medical college" – for anaesthetists that is ANZCA.

Anaesthetists can choose a self-directed program of CPD if that program meets the requirements set by ANZCA. In practice, that means that anaesthetists are all required to follow the same standard.

Just google 'ANZCA CPD standard' or 'ANZCA CPD handbook' for details. The handbook is only available online.

CPD – WHY?

In the UK there is a complex system of recredentialling and a similar system has been mooted for Australia. However, Australia's current CPD system is already designed to maintain and develop knowledge, skills and performance – just like recredentialling.

Note that the same standard is required whether practice is part or full-time.

CPD should be worthwhile. It is easier to complete CPD requirements when they are relevant, educational and enhance performance. Select activities that are of interest, convenient to achieve and represent value for your effort.

DO SOMETHING TODAY

- Make sure you have created a triennium plan: use the ASA template for a CPD plan and reflection; the template is available on the ASA website.
- Load iScanner on your iPhone or CamScanner on android.
- Journal reading: (max 10 points per year) scan/screenshot the first page of every article you read in *Anaesthesia and Intensive Care* as proof of participation.
- Remember committee work (max 10 points per year): scan/screenshot the first page of the agenda.
- Just a morning list? Consider spending

Practice type	Triennial minimum requirements					Annual minimum requirements
	CPD plan	Practice evaluation	Knowledge and skills	Emergency responses	Triennial evaluation	
Clinical Have contact with patients for the purpose of assessment/evaluation, diagnosis or treatment, or, where any procedures are performed. This is inclusive of FANZCA and FFPM practitioners.	Yes	100 credits (including two of the mandated activities)	80 credits	Two activities	Yes	Plan plus 30 credits
Non-interventional Neither a) adminster anaesthesia and/or sedation; nor b) work in a practice environment where it would be expected that the practitioner would be able to respond to an emergency situation (for example, a vasovagal event during an interventional pain procedure).	Yes	100 credits (including two of the mandated activities)	80 credits	N/A	Yes	Plan plus 30 credits
Non-clinical Are not involved in direct patient care	Yes	N/A	80 credits	N/A	Yes	Plan plus 15 credits

the afternoon doing a peer review. Twenty practice evaluation points for both the recipient and reviewer and that counts as one of two required mandatory practice evaluation activities per triennium. There are forms in the CPD resource section of the ASA website or hyperlinked in the college handbook.

- Print off some (a minimum of six) multi-source assessments (*today*) and hand them out in the morning. They should be ready for collating and assessment by the end of the day. Twenty practice evaluation points and the second of two mandatory practice evaluation activities per triennium. There are forms in the CPD resource section of the ASA website or hyperlinked in the college handbook.
- Get the two mandatory emergency response activities per triennium ticked off at the next NSC!

LOGISTICS

- Enter each activity and proof of participation contemporaneously.
- Consider setting up a diary alarm to enter activities regularly.
- For those anaesthetists who are not members of the college using a spreadsheet on Dropbox to enter activities (*and* proof of participation) is easy.
- Again, an app such as iScanner or CamScanner allows you to scan an attendance document or certificate *on the spot* and email it to yourself as a reminder to enter the activity.
- The pain of sorting through undifferentiated papers and certificates months after an activity should be sufficient incentive to enter activities as they occur.

ASA CPD CERTIFICATES

Every registered medical practitioner signs a declaration with their annual medical registration attesting to their compliance with CPD relevant to their practice. That should be sufficient proof of participation in CPD for accrediting bodies and hospitals. It is not. Most hospitals also require an actual certificate of compliance.

ASA members can easily get annual or triennial CPD certificates of compliance by submitting their activities and proof of participation to the ASA office. This can be by whatever means is convenient: Dropbox, USB or even paper.

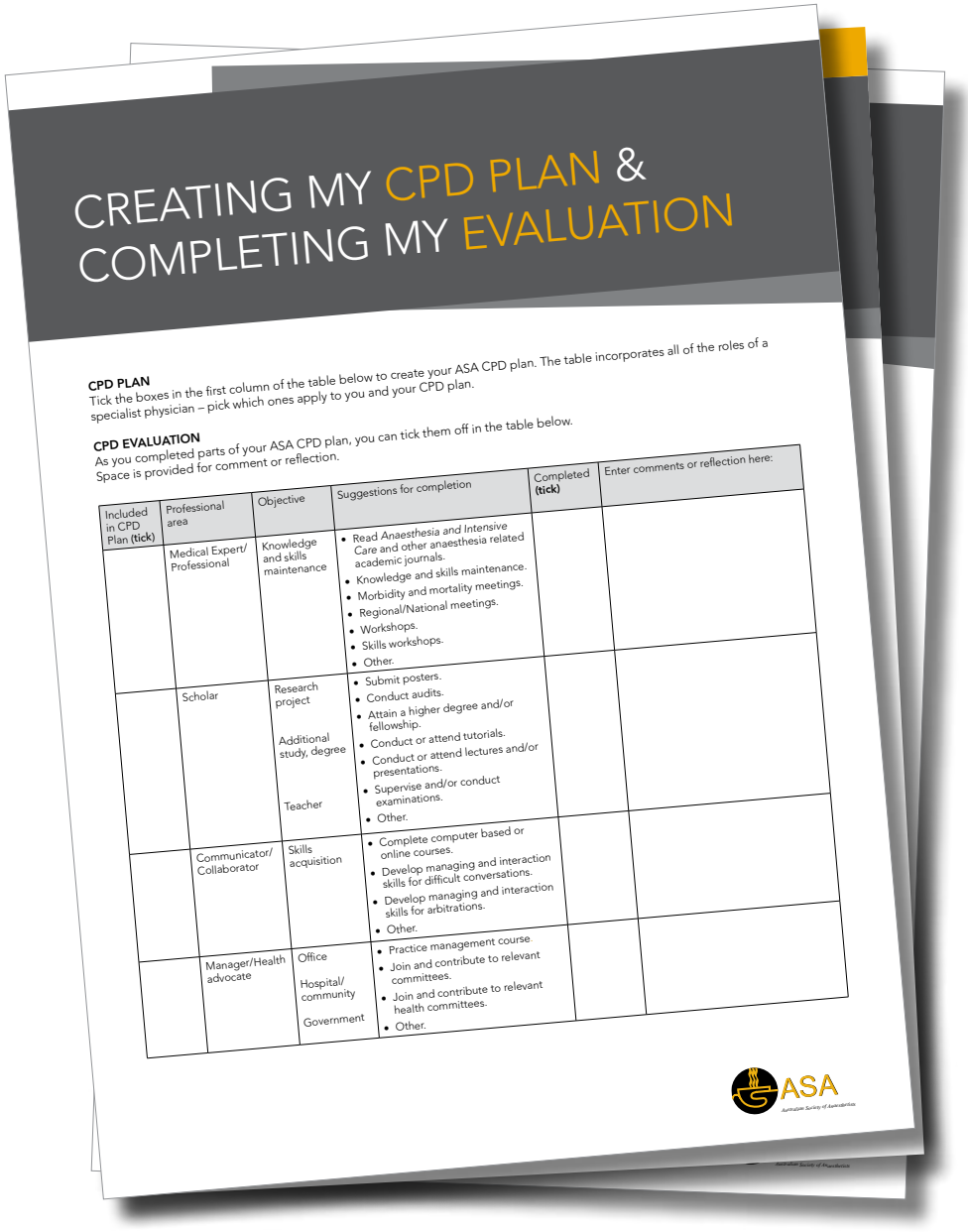
All CPD activities and proof of participation are audited to check for compliance with the standard. We aim to supply certificates as soon as possible.

If you have any CPD queries – please email the Education Officer (myself) directly at vidav@goape.com.au or membership@asa.org.au

CPD information and resources are on the members' section of the ASA website asa.org.au under the Education tab.

Best wishes to you for an effective and enjoyable CPD.

Vida Viliunas
ASA Education Officer



CREATING MY CPD PLAN & COMPLETING MY EVALUATION

CPD PLAN
Tick the boxes in the first column of the table below to create your ASA CPD plan. The table incorporates all of the roles of a specialist physician – pick which ones apply to you and your CPD plan.

CPD EVALUATION
As you completed parts of your ASA CPD plan, you can tick them off in the table below. Space is provided for comment or reflection.

Included in CPD Plan **(tick)**	Professional area	Objective	Suggestions for completion	Completed **(tick)**	Enter comments or reflection here:
	Medical Expert/ Professional	Knowledge and skills maintenance	• Read *Anaesthesia and Intensive Care* and other anaesthesia related academic journals. • Knowledge and skills maintenance. • Morbidity and mortality meetings. • Regional/National meetings. • Workshops. • Skills workshops. • Other.		
	Scholar	Research project Additional study, degree Teacher	• Submit posters. • Conduct audits. • Attain a higher degree and/or fellowship. • Conduct or attend tutorials. • Conduct or attend lectures and/or presentations. • Supervise and/or conduct examinations. • Other.		
	Communicator/ Collaborator	Skills acquisition	• Complete computer based or online courses. • Develop managing and interaction skills for difficult conversations. • Develop managing and interaction skills for arbitrations. • Other.		
	Manager/Health advocate	Office Hospital/ community Government	• Practice management course. • Join and contribute to relevant committees. • Join and contribute to relevant health committees. • Other.		

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1. www.asa.org.au/direct & download the Authorisation Form
2. Complete & sign the form
3. Return the signed form to ASA by email, fax or post

2. PAY ANNUALLY

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2. Phone: 1800 806 654
3. Return your remittance via post

3. PAY BY BPAY

1. Online: www.asa.org.au/payments
2. View 'Renewal Invoice'
3. Click on the PDF icon at the top to download invoice as PDF

For more information contact the **Membership Services Team** on **1800 806 654** or email **membership@asa.org.au.**

ASA
Australian Society of Anaesthetists

REGULAR

WEBAIRS NEWS

DISTRACTIONS IN THE OPERATING THEATRE

INTRODUCTION

Distractions in the operating theatre are believed to be one of the many contributing factors that may cause clinical incidents in the perioperative period. While there have been no randomised controlled trials in an operating theatre environment of which the authors are aware, this principle is generally accepted in the community where activities such as texting on mobile phones whilst driving are believed to cause road accidents.

CASES REPORTED

In the webAIRS database a search performed on 13 July 2019 revealed 24 reports where the word 'distraction' was used in the narrative and an adverse event or a near miss occurred as a result of the distraction. Seven of the reports were associated with a drug error which included two cases where the drug given was of the same class as the intended class, four where it was of a different class and one case where double the dose was given resulting in an overdose.

User error with a medical device occurred in nine cases. These were varied and included lost guide wires with CVP insertion, the use of a chlorhexidine impregnated catheter where a patient had recorded an allergy to chlorhexidine, failure to connect or turn on various devices, and a wrong site block.

There was a failure to notice something important in six cases, which included deterioration of the patient, a TIVA leak, an oesophageal intubation and a retained throat pack. In addition, there were two cases where failure of a piece of equipment caused distraction, making it difficult to monitor the patient but no adverse event occurred.

DISCUSSION

Distraction is known to increase the chance of error in the aviation industry[1] and, as a result, code 135.100 has been issued under the US Government code of regulations. It is commonly known as the sterile cockpit rule and states that no flight crew member may perform any duties during a critical phase of flight that is not required for the safe operation of the aircraft. There are specified critical phases of flight such as take-off and landing, and any other time as directed by the flight captain. All the incidents in this series occurred at a critical phase of anaesthesia. Most of them occurred either immediately before induction of anaesthesia or within the first 10 minutes of anaesthesia. A small number were associated with restoration of circulation and ventilation after coming off cardiopulmonary by-pass.

The American Society of Anesthesiologists issued a statement on distraction in 2015[2] and this contains recommendations that could be worth implementing in Australia and New Zealand.

Dr M. Culwick
ANZTADC Medical Director

Susan Considine
ANZTADC Coordinator

and the webAIRS case report writing group

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1. Electronic Code of Federal Regulations section 135.100. Flight Crewmember Duties. e-CFR data is current as of July 11, 2019. https://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=03efb7c1b34301bf39ff6d98084cdd45&rgn=div8&view=text&node=14:3.0.1.1.11.2.3.25&idno=14
2. Statement on Distractions. Developed by: Committee on Quality Management and Departmental Administration, American Society of Anesthesiologists. https://www.asahq.org/standards-and-guidelines/statement-on-distractions.

INSIDE YOUR SOCIETY

PROFESSIONAL ISSUES ADVISORY COMMITTEE

DR ANTONIO GROSSI
PIAC CHAIR

PIAC has been assisting members with enquiries relating to workforce issues, hospital accreditation, on-call and emergency roster participation, contractual arrangements, billing matters and downward pressure on fees. The wellbeing of anaesthetists is being compromised by increased demands with inadequate resources manifesting as work/life disharmony.

WORKFORCE

PIAC met with senior Department of Health officers in Canberra to discuss anaesthesia workforce challenges. The metropolitan oversupply of anaesthetists potentially decreases the quality of anaesthesia service provision, increases costs and may generate a poor value proposition for patients and the community. The ASA believes that training should be coupled with workforce service requirements and community needs. A sustainable anaesthesia workforce should remain 'fit for purpose' in the face of demographic changes and the changing patterns of disease. This requires real opportunities for continued professional development and consolidation of skills. A vibrant, viable, better-organised and coordinated anaesthesia workforce will deliver the care that is required.

The ASA believes that training should be coupled with workforce service requirements and community needs.

The Medical Workforce Reform Advisory Committee (MWRAC) are aware of stakeholder concerns regarding geographical mal-distribution, lack of coordination between training and community needs, specialty oversupply, service delivery matters, work-readiness following training and doctor-wellbeing issues.[1]

WELLBEING

The prospect of de-skilling, chronic underemployment and having to practice with less support and resources is causing distress for many anaesthetists. Despite overall spending on health being at an apparent all time high, (2016-17 $181 billion),[2] the lack of coordination in spending, particularly by state governments, has seen ageing infrastructure, inadequate service provision to meet increased population needs, unfair contracts and increased pressure for patients to pay either through premium rises or co-payments.

The ASA has been made aware of several contracts this year, across all sectors, that expose anaesthetists to potential clinical and financial risk. Due diligence and consultation with specialist advisors and other kindred organisations such as the AMA, is advised before committing to these arrangements. Dr Suzi Nou attended the Wellbeing SIG AGM in July, which discussed various tools and ways to help anaesthetists deal with work and life stressors.

ON-CALL AND ACCREDITATION

Several members have been concerned about threats of having their accreditation removed if they fail to participate in on-call arrangements. This issue has been covered extensively previously (ASA PS01 'The provision of 'out of hours' anaesthesia services'). The provision of emergency anaesthesia care is an important part of clinical care. There are many factors that must be considered when devising anaesthesia rosters including scope of practice, sub-specialisation, geographical availability, fatigue and coordination with other clinical, professional and personal commitments. Some anaesthetists find these demands overwhelming and are too ready to relinquish their existing accreditation. PIAC suggests working with local hospital administrations to develop mutually acceptable local solutions. In the meantime, please consider carefully before resigning from any accredited position. Let them make the first move.

In an effort to provide emergency anaesthesia services with some certainty for patients regarding out of pocket expenses, some anaesthetists have enquired about what advice to provide patients. The ASA would remind anaesthetists of the danger of collusion, price fixing or anti-competitive behaviour. Individual anaesthetists are free to set their own fees and referrers should be free to refer in the best interest of the patient. Providing optimum informed financial

consent is advised (ASA PS04: Informed Financial Agreement).

THE VALUE PROPOSITION OF PRIVATE HEALTH INSURANCE

The media barrage continues in earnest throughout 2019, blaming doctors for the perceived diminishing value proposition for patients retaining their private health insurance. Patients are decreasing their cover as premiums rise and exclusions and co-payments increase to maintain large profits ($1.35 billion, 2018)[3] and management fees ($1.1 billion, 2018. PHI CEO salaries commonly over $4 million pa). All Australian healthcare is ultimately, predominantly, government funded (Commonwealth and states 68.7%, patients out of pockets 16.5%, PHI 8.5%, 6% TAC, Worksafe, DVA and others). Recently Duckett[4] has questioned the purposes of private health insurance and the value for the government. Currently the Commonwealth spends about $6 billion on the private health insurance rebate and a further $3 billion on private in patient medical services. It is suggested that if the role of private health insurance is to 'complement' the universal care provided by Medicare, the argument is weak as individuals should pay themselves for making that choice.[4] Given that a large proportion of healthcare is currently delivered in the private sector, if the role of private health insurance is as a substitute for public funding, the case for subsidies is stronger.[4] The government saves money from work done in private when it is more economically efficient than when done in the public sector.[5] It must also be remembered that GPs are delivering private non-admitted care, and this is often fully or significantly funded by Medicare.

THE ARGUMENT HAS BEEN POLITICISED

It is suggested that care delivered in the private sector often does not reach the threshold of 'clinical need' in the public sector.[4] Is this 'clinical need' or merely what the 'government of the day can afford to pay'? This needs to be considered in the context of increasing patient expectations. The demands on Medicare may at times seem infinite and unreasonable. There is an opportunity cost for any episode of care delivered in the private or public sector. Excessive patient or supplier induced demand may lead to worse patient outcomes and costs overall.[6] Given that private health insurance is taken up by higher income earners, Duckett argues against government subsidisation on the basis of equity, access and fairness.[4] Even though the public hospital system could not absorb this extra work and waiting times would be longer for all, the politics of envy trump common sense.

COMMON SENSE

Many state hospitals' funding has stagnated or been reduced in real terms for too long.[7] The Medicare freeze has resulted in chronic underfunding of the whole healthcare system. This has placed increased pressure on healthcare workers to deliver more services with fewer resources. The private sector is being asked to assist with some public patients. Anaesthetists may facilitate this where possible and should be involved in organising and planning to ensure all stakeholders are treated fairly. It behoves all clinicians to deliver care that is clinically appropriate and warranted. In a recent audit of mainly single site tertiary Australian hospitals, Scott[6] found overuse rates of medical care above 30%. The drivers of overuse included medicolegal concerns, patient expectations, inappropriate end of life care decisions, fragmented care and lack of availability of previous results, cognitive biases and manifestation of the 'law of the instrument'.[6] Unnecessary procedures, investigations and treatments may be avoided by discussing the issues with patients more extensively and employing point of care clinical supports. 'Choosing wisely', 'Evolve' (RACP), clinical education and audit feedback may assist clinicians to make better choices.[6] New information technologies should be embraced to avoid duplication and improve the coordinated delivery of healthcare.

Providing sustained, meaningful care is more likely to lead to genuine job satisfaction in anaesthesia.

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ECONOMICS ADVISORY COMMITTEE

DR MARK SINCLAIR
EAC CHAIR

MEDICARE BENEFITS SCHEDULE (MBS) REVIEW

A number of changes to the MBS version of the Relative Value Guide (RVG) are likely to occur on 1 November this year, but at the time of writing they are still subject to further discussion. The ASA has, from the outset, opposed the Anaesthesia Clinical Committee (ACC) report, and will continue to speak against many of its recommendations. The ASA did not suggest or advocate for any of the changes to the MBS that will result from this process. The specific items being considered, and the possible changes, are listed in Table 1. Further details are available to ASA members by logging on to the members' section of the ASA website (asa.org.au), following the links *Represent/MBS Review*, and clicking on the link *MBS Review in Focus*.

Members will recall that, since these proposals were put forward by the ACC and MBS Review Taskforce, the ASA set up a MBS RVG Review working group, with expert representation from the Australian and New Zealand College of Anaesthetists (ANZCA) and the Australian Medical Association (AMA), as well as independent academic experts. As a result, after extensive discussions with the Department of Health and the Minister's office, an Anaesthesia Implementation Liaison Group (AILG) has been formed. The AILG will oversee the implementation of these November 1 changes (which are still not fully finalised at the time of writing). The AILG will also continue its work after this date, with the aim of continuing to improve and modernise the MBS RVG. Practising anaesthetists on the AILG include Dr Andrew Mulcahy, ANZCA Past President Prof. David A. Scott, Dr Michael Jones (ANZCA), Dr Matthew Doane, Dr Charles Nadin (rural GP anaesthetist, WA), and myself.

As the November date approaches, there has been a steadily increasing amount of feedback received by the ASA. It is therefore worth re-considering past and recent developments.

The ASA and ANZCA took full advantage of the invitation from the MBS Review Taskforce to nominate anaesthetists to join the ACC, which was given the duty of reviewing the MBS items for anaesthesia services.

Nothing further was heard by the ASA, and none of our nominations were successful.

To this day, the process of the formation of the ACC remains opaque. However, it is revealing to note what the MBS Review Taskforce Chair, Prof. Bruce Robinson, had to say about this in a recent talk to an audience of general practitioners, at the RACGP General Practice Owners' National Conference:

> *(It was important that)... we didn't have people trying to feather their own nest… We have tried to choose people who we think will act in the best interests of the community and the profession rather than themselves.*

Regarding anaesthetists specifically, Prof. Robinson said:

> *Anaesthetists make a lot of money doing a list of colonoscopies, but they don't make a lot of money doing an anaesthetic for that complicated head and neck cancer where they have massive airway protection problems etc. That doesn't seem fair. And yet, when we tried to take those suggestions to the anaesthetists, we came out with bloody noses. Those guys who are doing the colonoscopy lists will guard them with their lives. And blow the guy who is doing the complicated stuff in the public hospital. They don't care about that.*

It was also revealed that the MBS Review was Prof. Robinson's own idea, inspired by a conviction that clinicians needed to take responsibility for making it harder to "game the system".

It is not only the ASA which objects to this and other aspects of the speech. ASA Treasurer Dr Andrew Miller was quoted in *Australian Doctor* magazine:

> *Professor Robinson has revealed the misguided Robin Hood complex that has biased the outcomes of the MBS review into anaesthesia. The review is now off the rails for many specialties and should be put on hold while a new chair is appointed. Professor Robinson must now resign or be sacked.*

The AMA also responded, with the Federal Council describing the speech as containing "unjust assertions of opinion that appear to describe a philosophy inconsistent with the stated aims and purpose of the review" and stated that "these opinions and philosophy, rather than rigorous data, are being influential in the outcomes and Medicare rebates for patients are in many instances under unjust attack as a result".

The Chair of the Ophthalmology MBS Review Committee, Dr Brad Horsburgh, stated "the transcript of his speech speaks to a widely held view that there is an ideological agenda at play. And that is consistent with the impression that I have formed over the last six months."

In a fee-for-service system, it is inevitable that a series of shorter-duration services will attract a higher total fee than a single service provided over the same time frame. To an extent, this is not inappropriate. In the case of anaesthesia each individual patient will require pre-anaesthesia assessment and planning, commencement of anaesthesia, emergence, and handover to recovery room staff. The workload can be quite demanding, as we all know. If the philosophy of the MBS Review Taskforce personnel is to remove fee-for-service medicine, they are quite welcome to progress their agendas in a democratic society. However, the MBS Review is not the appropriate forum for this.

Most interestingly, Prof. Robinson failed to note that it is not only anaesthetists who commonly perform a series of shorter-duration cases. Many other specialties experiencing a high-volume patient workload also generate higher incomes. And supposedly, the MBS Review was not about the money.

Furthermore, Prof. Robinson appears to have overlooked a fundamental fact regarding the "unfair" treatment of the "complicated head and neck cancer" cases to which he refers. Under the ACC's

Table 1: MBS changes being considered for 1 November 2019

MBS Item	Anaesthesia Service	Change
11507	Respiratory monitoring	Minor change to descriptor
11512	Respiratory monitoring	Minor change to descriptor
18216-27	Epidural analgesia	Minor change to descriptor
20142	Lens surgery	Decrease from 6 to 5 units
20144	Corneal transplant	Decrease from 8 to 7 units
20145	Vitrectomy	Decrease from 8 to 7 units
20160	Nasal surgery	Change to descriptor
20162	Radical nose/sinus surgery	Change to descriptor
20410	Cardioversion	Decrease from 5 to 4 units
20705	Diagnostic laparoscopy	Delete, use 20706
20706	Upper abdo laparoscopy	Change to include lap chole
20745	Upper endoscopy (bleeding)	Include ERCP (item 30484)
20750	Upper abdo hernia	Increase from 4 to 5 units
20790	Upper abdo laparotomy	Specify 'open' chole
20805	Diagnostic laparoscopy	Delete, use 20806
20840	Laparotomy	Change wording to 'open'
20902	Anorectal procedures	Change wording
20953	Endometrial ablation	Delete, use 20952
21922	CT, MRI, DSA	Decrease from 7 to 6 units
21926	Fluoroscopy	Decrease from 5 to 4 units
21927	Barium enema	Delete, use 20902
21936	TOE	Decrease from 6 to 5 units
21952	Muscle biopsy for MH	Decrease from 10 to 4 units
22001	Autologous collection/reinfusion	Delete
22002	Transfusion	Restrict to homologous (?10%)
22012/4	Pressure monitoring	Wording change
22025	Art line	Wording change
22018	Respiratory monitoring	Delete
22031/6	Neuraxial analgesia	Wording change
22040-50	Nerve/plexus blocks	Delete
22041	Nerve plexus blocks, new item	2 units
22042	Complex eye block – new item	1 unit (?used in 75% of 20142)
22051	TOE	Change descriptor
22070	Cardioplegia	Delete
23021-83	Time items	Remove 5-minute intervals
25000	ASA-3	Minor wording change
25015	Age >70	Change to age >75
25015	Age <1	Change to age <3
25210	Assistance at epidural blood patch	New item, 1 unit

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Table 2: ACC recommendations for deletions*

Item	Service	Medicare Funding 2018-19
22001	Autologous blood collection/transfusion in association with anaesthesia	$520,000
22008	Double lumen ETT in association with anaesthesia	$328,000
22012/4	Invasive pressure monitoring during anaesthesia	$7.9 million
22015	Right heart balloon catheterisation in association with anaesthesia	$515,000
22018	Advanced respiratory monitoring during anaesthesia	$5.9 million
22025	Arterial cannulation in association with anaesthesia	$7.9 million
22031/6	Epidural/spinal agents for post-op analgesia, in association with anaesthesia	$7.2 million
22070	Administration of cardioplegia solution during cardiopulmonary bypass	$650,000
TOTAL		$31 million

* Changes under consideration for 1 November appear in red

Table 3: 'Overvalued' items ACC proposed to cut*

Item	Anaesthesia for:	RVG Units	ACC Proposal	RVG units Nov 2019
20104	ECT	4	2	4
20120	Ear procedures	5	4	5
20140	Eye procedures	5	3	5
20144	Corneal transplant	8	6	7
20145	Vitrectomy	8	6	7
20160	Nose/sinus procedures	6	5	6
20170	Intra-oral procedures	6	5	6
20410	Cardioversion	5	3	4
20690	Percut. spinal procedure	5	4	5
20910	Cystoscopy	4	3	4
20914	TURP	7	6	7
20943	Oocyte retrieval	4	3	4
20953	Hysteroscopic ablation	5	4	4
21114	Marrow biopsy	5	4	5
21912	Spinal discography	5	3	5
21922	CT, MRI, DSA	7	6	6
21936	TOE	6	4	5
21943	CVC insertion	5	4	5
21945	LP/epidural injection	5	3	5
21952	MH muscle biopsy	10	4	4
21955	EEG	5	3	5
22900/22905	Dental procedures	6	4	6

* Changes under consideration for 1 November appear in red

series of recommendations, which he has supported very strongly, the MBS rebates for these anaesthesia services would also have been decimated.

The draft report of the ACC was made available to a small group of ASA office bearers in June 2017. This was only made possible by the ASA agreeing not to distribute the report to any other parties. (Soon after, when other experts such as ANZCA representatives and independent academics were brought on board, they too were authorised to receive the document, on the condition of confidentiality). The ASA has received a number of enquiries, concerned about our lack of consultation with other experts, prior to 2019. It is essential to note that this is because such consultation was forbidden by these confidentiality requirements, until the document was publicly released. This occurred just before Christmas 2018.

As can be seen from Table 1, a number of MBS items may either be deleted or have their funding decreased on 1 November. Again, it is essential that members realise that the ASA has been opposed to the ACC recommendations from the beginning, and has constantly expressed this view to the Minister, the Department of Health, the MBS Review Taskforce, and the ACC. However, it became abundantly clear that certain changes were going to go ahead, regardless of our position. But, as a result of our work, the massive range of changes which the ACC was determined to progress, resulting in cuts to almost 60% of anaesthesia services, are not proceeding at this time. Examples of such ACC proposals are shown in Tables 2 (deletions) and 3 (cuts).

Included in the large array of changes recommended by the ACC were a number of increases in unit allocation for base anaesthesia items. However, in almost every instance, when combined with the recommended changes to time items, and changes to/deletions of therapeutic

and diagnostic items, the total number of units for almost all of these services would have been reduced. The basis for the recommendations for deletions of therapeutic and diagnostic items (Table 2) was that they represent a "perverse incentive" for anaesthetists to perform procedures on patients which "may not be required or the clinical requirement is ambiguous", and which can "expose patients to risk, or even harm". It was also stated that the RVG "should not be seen as a system open to manipulation for personal gain". Later in the report the ACC back-pedalled and stated that certain base items (115 in all) should have variable increases, "to compensate for the deletion of commonly co-claimed T&D items (which would otherwise result in an unwarranted reduction of the total rebates payable for these procedures)." This approach is clearly inconsistent with the ACC justification for deleting these items in the first place.

More importantly, however, it has been made clear from the outset that the MBS Review has no scope to introduce new MBS items, and that recommendations to increase funding for existing items would certainly not be automatically accepted. Rather, such recommendations would be subject to further review. It is therefore possible that the funding would have been entirely lost as a result of these proposed deletions.

Table 3 lists a series of items recommended for decreases, after the ACC's "reviewing the relevant items in comparison to other procedures in the RVG"; some on the basis that they now "do not require the same complexity to complete due to medical and technological evolution". How this can justify, for example, a 50% cut to item 20104 (anaesthesia for electroconvulsive therapy), making it the lowest-rebated base anaesthesia item in the MBS, or a 33% decrease in the funding for anaesthesia for dental procedures, remains a mystery.

Additionally, the financial figures in Tables 1 to 3 do not take into account another massive cut to Medicare expenditure on anaesthesia services, should the ACC recommendations have been implemented.

The ACC recommended sweeping changes to anaesthesia consultation items. The extraordinarily complex requirements for documentation and provision of written information to patients, would have made it extremely difficult to justify the charging of an anaesthesia consultation item at all, in many cases. There is simply not time in a busy working day to adhere to all of the proposed requirements, and still progress an operating list in good time. Furthermore, the requirements for the higher-rebated, more complex consultation items would have made them virtually impossible to claim. By a (very conservative) estimate of a 10% drop in claims for these items, an additional amount of more than $10 million in funding would have been lost.

It must be remembered that these figures account only for Medicare expenditure. The rebates from private health insurers would also have been subject to massive cuts.

Finally, as previously reported, it must be noted that almost half of the changes listed in Table 1 were progressed by the Department of Health, at a time when the ASA believed they were still subject to further discussion. They were put into the Federal budgetary process, and now, we are informed, cannot be reversed without full Cabinet approval. The delays in progressing government business during "caretaker mode" leading up to the May election, meant that this could not be achieved in time for the November 1 MBS update. This situation has approximately doubled the cost savings to Medicare, to over $13 million.

The DoH has however agreed that AILG assessment of the impact of these extra cuts is important, and that review will be ongoing. In particular, the proposed deletion of item 22070 (administration of cardioplegia solution during cardiopulmonary bypass) has been identified as requiring "priority review" after six months. The ASA did not suggest or agree to the cuts proposed by the ACC, and will continue to advocate on behalf of the specialty.

AUSTRALIAN DEFENCE FORCE (ADF) PERSONNEL

As members will recall, Bupa recently took over the responsibility of administering the funding of healthcare for serving ADF personnel. Prior to this, Medibank Health Solutions had the role for approximately seven years. Anaesthetists who signed an agreement with MHS were paid at $55 per RVG unit (this was never indexed) but those who continued to charge fees according to the AMA schedule were paid.

Even after 1 July 2019, when Bupa took over, the situation remained uncertain. Bupa continues to offer the non-indexed value of $55 per unit. However, some anaesthetists have been informed that $55 will be offered to everyone, regardless of whether or not they sign an agreement, while others have been told they will be paid their "usual" fees.

Members are reminded that anaesthetists are under no obligation to sign agreements with any insurer. You should consider your own individual circumstances, and set your fees independently. The ASA would certainly be interested to hear of members' experiences in billing ADF personnel, but cannot recommend what fee to charge.

INSIDE YOUR SOCIETY

POLICY UPDATE

PRIVACY AND THE MEDICAL DIGITAL WORLD

There is no denying that in the modern world, we are quite spoilt when it comes to technology. Many of us will even admit that it is something we simply cannot live without. From speedy access to the internet on-the-go, to the ability to instantly get in touch with almost anyone in the world by dialling just a few digits. Recent technological developments have changed the way we live our lives and moved rapidly into the new digital health services transforming how health care is provided and experienced in Australia.

The healthcare industry is one of the last industries to be disrupted by digital technology. It arguably has the most to gain, particularly from timely, accurate communication and clinical improvements, especially medication safety. All healthcare providers in Australia have professional and legal obligations to protect their patients' health information. Establishing and maintaining information security practices is an essential professional and legal requirement when using digital health systems in the delivery of healthcare services.

How has technology changed the context of medical privacy as we move into the world of digital transformation? In its broad definition, privacy relates to the right to prevent or limit access to records or other private information to others including limiting the access on a person's right to see their own records. The decision of *Breen v Williams*[1] highlighted shortcomings in the common law in relation to the right of patients to access their own records, which are regarded as the property of the doctor. Since this case, privacy within the medical world has evolved over time. Commencement of *The Privacy Act* 1988 (Cth) created the opportunity for patients to access their own health records. *The Privacy Act* affords people the right to access health information held by private sector health providers and other private organisations.

The My Health Record (MHR) system contains online summaries of an individual's health information which replaced the Personally Controlled Electronic Health Record (PCEHR) or eHealth Record within the digital health record system. The use of Healthcare Identifiers (HI), and access to the My Health Record system, are governed by the *Healthcare Identifiers Act* 2010[2] (HI Act), the *My Health Records Act* 2012, the My Health Records Rule 2016, and the My Health Records Regulation 2012. The HI Act requires that an organisation take reasonable steps to protect healthcare identifiers from misuse, loss, and unauthorised access, including modification or disclosure.

In 2019, all Australians have a MHR, unless they choose not to. The majority of the health bodies are of the opinion that the digital record will improve care but this opinion differs amongst privacy advocates who push the fact that it is an 'uncontrolled' data dump. Even with the safeguards, the system takes too much information, stores it too simply and shares it too freely.[3]

This leads us to question the benefits of the MHR system to practitioners. Practitioners involved in compensation claims arising from medical negligence have noted the critical role failures of communication caused in poor medical treatment outcomes. These failures include incomplete medical histories being obtained, for example from a patient presenting to hospital with complications post-operatively where the hospital fails to seek additional information from other treating health providers, such as the patient's general practitioner, and referring doctors failing to pass on critically relevant health information. Other instances involve test results not being forwarded on, or being properly communicated, to other health practitioners involved in the patient's care. Cases also involve poor processes for documenting allergies, patient sensitivity to medications or dependency on analgesic medication involving 'doctor shopping'. With such issues it seems like the access to a patient's digitalised health records will likely enhance patient safety by enabling health care providers access to critically relevant health information.

In 2018, hundreds of medical files were found at the former Garrawarra Centre for Aged Care in Helensburgh, New South Wales.[4] The files, which had been mixed up with finance documents, were left behind when residents moved to a new facility. They contained information, such as specific conditions, treatments and medications, belonging to more than 400 patients from 1992 to 2002.

Similarly, in a more recent case in 2017, John Fawkner Private Hospital was investigated for breaching the privacy of patients after paper records were found in the street.[4] The documents referred to depression, weight loss surgery, dementia and incontinence including the patients' names, ages, diagnoses, treatment plans, medications and the days they had been in hospital and whether they lived alone.

In a medical environment, where there

are possibilities for important paper records to be misplaced resulting in detrimental outcomes, there seems to be an obvious practical benefit to a single point of data entry medical records.

With digital records there is also the question of the vulnerability of the system to unauthorised access. The major risk for the MHR system is the possibility of unauthorised access to the system by way of cyber-attack. Digital health records and databases, though they have several advantages over physical record-keeping, are not watertight.

In March 2018, medical records held by Telstra Health were left exposed to cyber-attacks due to a flaw in its medical software 'Argus'. The Argus software is used by hospitals, general practitioners, specialised, primary health networks and allied health care providers, and allows healthcare professionals to share patient information. It was identified that the breach could have given an attacker access to download a copy of the medical server's database, although it is not believed that occurred in this instance. Therefore, it is crucial that the ongoing system design of MHR should be cognisant of similar issues arising from remote desktop connections.

In 2017, Google set in motion a plan to make its most significant play in the health space. The plan had two components, firstly to obtain the Electronic Health Record (EHR) of nearly every patient from the University of Chicago Medical Centre from 2009 to 2016, and secondly to file a patent for its own proprietary and commercial EHR system that would not be published until well after it had obtained hundreds of thousands of EHRs from the University.[5]

These EHRs are the most personal and sensitive information that exist about a person. The disclosure of EHRs here is even more egregious because the university promised in its admission forms that it would not disclose patients' records to third parties like Google for commercial gain. In its patent submission Google demonstrated its clear intent to commercialise the University's medical records prior to obtaining them. An article was published in a scientific journal describing the results of its research and the methodology it employed in analysing patients' medical records.

Google and the University has been sued in a potential class-action lawsuit, for allegedly sharing thousands of patient records without removing personal identifiers like provider notes.

Currently, consent does not need to be obtained from a registered healthcare recipient before a registered healthcare provider organisation uploads a document to the MHR system. A registered healthcare provider organisation is authorised to upload clinical information under Schedule 1, Part 2, Division 3, section 9 of the *MHR Act*. Here the fundamental element of the MHR system is at odds with the equitable and ethical duty of confidentiality owed by a health care practitioner to a patient.[6] It is also at odds with the underlying principles in both Commonwealth and State privacy laws[7] which provide that a health entity that holds information about a patient can only use or disclose the information for the particular purpose for which it was collected unless an exception applies.

The legal positioning in relation to patient consent clearly has developed since the court's decision in *Breen v Williams*.

Approximately ten years ago, for instance, the first iPhone was in use, Facebook appeared to be losing in the social media world to Myspace, and the GPS available in cars for an extra $1200 was inferior to what comes in phones today for free. Delivering on digital health does not seem like an easy exercise. With the aim to build modern Australia driven by patient-led healthcare there is a great need to acknowledge that there will be some large challenges in the decade ahead.

The Australian National Audit Office (ANAO) is currently conducting an independent assessment review of the My Health Record system. The main objective of this audit is to examine the effectiveness of the Australian Digital Health Agency's implementation of the My Health Record system.[8]

The ANAO report due in October 2019 will be an interesting overview of the MHR system. The report will also highlight whether the MHR digital system is as effective as the Australian Government asserts it to be.

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Policy Manager

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SAFE AND EFFECTIVE ANAESTHESIA THROUGH EDUCATION

MICRONESIA ANAESTHESIA REFRESHER COURSE
Marshall Islands, June 10-14, 2019

Micronesia encompasses an expansive archipelago of islands stretching across the northern tropical Pacific. The islands are noteworthy for their small size reflected in their etymology from the Greek words 'small islands'.

The archipelago is home to a loose association of six sovereign states. All are heavily dependent on overseas aid particularly from the United States which regards the archipelago as vital to its geostrategic interests.

During WWII the Micronesian islands were used as strategic stepping stones by Imperial Japan's conquest across the Pacific and then subsequently by the American's defensive response. As a result, some of the fiercest battles in the Pacific occurred across these small islands.

Most employment is within the public sector with an average per capita GDP of about US$2,000. Unemployment, particularly youth unemployment remains high. Most families rely on subsistence fishing within a very strong family network. Religion plays a strong role within the community. The population is almost entirely Christian, a legacy of the early Spanish colonisation.

Medical services vary tremendously across Micronesia. Many states are plagued by a chronic shortage of consumables, pharmaceuticals and pathology reagents. On some of the islands, regular electricity outages are the norm. Micronesia remains heavily dependent on visiting teams predominantly from the United States.

The delivery of safe and effective anaesthesia was identified by the World Health Organization in 2005 as one of the key pillars in addressing the global burden of surgical disease. The challenges of providing and maintaining a skilled workforce with access to continuing medical education are a stark reality in Micronesia. Prior to the introduction of the Micronesia Anaesthetic Refresher Course (MARC) by the ASA in 1994, anaesthesia was provided entirely by in-house trained nurses. There was a significant burden of

Conference delegates with the Minister of Health the Honourable Kalani Kaneko (middle row, first from left) and Dr Robert Maddison, Chief of Staff (front row, first from left)

The Minister of Health, the Honourable Kalani Kaneko, welcomes delegates to the conference

Constructing a Leroy kit for emergency cricothydotomy

Dr Arthur Vartis presenting

unmet surgery driven by the lack of human resources and facilities that were unable to provide the three bellwether procedures (Caesarian section, laparotomy and open reduction of a fractured long bone) that form the yardsticks for the safe delivery of surgery and anaesthesia. Long-term advocacy by the ASA has meant that today, anaesthesia is largely medically driven.

Today the anaesthetic workforce encompasses a mix of doctors and graduate nurses who all hold formal postgraduate diplomas in anaesthesia from either the Fijian National University or University of PNG. The nurse anaesthetists function much like a registrar and often do function independently.

The region's high reliance on nurse anaesthetists is unique in the Pacific and reflects the significant workforce challenges that continue to confound the region. Some of the islands experience extended length of absences of a medical anaesthetist with the consequence that anaesthesia is provided exclusively by nurse anaesthetists. In Chuuk the situation has become chronic, with a single nurse anaesthetist being the sole provider of anaesthesia over the past four years.

The limited number of anaesthetists across Micronesia has meant that it remains near impossible for individuals to leave their island state for an extended period without seriously disrupting medical services. One of the consequences of this has been severe professional isolation.

In Chuuk the situation has become chronic, with a single nurse anaesthetist being the sole provider of anaesthesia over the past four years.

The Micronesia Anaesthetic Refresher Course is central in addressing this need. Indeed the course is the only continuously run CME program in the region in any specialty.

Since 1994 the ASA has spearheaded this much needed course with the collaborative support at various times by the Pacific Society of Anaesthetists, the New Zealand Society of Anaesthetists, the Philippine Society of Anesthesiologists, the Japanese Society of Anesthesiologists and the World Federation of the Societies of Anesthesiologists.

The logistics in undertaking these meetings are considerable. Locums are often needed to facilitate the local anaesthetists to attend.

The past two decades have witnessed tangible outcomes. In 2005 the Micronesia Anaesthetic Society (MAS) was formed promoting and raising awareness of anaesthesia as a key pillar in addressing surgical disease. In 2012 the ASA supported a delegate to the WFSA meeting in Argentina. The course has helped bring other specialised courses into the region including Primary Trauma Care, Essential Pain Management and this year the SAFE (Safer Anaesthesia from Education) Obstetric course. In 2017 the course facilitated the distribution of 12 Lifebox pulse oximeters to the region.

The recent meeting of the Society was held in the Marshall Islands in June 2017. The theme was Safe Anaesthesia. In attendance were Dr Arthur Vartis and Dr Stuart Lavender from the ASA and Dr Soichiro Obara from Japan. Drs Jonathon Stacey and Steve Gilbert generously volunteered their time in providing locum cover to the islands of Chuuk and Pohnpei to enable the local anaesthetic providers to attend. In addition to the Micronesian

SYDNEY NATIONAL SCIENTIFIC CONGRESS

AN EYE TO THE FUTURE

AUSTRALIAN SOCIETY OF ANAESTHETISTS | 20-24 SEPTEMBER 2019

TRAINEE PROGRAM

SYDNEY INTERNATIONAL CONVENTION CENTRE

Friday 20 September
1830–2000
Trainee Members Group Drinks
Sponsored by *Global Medics*

Saturday 21 September
1530–1700
W8 Part 2 Exam boot camp
Dr Vida Viliunas

Sunday 22 September
1215–1330
Trainee Members Group Luncheon
Sponsored by *Avant Mutual*

Sunday 22 September
1530–1700
Chair: Dr Malcolm Bannerman
Trainee Members Group Session 2
Exam stress *A/Prof. Patsy Tremayne*
Where did my audit go wrong? *Dr Scott Fortey*
Getting through the Part II *Dr Sarah Skidmore*

Sunday 22 September
1045–1215
Chair: A/Prof. David M. Scott
Trainee Audit/Survey Prize

Sunday 22 September
1330–1500
Chair: Dr Malcolm Bannerman
Trainee Members Group Session 1
Getting started in private practice
Dr Matt Coady
Duty of disclosure and navigating AHPRA
Mr Paul Tsaousidis
Wellbeing after adverse events
Dr Ken Harrison

Other benefits: ASA members are entitled to claim one complimentary National Scientific Congress (NSC) or Combined Scientific Congress (CSC) registration during their Advanced/ Provisional Fellow Training or in their first year as an Ordinary Member, provided they have been a financial APFT member for two years. This is claimable once and excludes travel, accommodation, sundry expenses, supplementary activities and workshops.

www.asa2019.com.au

INSIDE YOUR SOCIETY

Ngoriakl Olmetelel 'NGO' a nurse anaesthetist from Palau performing an ultrasound examination of the major neck vasculature

Martha Moufa, a nurse anaesthetist from Pohnpei

Junior John, a nurse anaesthetist from Majuro performing a bougie guided intubation with the assistance of Carlton Nathan from Ebeye

anaesthetic delegates we had attendances from a broad group of nursing and medical staff.

This year's meeting was formally opened by the Minister of Health, the Honorable Kalani Kaneko. We were subsequently invited to a meeting in his office where we discussed the critical role that safe and effective anaesthesia plays in addressing unmet surgical disease.

Presentations were focused across 12 basic tenets that provide the basis for safe anaesthesia. These included airway management, critical bleeding, circulation management anaesthetic crisis management, obstetric and paediatric anaesthesia and perioperative medicine. This year we expanded the skill set in ultrasound-guided vascular access and nerve blocks. We also had the first opportunity to revisit the Lifebox pulse oximeters that were distributed two years earlier and were pleased to see them in the operating theatre in excellent working order.

The MARC is a highly interactive program with a strong emphasis on two-way dialogue facilitated through Problem Based Learning Scenarios, case discussion, workshops and simulation sessions.

True/false questionnaires are completed before and after each day's session. These provide a valuable means of assessing course effectiveness and knowledge acquisition. Follow-up discussions can then readily target any identified knowledge gaps.

Case presentations are an extremely valuable QA experience for the delegates through self-reflection and the group learning dynamics that arise. In addition to the Micronesian anaesthetic delegates we had broad attendance from both nursing and medical staff.

The social content is an important component in the MARC. An excursion is typically arranged to showcase the host island and the course concludes with an evening function where certificates are handed out. A unique feature of the night is a jeopardy-style game which pits each island group against each other in questions ranging from course content to general knowledge.

This was the 18th meeting under the auspices of the Micronesian Anaesthesia Society and represents the culmination of 25 years of work by the ASA in addressing the provision of anaesthesia in this part of the world.

The next meeting will occur in 2021 in Pohnpei.

All of the anaesthetists work in areas of complete isolation and their society, the MAS, in partnership with the ASA provides a forum within which the Micronesian anaesthetists can continue to cultivate their experience and knowledge base. The benefit that the MARC provides in the support of safe and effective anaesthesia delivery is critical.

Arthur Vartis
Overseas Development and Education Committee

INSIDE YOUR SOCIETY

SAFE OBSTETRICS COURSES IN THE PACIFIC

There were two SAFE Obstetric Courses held in the Pacific in June and July 2019. Both of these were supported by ASA ODEC funding and both have involved ASA members.

The Biennial Micronesia Anaesthesia Refresher Course (MARC) was held in Majuro, Marshall Islands from 10-14 June. This was followed by a SAFE Obstetrics Course conducted at Marshall Islands Resort on 15 and 16 June. The participants were attendees from the Refresher Course and represented colleagues from Marshall Islands, Yap, Chuuk, Palau, Pohnpei and Kosrae. I apologise if I have left out any country. This represented the vast majority of states in the Micronesia region.

The course was reduced to two days to accommodate the restricted time availability of delegates but was very well attended with 20 participants. Faculty members were ASA members Anna Loughnan from Frankston Hospital and Monash Medical Centre, Victoria, Craig Noonan from MMC also, Heather Loane from Mercy Maternity Hospital Victoria and Terry Loughnan from Frankston Hospital, Victoria.

In addition to these Australian Faculty we were privileged to be accompanied by Dr Jocy Christopher, current PSA President from Labasa Hospital in Fiji, who was funded by ASA ODEC. Also accompanying us was Dr Lisa Akelisi-Yockopua from Port Moresby Hospital in PNG who was funded through ANZCA Overseas Aid funding. It was noteworthy that both of these colleagues had participated in previous SAFE Obs courses and were now able to act in the Faculty role. This is a major demonstration of developing sustainability through education and the rewards of taking this education to the region.

The venue was extremely comfortable and the food copious and delicious. The feedback from delegates was extremely positive and we have been asked to assess the possibility of conducting a full three-day SAFE Obs at the next MARC to be held in Pohnpei in 2021. Dr Lisa Yockopua is the link person for this. Another great positive that arose from this meeting was the opportunity for senior representatives from Pacific Society of Anaesthetists (President), Micronesia Anaesthesia Society (MAS) (President and Vice President) and Society of Anaesthetists PNG (Treasurer) to meet and network about possible future education interactions. The Marshall Islands and local colleagues were very welcoming and supportive.

Although travel was totally reliant on transport by air and several members were delayed many days in their travel plans, all were able to arrive in time for the course. Craig spent 24 additional hours in Nauru, Jocy an extra 24 hours in Tarawa, Kiribati and Lisa an additional three days in Majuro on her way home. But compared to the daily challenges faced by our regional colleagues, these were minor. I thank MAS for their support and engagement in the program and willingness to look at future involvement.

Another SAFE Obs Course was held soon after in Suva, Fiji from 16-18 June 2019. This was the first to be held in Fiji as the earlier course that had been arranged in 2018 was deferred by a cyclone. This

Participants and Faculty of SAFE Obstetrics Course, Suva, Fiji Islands July 2019

SAFE Obs course held 15-16 June, Majuro, Marshall Islands

meeting was held in central Suva with 24 participants. Notably this course included both anaesthetic and obstetric staff. This enabled fantastic discussions about obstetric care with both specialties developing a deeper understanding of the issues faced by their common patients, but which can be seen as being contradictory at times. This was very valuable and certainly the presence of obstetric staff gave me new insights on obstetric care.

In Fiji we were also supported with funding from ODEC and ANZCA. Again Drs Anna and Terry Loughnan were present but on this occasion we were joined by Dr Pauline Wake from Port Moresby, currently completing time in Adelaide after having spent time in Sydney expanding her knowledge of paediatric anaesthesia. Other Faculty members were Dr Sereima Bale, Senior Lecturer at Fiji National University, Dr Nancy Kwara from FNU, formerly from PNG, Dr Shem Bavou from CWM Hospital Suva, Dr Jocy Christopher from Labasa Hospital, Dr Maurice Atalifo, Senior Anaesthetic trainee post-Masters exam, CWMH and Dr Sherene Prasad an anaesthetist from Lautoka Hospital Fiji.

It was a significant step forward that the majority of the Faculty were local staff and staff from the Pacific Island nations. It was rewarding to witness their ability to conduct the teaching with such skill and commitment but also their ability to interact at a very direct level with participants based on local knowledge and appreciation of local custom.

The feedback from participants was extremely positive with the opinion that it would be beneficial to conduct the course in the other regions to permit attendance by midwives as well as theatre staff who work outside the major towns

I take this opportunity to acknowledge the support received from ASA through ODEC and highlight the great steps forward that have been achieved by providing education targeted at local needs and delivered in-country. Especially the demonstrated capacity of local colleagues to step up and take on the teaching in these courses. I thank the participants, the Faculty members and the departments who have been able to provide the opportunity for these courses to be conducted.

Dr Terence Loughnan
Overseas Development and Education Committee

ASA SEREIMA BALE PACIFIC FELLOWSHIP – VACANCIES FOR 2020

The ASA ODEC committee is seeking Australian and New Zealand anaesthetists with a passion for teaching and an interest in working in developing countries.

Three month scholarships are now available for 2020. The role involves teaching and clinical support for Pacific trainee anaesthetists based in Suva, Fiji Islands.

The Fellowship is named in honour of Dr Sereima Bale, Senior Lecturer at the Fiji National University and the founder of post-graduate anaesthesia training in the Pacific region.

The ASA provides financial support to the value of AUD$12,500 and an accommodation allowance is provided by Fiji National University.

FANZCAs and experienced Provisional Fellows are encouraged to apply. It is a family friendly environment.

Please contact Justin Burke for further information. Email: j.burke@alfred.org.au

William May, Dean, College of Medicine, Nursing and Health Sciences, Dr Sereima Bale and Dr Chris Bowden

INSIDE YOUR SOCIETY

TRAINEE MEMBER'S GROUPS UPDATE

TRAINEE HANDBOOK

As a committee, we want to help Australian anaesthetic registrars to be happy and successful throughout training. We all know how busy and stressful training can be, and sometimes it can feel like everyone just wants more of your time and effort – from service provision and tiring shifts, to journal club presentations and mandatory courses – all while trying to study for exams and live your life outside of work. The ASA is a member-led organisation with the primary goals of supporting, representing and educating anaesthetists and anaesthetic trainees. In other words, we are on your side.

To this end, the ASA Trainee Members Group has embarked on a new major project. We are in the process of developing a handbook for trainees, to provide information and guidance for all stages of training. The ASA Trainee Handbook will include information across a broad range of important topics, including exam preparation, career options and welfare. There will also be focussed articles addressing how to get started in research, how to organise useful fellowship experiences, and other highly relevant guides to help you get the most out of your training years.

Some of you will already have access to this information; however, another aim is to reduce the disparity between the information available to trainees in large metropolitan hospitals and those in smaller departments, such as in rural centres. Similarly, we hope to improve access for trainees who may be less well connected, such as independent trainees and international medical graduates. By making the handbook freely available to all ASA trainee members (and membership being free for all Introductory and Basic Trainees), we hope to level the playing field and promote fairness and transparency.

Our goal is to release the handbook early next year for the new hospital employment year, so that it can be immediately useful to the new cohort of trainees. This will also be significant as 2020 marks 20 years of the ASA Trainee Committee (formerly GASACT, now TMG). A great deal has been achieved over this time, which I hope to cover in more detail in a future issue of this magazine.

While most of the content has already been planned out, if you have any suggestions then please get in touch at trainees@asa.org.au. If we can't include something in this edition, then we can look to add it into future revisions. Keep an eye out – I hope you find it helpful!

TRAINEE RESEARCH NETWORKS

There has been a lot of discussion about Trainee Research Networks (TRNs) recently, including in June's *ANZCA Bulletin*.[1] There are TRNs in varying stages of development in New Zealand, Queensland, Victoria, Western Australia, and New South Wales. Currently, there is no established system for communication between these groups, and it's thus challenging to keep track of groups as they are formed and follow their progress. I realise there could be others working in this space and emerging (or even established) groups that we aren't aware of. Together with Dr Matthew Jenkins, the trainee representative on ANZCA's Emerging Investigators Subcommittee, and a small group of TRN enthusiasts, we have been working to establish a binational collaborative group to help facilitate the development of TRNs, promote their ongoing success, and aid communication between TRNs across Australia and New Zealand. We will share more details with you as things progress.

Dr Richard Seglenieks
Chair, ASA Trainee Members Committee

References

1. Chemali M, Hewitt N. Trainee Research Network. *ANZCA Bulletin* 2019; June; 89.

RETIRED ANAESTHETISTS' GROUP

WESTERN AUSTRALIA

The Retired Anaesthetists' Group in Western Australia holds informal gatherings at the café at the University Club in Crawley on the third Thursday of each month, commencing at 5pm.

All retired anaesthetists are welcome to attend. Newly retired anaesthetists are encouraged to forward their contact details to the Convenor (wrt@iinet.net.au) or to the local offices of the ASA and ANZCA.

Wally Thompson

Left to right: Bob Wong, Peter Beahan, Graham Johnstone, Sol Ceber, Ken Ahmat, Neville Opie, Sam Epari, Wally Thompson, Don Stewart and Don McKenzie

INSIDE YOUR SOCIETY

HISTORY OF ANAESTHESIA LIBRARY, MUSEUM AND ARCHIVES NEWS

UNDERTAKING A RESEARCH PROJECT? DON'T FORGET ABOUT THE ASA'S GWEN WILSON ARCHIVE!

What role does history play in an organisation such as the ASA? Why do we even need a group tasked with preserving, researching and presenting both the history of anaesthesia and the society?

In order to go forward and make developments for the future we need to understand where we have been and what has occurred before.

It is my job at the ASA to be the guardian of this history and it is a duty I don't take lightly. The ASA has three historical entities which comprise the History of Anaesthesia Research Unit (overseen by the HALMA Committee) here in North Sydney; the Harry Daly Museum (HDM), the Richard Bailey Library (RBL) and the Gwen Wilson Archives (GWA). The three units provide an excellent resource for ASA members (and other bona fide researchers)

It is safe to say the lesser known of the three is actually the oldest of the three, the GWA. Though it is often overshadowed by its more public companions, the GWA holds some great resources for researchers and it is hoped that within the next year the catalogue of items will be available to be viewed online, like those of the HDM and RBL (https://asa.org.au/the-collection/). This will be a great benefit for researchers as instead of placing an open-ended enquiry for access to files with the curator, researchers will be able to ask for specific records and peruse other associated items.

Though the archive has been maintained by the ASA since the society's beginnings, it has been only since 1994 that the ASA archive adopted Dr Wilson's name in the title. Despite this it has only been in recent months that the ASA has actively begun using Dr Wilson's name when referring to the archive.

That's not to say Dr Wilson was a forgotten entity, rather one could argue it was the archive that was. Unlike the HDM and RBL, which are open to the public and pleasing to view, the archive suffers from being out of sight and out of mind. It's that place where only researchers tend to venture while everyone else only remembers the presence of the archive when they have some old papers they'd like to clear from their desk or homes! Therefore, the new GWA project (to completely audit the collection) is one that has been in progress for a number of years but in 2018 some headway was finally made and as we move into the future there are plans to further enhance the collection.

Associating Dr Wilson's name with the

Dr Gwen Wilson

Some of the items available for research in the Gwen Wilson Archives

archive is unquestionable as she has played such a key role in the establishment of the archive and undertaken many historical works into the history of anaesthesia in Australia. More specifically she was the author of *Fifty Years*, the concise history of the ASA – a publication quite often referred to as the 'Bible' by HALMA members.

Though fascinated by the past, one could argue Dr Wilson was ahead of her time. Born at Broken Hill, in one of the most remote places of NSW, Dr Wilson went on to become Dux at Orange High School before graduating in medicine at the University of Sydney in 1939. She was a foundation member of the Faculty of Anaesthetists and obtained a Diploma in Anaesthetics in 1945, becoming the first woman to graduate from the course in Australia.

Dr Wilson spent much of her career in honorary and consultant medical positions but it was her life-long work on the history of anaesthesia which saw her become a Doctor of Medicine in the mid-1990s, the first time this degree was awarded for the study of the history of medicine in Australia. In 1995 she was also awarded the inaugural Laureate in the History of Anaesthesia from the Wood Library-Museum (American Society of Anesthesiologists) – the highest international recognition in the field of the history of anaesthesia.

Dr Wilson was one of the first female members of the ASA and served as Chairman of the NSW Section (1952-1954) and Honorary Federal Secretary (1954-1956). She was the Honorary Historian to ANZCA 1966-1992 and Emeritus Historian from 1992 until her death in 1998. She served on the Archives Committee with the Royal Australasian College of Surgeons for twenty years and was passionate about history being preserved and written down for future generations.

At a time when women were being told to stand back and were relegated to the role of nurse, Dr Wilson made a name for herself and without her pioneering work into the history of anaesthesia, particularly in Australia my task today, as a modern-day archivist, would be significantly more difficult.

Belinda McMartin
Curator and Archivist, Harry Daly Museum and Gwen Wilson Archive

2019 HISTORY OF ANAESTHESIA SEMINAR

The ASA's Harry Daly Museum and Richard Bailey Library were the venue for HALMA's (History of Anaesthesia, Library Museum and Archive) 2019 History of Anaesthesia Seminar on Sunday 2 June 2019. The three-hour seminar was well attended and featured different speakers across several historical anaesthesia topics. The highlight was a series of historical anaesthesia films presented by Dr Rajesh Haridas that dated back to before the era when most of our guests began their careers as anaesthetists. These films covered a variety of topics from how to correctly use ether in the 1930s-1940s to the correct techniques for resuscitation in a film produced by the Ontario Hydro Company. One of the attendees remarked, "what will they think of the anaesthesia films shown in 50 years given how ancient we find these ones!"

The seminar is held annually in June to commemorate the first use of ether in Australia, which took place on 7 June 1847. We look forward to welcoming ASA members to the next seminar in 2020!

Dr Reg Cammack
HALMA Chairman

Ros Berryman
SPASM

Attendees at the History of Anaesthesia Seminar

Dr Rajesh Haridas presents the historical anaesthesia films

INSIDE YOUR SOCIETY

HARRY DALY MUSEUM RECENT DONATIONS

We are still trying to clear the donation backlog for the Harry Daly Museum but we are making leaps and bounds to accession new items into the collection as well as undertaking a complete audit of the entire collection.

If you have any items you'd like to donate to the museum then please hold onto them for just a little bit longer, as we keep sorting through the wonderful items we've already got pending.

The last meeting of the HALMA Committee was incredibly successful with 21 items added to the collection. These items ranged in age from modern objects such as a laryngeal mask endotube introducer and ties used for securing endotracheal tubes, the latter dyed pink to raise funds for breast cancer, amongst the mix. There were also some older items such as an interesting apothecary bottle which is thought to have held laudanum, a 19th century highly addictive opiate used as a pain-killer and sleeping agent, and also a well-used Nembutal tin from around the middle of last century, which at one point would have held the drug that was also commonly used to treat insomnia.

Belinda McMartin
Curator, Harry Daly Museum

This empty Nembutal Tin would have originally contained 1.5 grams of Nembutal (Pentobarbital) and was commonly used for treating insomnia. Today this is a schedule 8 drug

Laryngeal mask endotube introducer

These eye-catching pink tablets are Sonergan (Promethazine Hydrochloride and Butobarbitone) produced by British company May and Baker, and were used as a sedative and hypnotic

Door stop that was used by Dr Richard Bailey as a 'bite block' during anaesthetic procedures

Old apothecary bottle which at one point would have held ammonia

Opii bottle which at some point would have contained Laudanum, a tincture of opium that was used to treat pain and assist patients to sleep

CONTACT US

The Harry Daly Museum is open by appointment Thursday and Friday, 10am-4pm. Please email BMcMartin@asa.org.au to arrange your visit.

BE STIMULATED BY THE RICHARD BAILEY LIBRARY

Our world and our lives are changing at an ever increasing rate. The older among us will remember the endless days of childhood where we were allowed to roam the streets and countryside. Some will remember the thrill of going to the pictures (movies) on Saturday and the worlds and adventures that those flicks revealed. Children then had lawns to play on, a Hills Hoist to swing on. In those days the countryside and paddocks of farm animals were easily reachable, families were larger and closer; strangers said "G'day", "What do yer know?" and "See ya". We went off in the car for the pride of ownership and the pleasure of seeing the scenery. Remember playing with mercury in your school desk? Duplicating machines and typists? Mangles? Deliveries by horse and cart? Used postage stamps were the way to learn geography. And biology was wild flowers, small mammals, butterflies, cicadas, birds' eggs, sea-shells and trees to climb. We hardly felt the cold but had chilblains in winter. Thin blue paper Aerogrammes flew from abroad in under a week. Advertisements stayed the same for years and became household familiars.

So what is still with us, recognisably the same, but improved?

Libraries!

Therein is found the familiar comforting atmosphere of accumulated learning, the acknowledgement that here are the experiences of those that have gone before, here history lies waiting to be linked with the present. As useful as the web may be, it is limited and to an extent transitory. The volumes in a library exude the knowledge of discoveries and experiences patiently waiting to be rediscovered and to stimulate thought. Libraries have remained exciting thought-provoking resources and are improving with age.

Libraries nowadays are often linked to

II

N.°88.

ESSAI

SUR LE CROUP,

OU ANGINE TRACHÉALE DES ENFANS;

Présenté et soutenu à la Faculté de Médecine de Paris, le 15 juillet 1813,

PAR J. J. P.re AMAND LEBRUN, de Houlleur,

A PARIS,

DE L'IMPRIMERIE DE DIDOT JEUNE,

1813.

ESSAI

SUR LE CROUP,

OU ANGINE TRACHÉALE DES ENFANS.

museums and other resources, collectively they pool resources and exhibit their collections to share their treasures and attract further research.

As mentioned on the ASA's website, perusing a volume from the Richard Bailey Library one sometimes discovers more than the published text. Many of the volumes contain inscriptions, annotations, notes, reviews, or articles by the author or an owner. Many of the volumes were previously well read and treasured by members of the ASA or other researchers of renown.

The Richard Bailey Library's name recognises and honours the previous owner of many early and valuable items. A gift this month from Dr Bailey is a publication on croup in infants: *Essai sur le Croup; ou Angine Tracheale des Enfans* by J.J.P. Amand Lebrun of the Civil Hospital and Hospice of Paris, read to the Faculty of Medicine in Paris on 15 July 1813. The term croup comes from an early English word meaning to cry hoarsely or perhaps also from an attempt to imitate the characteristic cough. Croup is sometimes called laryngotracheobronchitis, a name perhaps more easily understood by parents. Severe cases of croup are now treated with large doses of corticosteroids or much less rarely by general anaesthesia and tracheal intubation in intensive care: in the early nineteenth century treatments were varied but not particularly successful and sometimes fatal. The National Library of Medicine (USA) has an 1834 volume on croup by Guillaume Fourquet indicating concern over this then common condition, but does not possess the Richard Bailey Library's recent acquisition.

All are welcome to visit, enjoy and make use of the History of Anaesthesia Research Unit's facilities. The forthcoming National Scientific Conference in Sydney presents a good opportunity for your visit.

Peter Stanbury
Richard Bailey Librarian

CONTACT US

The Richard Bailey Museum is open by appointment Thursday and Friday, 10am-4pm. Please email BMcMartin@asa.org.au to arrange your visit.

INSIDE YOUR SOCIETY

AROUND AUSTRALIA

AUSTRALIAN CAPITAL TERRITORY

Phillip Morrissey, Chair

There was a combined ANZCA/ASA educational meeting on August 1 at the Hotel Realm, where Australian of the Year Dr Richard Harris presented 'The Thai Cave Rescue: Anaesthesia in the Dark'. This meeting was very well attended and provided a fascinating insight into the events of this well publicised rescue.

The ACT Combined ANZCA/ASA Art of Anaesthesia meeting will be held on the weekend of October 5 and 6 in the National Museum of Australia. The theme this year is 'Research and the anti-Research, and promises once again to be an interesting and stimulating conference.

NEW SOUTH WALES

Ammar Ali Beck, Chair

We have made our submission to The NSW Legislative Council's inquiry into the operation and management of the Northern Beaches Hospital. I understand it may not be perfect but I am hoping we have managed to capture most of the issues that we have been hearing about.

Part 1 Boot Camp held on 13 July at Gosford Hospital was very successful and the feedback has been excellent. Great appreciation to the efforts of Drs Lan-Hoa Le, Katherine Jeffrey, Dana Parrington and everyone who made it a successful event on the ASA calender.

The Part 3 Course programme has been finalised and should be out in the next few weeks. Keeping up-to-date, we have added new sessions like 'contract negotiation' and 'medical facility accreditation', expanded the time for RVG, billing, and increased discussion time. This year, we have been lucky to have a number of enthusiastic and young anaesthetists joining the Part 3 Course which will add more relevance to the discussion.

NSC 2019 Sydney, is not far away; we are excited for an excellent line-up of speakers. The diversity of the topics will satisfy many interests.

Looking forward to catch up with everyone at the coming NSC meeting.

SOUTH AUSTRALIA/ NORTHERN TERRITORY

Brigid Brown, Chair

The South Australia Annual ACE Conference will be taking place in Adelaide on Saturday October 19. This year's topic is 'Updates in Massive Transfusion' featuring guest speaker Dr Kerry Gunn. There will be opportunities to complete CPD emergency modules including massive haemorrhage. Please see the ACE website for more information and to register.

The South Australia/Northern Territory Part 3 Course is scheduled for November 16 in Adelaide. This course is designed for advanced trainees and fellows as a transition to the consultant program. To register, please visit https://asa.org.au/sa-nt-part-3-course/

TASMANIA

Michael Challis, Chair

The last few months have been relatively quiet for the committee, although planning for our CPD meetings has continued to occupy our time.

Support

We continue to look for opportunities to support our members in any way that we can. If you have professional issues regarding any matter (interactions with hospitals – public or private, problems with health insurers, concerns regarding professional standards, or any other relevant issues) please contact your local ASA representatives, or ring the ASA, and we will endeavour to assist you. We are here to support you in your professional practice – whether it is public or private.

Represent

Current areas of interest and involvement relate to the Private Practice Scheme (PPS) that provides 35% of salaried staff specialists incomes. We are also interested in employment conditions across the state (including workforce planning and balance). If there is anything that you think we should be specifically aware of, or involved in, please contact your local ASA representatives.

Educate

Our winter meeting at Josef Chromy Winery in Launceston is rapidly approaching, and will be held on 24th August. Talks will focus around the ageing patient, the ageing practitioner, and no doubt some aged wines! Speakers include a past ASA president, and immediate past president of RACS, and we will finish with a panel discussing ethical considerations around ageing. We would love to see you there!

Our Tasmanian ASA/ANZCA ASM will return again next year (after a year off due to Tasmania organising the ANZCA ASM in Malaysia), and planning is progressing well. We expect another high quality meeting and plenty of interstate attendees, so mark the date in your diary – Saturday 29th February and Sunday 1st March 2020. We look forward to seeing you there!

LIFESTYLE

Anaesthesia at Kluang Military Hospital, Malaya, 1959

AN ANAESTHETIST IN THE BRITISH ARMY

In 1957, I had completed my year of postgraduate medical training and was required to serve two years of compulsory National Service as a UK citizen. I chose the army.

The interviewing committee asked about my preferences for posting, and I asked for the 'Far East'. To my delight I was posted to Singapore as a trainee anaesthetist at the Singapore Military Base Hospital.

On arrival I was also appointed to be the Blood Transfusion Officer, which entailed keeping the blood bank fully stocked. This was not a popular appointment as volunteers were scarce. I contacted the various Commanding Officers and suggested they should, as an example, donate blood in front of their men. After that, keeping the blood bank stocked was effortless.

After one year at the British Military Hospital Singapore, I was pronounced a trained anaesthetist, graded as 'Clinical Officer in Anaesthetics', promoted to Captain and sent as the sole anaesthetist to the British Military Hospital in Kluang, Malaya, 90 miles north of Singapore. The 'Emergency' was in existence, so I was deemed to be on active service for which I was later given a medal. The Malayan 'Emergency' was a guerrilla war fought in Malaya, from 1948 until 1960 between the Commonwealth armed forces and the Malayan National Liberation Army, the military arm of the Malayan Communist Party.

'Terrorists' had frequent skirmishes with British patrols in this area, so much of my anaesthetic work was on wounded British soldiers.

The wounded terrorists were meanwhile treated in the civilian hospital in Kluang, but were so hated by the locals, that few survived the first night and were often found dead in the morning from knife wounds.

Shortly after my arrival, the British authorities extended a goodwill gesture to the civilian hospital by offering army specialist services for their problem cases. This had unforeseen results.

After the next skirmish, we treated the wounded British, and admitted them to our only acute surgical ward. To our astonishment, we then received our first referrals from the civilian hospital of five wounded terrorists. All required general anaesthetics. They were uncommunicative, resentful and reluctantly accepted treatment. Postoperative care was of


British Military Hospital, Singapore


RAMC Officers Mess, Singapore

concern to us as optimal care was only available in our single acute surgical ward. This had to be weighed against their safety from attack, or the possibility of their attacking others.

The CO was away and could not be contacted. The surgeon and I had to decide. With some misgivings we sent them to the same ward as the British soldiers, to be reviewed in the morning.

The CO returned the next day and was horrified to hear of the non-segregation. He hurried to the ward expecting the worst. Instead he found that all those who could, were seated round the central table happily engrossed in a game of pontoon, which the British had taught the terrorists.

Most of the British patients were young men, called up by the National Service, who were looking forward to returning to Britain. They held no animosity towards these new arrivals. The hospital ward was a pleasant escape from army discipline and the novelty of the situation appealed to them. The previous day they had been shooting at each other and now they were chatting, playing cards and joking together.

These terrorists became well behaved, polite, cooperative patients, appreciative of the care and trust shown to them. The nursing staff saw no need for their segregation or for armed guards.

When these terrorists were ready for discharge and told they could go, they were disbelieving. "Go where?" they asked. "We are your prisoners and will be shot if we try to escape". We assured them that they were not prisoners and were free to return to their camps. They were astonished and stated that they would be re-armed and ordered to fight again, and after all our kindness they did not want to fight us. We explained that we had ethical responsibilities for their treatment while in


Yong Peng Clinic: Dr and Mrs Campbell with clinic manager and nurse

LIFESTYLE

Kluang Hospital Officers Mess

our care, but what they did after leaving hospital was entirely their choice.

After our care of these first terrorist patients, we noticed a progressive decrease in hostilities. We continued to treat diminishing numbers of wounded without discrimination. Terrorist activity ceased within three months of this first event. Nine months later when I left Malaya, there had been no further hostilities in this region.

The return of these men to their units must have also affected their comrades and shattered many indoctrinated beliefs. This combined with the knowledge that the British intended to withdraw once hostilities ceased, resulted, I believe, in aggression ending earlier than expected in this region.

My last six months of military service were remarkable. I was appointed Hygiene Officer for the garrison as the CO realised that I was now under-employed. To my joy, this was short-lived as I was relieved of this burden after I made a report in triplicate of my findings which included the discovery of a decaying dead bird in the hospital drinking water tank.

With the decreased military hospital work load, Douglas Green the surgeon, was often asked to operate on problematic cases at the civilian hospital. They only had two doctors, and neither of them had specialist surgical training, so only minor surgery was performed by them. Anaesthetics was given by the head clerk, but on the occasions when he was unavailable, the head gardener took over. The head clerk gave good mask ether anaesthetics, but he was unable to intubate. The head gardener was less proficient and often had difficulty in keeping a clear airway.

As a result, I went with Douglas when he was called. We operated on many horrific cases but happily there were no anaesthetic deaths.

It was at this time that I met my wonderful future wife. After a whirlwind romance, we were married in the Kluang garrison church shortly before my de-mob, and we celebrated our Diamond wedding anniversary in July.

We came to Australia in 1969 when I was appointed to the staff of Royal Prince Alfred Hospital, and we have been living happily here ever since, and it is now 20 years since I retired from anaesthetic practice.

Duncan Campbell
Retired anaesthetist

INSIDE YOUR SOCIETY

NEW AND PASSING MEMBERS

The ASA would like to welcome all new members from June to August 2019.

TRAINEE MEMBERS

Dr Mendel See Hok Au	SA
Dr Angela Chang	NSW
Dr Ashley Katherine Creighton	NSW
Dr Kyle Mathew Dailey	QLD
Dr Julia Alexandra Dubowitz	VIC
Dr Thomas Egan	NSW
Dr Brendan James Flanders	VIC
Dr Jonathan Andrew Francis	VIC
Dr Sameer Garg	NSW
Dr Nicholas Gerbanas	QLD
Dr Martha Ghaly	NSW
Dr Emily Victoria Jordan	SA
Dr Saleem Khoyratty	VIC
Dr Dukyeon Kim	NSW
Dr Kathryn Alice Loyna Meldon	QLD
Dr Luke Bradley Nottingham	QLD
Dr Graham O'Connor	NSW
Dr Lauren Deborah Paton	NSW
Dr Luke Aiden Proctor	SA
Dr Brooke Rule	WA
Dr Michael Howard Toon	QLD
Dr Luke William Willshire	VIC
Dr Rosmarin (Rosie) Zacher	QLD
Dr Phillip James Beames	NSW
Dr Alexander Courtney	VIC
Dr Justin Gee-Yun Fong	NSW
Dr Jatinder Paul Grewal	QLD
Dr Scott Willem Nicolas Hannah	SA
Dr Arvind Jothin	SA
Dr Natalie Bree Kent	NSW
Dr Alexander Charles O'Donnell	QLD
Dr Falk Reinholz	WA
Dr Edwina Jane Stenner	SA
Dr Julia Victoria Whitby	NSW
Dr Shaun Michael Young	NSW

ORDINARY MEMBERS

Dr Malcolm Ronald James Bannerman	NSW
Dr Yvette Bostock	NSW
Dr David Jeffrey Canty	VIC
Dr Daryl Richard Catt	SA
Dr Sally Chan	NSW
Dr Ping Han Chia	VIC
Dr Meher Prasad Chinthamuneedi	QLD
Dr Rajesh Devarakonda	VIC
Dr Updesh Dhillon	WA
Dr Nancy Fammartino	VIC
Dr Emma Ford	VIC
Dr Frans Mare	QLD
Dr Gregg Miller	VIC
Dr Suresh Pathy	VIC
Dr Shaun Michael Ryan	VIC
Dr Joseph William Speekman	VIC
Dr Tiffany Shiu Hin Tam	VIC
Dr James Robert Tester	NSW
Dr Samuel Walker	TAS

IN MEMORIAM

The ASA regrets to announce the passing of ASA members Dr Skantha K. Vallipuram, VIC; Dr Andrew James Olney, WA; Dr Frederick Jacobus Steyn, Qld; Dr Rodney James Clark, NSW; Dr Stewart Dabb, VIC.

If you know of a colleague who has passed away recently, please inform the ASA via asa@asa.org.au.

INSIDE YOUR SOCIETY

RODNEY JAMES CLARK 1927-2019

MBBS (SYDNEY) DA (ENG) FFARACS FANZCA

Rod Clark, after a very full and successful life, died aged 91 on 4th July, 2019. His son, Pete, relates how he developed a leaking thoracic aortic aneurysm in the shower after his morning swim at the Royal Sydney Golf Club. He, as a cardio-thoracic anaesthetist, knew exactly what had happened. He quietly dressed and made his way up to the reception desk at the club entrance not wanting to be stretchered out of the Club's fitness centre. When the ambulance arrived he insisted on walking to it! Somehow the haemorrhaging stopped and his condition stabilised.

He was taken to St Vincent's Hospital where he survived for another 26 days, being able to spend the last 10 days at home where he died comfortably. In his last days he enjoyed a diet almost exclusively of large Sydney rock oysters and a nip or two of Lafroig single malt whisky from the Island of Islay, where Rod proudly owned a full square foot!

Rod was a man of many parts. He was a tall, upright, fine-looking man who enjoyed life. He knew his wines, was great company and good at many sports. He was always a gentleman and radiated good humour. He came to be a very accomplished anaesthetist and was NSW Chairman of the Australian Society of Anaesthetists from 1979-1980.

Rod was born in Bowraville, a small town in the mid-north coast of New South Wales where his father practised as a dentist before moving to Parramatta, where Rod grew up. He attended The Kings School in Parramatta and loved his time there. He was adjutant of the cadet corps for two years, was captain of the shooting team and was in the First 15 Rugby team for two years and selected for GPS Rugby. He was also runner-up in the heavyweight boxing. He made many lifelong friends.

After leaving school Rod was undecided for a time as to his future but decided medicine was where he wanted to be and in 1948 he entered Sydney University graduating in 1954. During these years he found the study quite hard (he had had such a good time at school that the need for hard study for medicine was a bit of a shock) but he sailed through well enough without much difficulty and no missed subjects. He claimed to not being the most naturally gifted student but I suspect he was over modest.

He did, however, in those early years find time to join a lot of his friends at the Palm Beach Surf Club and remained a member all his life. He was a keen surfer and loved the parties!

After graduating and residency training, Rod moved to the Wollongong area where he worked in general practice and developed a keen interest in anaesthesia. In those early days, there were few specialist anaesthetists and the GPs were required to give many anaesthetics. Rod soon realised he needed to expand his knowledge of anaesthesia. There were few training positions in Australia in those days so he travelled to England (by sea) and worked in Bristol and later Windsor, where he met his wife Shirley, mother of his three children. In 1958 he sat for, and passed, the English DA (Diploma of Anaesthetics) which was a one-part degree designed for GPs who would be giving anaesthetics in their general practice. At that time Rod (and quite a number of Australians) considered the English DA as quite sufficient for him to be proficient for his requirements as an anaesthetist in his practice.

Rod returned home to Australia with Shirley and young son Pete, as ship's doctor on the *Fairsky* a ship bringing English migrants to Australia. He returned to work in the Wollongong area where he became very busy as an anaesthetist. In 1959 there were no 'properly' trained anaesthetists in Wollongong. The new Faculty of Anaesthetists of the Royal Australasian College of Surgeons had only just been formed (1954) and the first final

exams for 'the Fellowship' (FFARACS) were in 1959.

At this time Rod Clark was one of only two or three anaesthetists with any anaesthetic qualification in the Wollongong area. He would have had many difficult calls on his experience in his then busy practice. Very bravely, but with great foresight, he decided to undertake further study in the rapidly developing specialty of anaesthesia, while still in general practice in Wollongong. A few others in general practice in Sydney and Melbourne also did this but it was a very tough road. He had some assistance in this. His great friend Bert Pfeiffer, consultant anaesthetist at Sydney Hospital gave him some coaching – as did others. He also attended various courses in Sydney. The Faculty of Anaesthetists was then part of the Royal Australasian College of Surgeons and the qualifying examination was a two-part examination firstly in basic sciences then in clinical medicine and anaesthesia. It was a very high standard examination and there was a significant failure rate. However Rod managed to pass all hurdles successfully.

In 1964, Rodney James Clark, then aged 37, became a Fellow in the Faculty of Anaesthesia of the Royal Australasian College of Surgeons (FFARACS) and was recognised as a Specialist Anaesthetist, one of only about 300 in Australia at that time. There are now about 6,400! With the formation in 1992 of The Australian and New Zealand College of Anaesthetists Rod became a foundation Fellow with the FANZCA degree.

In 1964 Rod, as part of an elite group of specialist anaesthetists, entered a new world. He came to Sydney, joined a prestigious group of anaesthetists in private practice known as 'The Macquarie Group' and joined the staff of Royal Prince Alfred Hospital and of Crown St Women's Hospital. He became a pioneer in cardio-thoracic anaesthesia at Royal Prince Alfred working with Dr Sandy Grant and his team. He also worked in general surgery but

Dr Rodney Clark receives his 50 Year Membership in 2008 from then ASA President Dr Richard Clarke

he most enjoyed cardio-thoracic surgery because of the challenge. At Crown St Women's Hospital he worked with Dr Bill McBride and became a teacher and mentor to many. His practice also included a stint in Vietnam as a civilian anaesthetist with an Australian surgical team.

He was also a leader in organised anaesthesia and was elected New South Wales Chairman of the Australian Society of Anaesthetists (1979-1980) and was a member of the organising committee of the post-World Congress of Anaesthetists held at Sydney Opera House in 1984. Rod was also involved in an iconic event in the history of the Australian Society of Anaesthetists – the purchase of its first headquarters at 50 Gurner Street, Paddington on 5th December 1979. Rod, then NSW Chairman of the ASA lodged the winning bid on behalf of the Society.

Rod continued his sporting interests into his professional years. He became an accomplished sailor. He joined the Cruising Yacht Club of Australia (CYCA) and, with his close friends, Drs Dick Tooth and Ed Graham (both orthopaedic surgeons) spent many leisure hours on their yacht *Calypso*. In later years, as a member of Royal Sydney Golf Club he was a regular player and renowned 'long hitter'. His hobbies also included fly fishing in Australia and New Zealand and he was a lover of classical music.

Rod retired from anaesthetics on his 65th birthday. He relaunched his life two years later when he married Susie. They had 16 good years together before Susie passed away from cancer. Rob's three children Pete, Jane and Kate were close to him and with him to the end.

Rod Clark was my very good friend and a great help to me personally in my present role as National Chairman of the Retired Anaesthetists Group (RAG) in helping organise lunches at the Cruising Yacht Club. Rod as a member was invaluable in liaising with the management of the club.

Rod Clark was a gentleman, a true contributor to his profession of anaesthesia. His life in anaesthesia in many ways mirrored the development of the speciality over the last 60 years. His wide interests, developed over many years, gave him a full life right through his retirement.

Donald C. Maxwell
MBBS FFARACS FFARCS FANZCA FRCA
Past President
Australian Society of Anaesthetists

INSIDE YOUR SOCIETY

UPCOMING EVENTS

SEPTEMBER 2019

Medical Education SIG meeting

Date: 20 September 2019
Venue: International Convention Centre, Darling Harbour, Sydney, NSW
Contact: koconnor@anzca.edu.au

Trauma/ACCUTE SIG meeting

Date: 20 September 2019
Venue: International Convention Centre, Darling Harbour, Sydney, NSW
Contact: events@anzca.edu.au

National Scientific Congress 2019

Date: 20-24 September 2019
Venue: International Conference Centre, Darling Harbour, Sydney
Contact: drobertson@asa.org.au

OCTOBER 2019

Combined CME

Date: 5-6 October 2019
Time: Two day event
Venue: National Museum of Australia, Canberra, ACT
Contact: kbuckley@anzca.edu.au

Annual ANZCA/ASA SA CME Conference

Date: 19 October 2019
Time: 8.30am
Venue: National Wine Centre of Australia, Adelaide, SA
Contact: sa@anzca.edu.au

NOVEMBER 2019

New South Wales Part 3 Course

Date: 2 November 2019
Time: 8am-3.30pm
Venue: Hilton Sydney, 488 George Street, Sydney, NSW
Contact: events@asa.org.au

Perioperative Medicine SIG meeting

Date: 7-9 November 2019
Venue: TBC
Contact: events@asa.org.au

SA/NT Part 3 Course

Date: 16 November 2019
Time: 8.30am-4.30pm
Venue: AMA House, Ward Street, Adelaide, South Australia
Contact: events@asa.org.au

Victoria Part 3 Course

Date: 23 November 2019
Time: 8.30am-4.30pm
Venue: Kooyong Tennis Club, 489 Glenferrie Road, Kooyong, Victoria
Contact: events@asa.org.au

ASA BENEVOLENT TRUST FUND

Established in 2001 the ASA Benevolent Trust Fund assists Australian anaesthetists, their families and dependents who are in dire necessitous circumstances.

The Trust Fund is maintained exclusively from members' donations and from interest on the balance of the Fund.

All donations are tax deductible.

To make your donation contact ASA by emailing maung@asa.org.au

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EDUCATE

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- Awards, prizes and research grants
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- Trainee members workshops
- Practice managers conference
- CMEs

Publications

- Anaesthesia and Intensive Care
- Australian Anaesthetist
- Relative Value Guide

Historical collection

- Harry Daly Museum
- Richard Bailey Library
- Gwen Wilson Archives

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AUSTRALIAN SOCIETY OF ANAESTHETISTS | 20-24 SEPTEMBER 2019

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Pam Macintyre

AUSTRALIA

For all enquiries please contact: Denyse Robertson

E: drobertson@asa.org.au **T:** +61 2 8556 9717

www.asa2019.com.au

If unable to attend this year's NSC then

SAVE THE DATE

CSC 2020

16-19 OCTOBER 2020