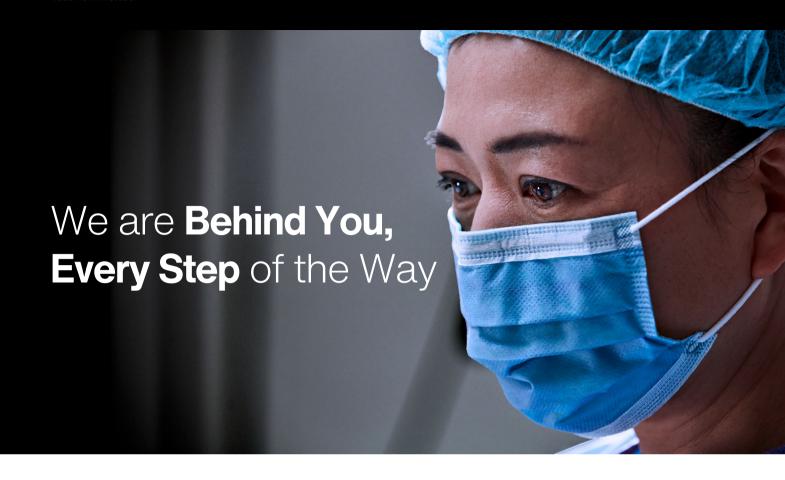
# Anaesthesia News

**August 2020** ISSN 0959-2962 No. 397









Fujifilm Sonosite is committed to partnering with you to ensure we work together and provide point-of-care ultrasound (POCUS) solutions that meet the evolving needs of clinicians during the unprecedented COVID-19 pandemic and beyond.

Our machines are built around durability and reliability so you can focus on treating patients when they need you most. They offer:

- · Easy cleaning and disinfection of all our systems and transducers
- Real-time scan-along learning allows you to view onboard education tutorials while performing live scans\*
- Get answers you need quickly with high-definition imaging technology helping reduce artifact clutter and contrast resolution
- Reduce time needed for administrative tasks with streamlined workflow and customisable worksheets

For more information about our POCUS solutions, please contact us.

www.sonosite.com/uk/contactus

Access COVID-19 POCUS education resources by visiting: **secure.sonosite.com/covid-19** 

#### Any patient. Anywhere. Anytime



SONOSITE and the SONOSITE logo are registered and unregistered trademarks of FUJIFILM Sonosite, Inc. in various jurisdictions. FUJIFILM is a registered trademark of FUJIFILM Corporation in various jurisdictions. All other trademarks are the property of their respective owners.

Copyright © 2020 FUJIFILM Sonosite, Inc. All rights reserved.

FUJIFILM Sonosite Europe, Joope Geesinkweg 140, Amsterdam, 1114 AB, Netherlands www.sonosite.com/uk





SonoSite

## Welcome



Welcome to the August issue of *Anaesthesia News*. At the time of writing we are in a lull after the first wave, hoping for the best, enjoying the sun, fearing a second wave. I hope you have had a restful summer, and are enjoying some restorative time before autumn comes.

Our articles this month focus on international work - how you can become involved in global anaesthesia individually, for example through our SAFE programme or charities like Future Africa. Or you can get involved through organisations including this Association (via the International Relations Committee) or partners such as WFSA. Our authors demonstrate how exceptional this experience can be, what growth and development they have undergone, and the value of such work. During these difficult times of COVID-19 we face our own problems in the UK, but we also think of our partners in Low- and Middle Income Countries who lack resources at the best of times, and we commend their resilience and adaptability.

Also included in this issue are the powerful testimonies of colleagues within the NHS working in challenging circumstances. What stood out for me was the strong feeling that they were not alone, that there were people around them to listen and support. Your Association is also here to listen, and signpost towards helpful resources in difficult times.

And finally, congratulations to Harry Hudson, who won the 2020 Wylie Essay Prize for medical students - well deserved. His essay is published here; another powerful read about blame, systems and responsibility.

Keep well and keep safe.

#### Ann Harvey

Chair, International Relations Committee, Association of Anaesthetists

#### **Contents**

#### Click arrows below to view pages



Introduction



Wylie Essay Prize 2020: Repositioning the locus of responsibility for healthcare failings



A valuable lifeline during ICU lockdown



11 A CT1's Reflections on COVID-19



12 The WFSA, and how you can become involved



15 The hidden cost of the second victim



16 Anaesthesia in the Hautes Pyrénées



18 The Association of Anaesthetists' International Relations Committee



20 Developing anaesthesia skills in low and middleincome countries through the work of the Future Health Africa Trauma Team



4 Education by Innovation: Anaesthetic Escape Rooms



29 Anaesthesia Digested



30 Obituary - Dr Ruth Hutchinson



31 Your letters

#### **Association of Anaesthetists**

21 Portland Place, London W1B 1PY Telephone: 020 7631 1650 Website: www.anaesthetists.org

#### Anaesthesia News Editorial Committee

Editor: Mike Kinsella Tei Sheraton (Chair) Craig Bailey, Mathew Patteril, Will Rattenberry (Trainee Committee), and Officers of the Association (ex officio)

Address for all correspondence, advertising or submissions: Editorial Assistant: Ruth Eastwood Email: anaenews@anaesthetists.org Design: Chris Steer Digital Designer Telephone: 020 7631 8803 Email: chris@anaesthetists.org

Printing: CKN Print

Copyright 2020
Association of Anaesthetists
The Association cannot be responsible for the statements or views of the contributors. No part of this magazine may be reproduced without prior permission. Advertisements are accepted in good faith. Readers are reminded that *Anaesthesia News* cannot be held responsible in any way for the quality or correctness of products or services offered in advertisements.

Congratulations to Mr Harry Hudson, a third-year student at Bristol Medical School and the Wylie Essay Prize winner 2020. The annual prize is given to medical students on a contemporary topic chosen by the Research and Grants Committee. Harry has received his prize and will be presented with his medal at a future Association Council meeting.



# Repositioning the locus of responsibility for healthcare failings

In the aftermath of the Francis Report into the scandal at the Mid-Staffordshire NHS Foundation Trust, David Cameron issued a demand to regulators: "The Nursing and Midwifery Council and the General Medical Council need to explain why, so far, no one has been struck off" [1]. This was not simply a demand for answers; it was a call for retribution. Retribution is perhaps the simplest form of justice - when a person is wronged, the wrongdoer is punished. Punishment takes multiple forms, from civil damages to criminal prosecutions. In the most public cases, the latter is a common feature. Harold Shipman's murder convictions, the gross negligence manslaughter convictions of Isabel Amaro and Hadiza Bawa-Garba, and the neglect and abuse convictions of Winterbourne View employees exemplify this.

These cases provoked widely different responses, and are non-comparable crimes: abuse and murder are intentional (the common law crime of murder requires mens rea), whereas negligence is the opposite. In pursuing any discussion of accountability for negligence, we have to formulate the uncomfortable axiom that the incident was unintended. This may seem, prima facie, acceptable; doctors' key ethical duty is to do no harm. Yet this is to have immediately framed the issue in terms of individual accountability; it is entirely possible that, at the institutional level, negligence can be foreseen, whilst at the individual level no clinician on the ward is aware that a fatal catastrophe is ensuing. One example is, perhaps, the tainted blood scandal; a simpler one is understaffing. As is common sense, when a hospital has fewer nurses and healthcare assistants, observed mortality is higher [2]. The overstretched individual is unaware of a patient deteriorating, because they are occupied elsewhere; for an institution, it is plain to see that death rates are higher on their computer systems.

I am led to ask, then, does the concept of retributive justice suffice? Can it be acceptable to punish an individual, if it is possible that systemic risks could be (or have been) foreseen? The latter point is one picked up by the Government's patient safety advisor, Don Berwick. Speaking to the BBC, he said, "You

could fire everybody, punish everybody and put in an entirely new workforce, you will have the same injuries and the same errors occur again unless you've actually changed the systems of work" [3]. In a letter to all staff in the NHS, Berwick wrote of the need to tighten surveillance and implement 'systemic fixes to help protect patients' [4]. In spirit, this is in keeping with root cause analysis, an oft-proposed solution to healthcare failings, though it is much more ambitious in scope.

The 'doctor-patient relationship' is the key axiom upon which Western medical ethics education is founded; trust, accountability and justice, however, do not sit easily in this dyadic framework. A contract between doctor and patient offers an easy solution to right wrongs: punish the doctor. There are clear cases, as discussed earlier, where this is reasonable - such as imprisoning Howard Shipman - but in scandals such as Mid-Staffs, or that of infected blood transfusions, currently the subject of a harrowing public inquiry, it is fallacious. To present themselves as taking action, governments or regulators must find something or someone to blame - all too often, the simplest target is a worker. 'Systems reform' does not make for a tabloid headline extolling the strong and decisive action of the powers-that-be; a sacking, striking-off, or a criminal negligence manslaughter prosecution does.

The directness of an action commonly influences perceived culpability; this may underpin the common opinion that bad acts are worse than omitting to act well. A notable and well-publicised study on health and social care casts this in an interesting light: the effects of austerity upon health and social care in England was linked to nearly 120,000 excess deaths between 2010 - 2014 [5]. As with any questions in health politics, the exact numbers will be quibbled with, and it is not the numbers which concern me, but the moral issue of accountability. I have so far suggested that individual accountability is a base concept, since individuals cannot be extracted from their institutional environment; this study suggests, however, that a more nuanced account is necessary - an account centred on power.

There is a key differentiator between individuals within any institution, which is their position in the hierarchy. It is plainly mistaken to hold that there can be no individual accountability. when there are some individuals - such as the Secretary of State for Health and Social Care - who plainly have the ability to influence institutional practices; but workers on wards cannot. Indeed, if a worker ignored an institutional practice, she would find herself castigated for not following guidelines. Thus, if for trust in an institution to be regained there must be blood spilled, not lessons learned, it surely follows that only those individuals who are powerful can reasonably be accused of accountability. Applying this to the example of the effects of austerity on health, it is patently obvious that clinicians cannot be individually responsible for each one of over 120,000 deaths, since it was not they who implemented the economic policies that influenced both patients' lives and their own working conditions. I shall not take a position on whether these economic policies were

intentional or foreseeable, though it is plain that their effect - for which there has been no criminal accountability - shows that those who are powerful are protected from accountability. Healthcare is an especially complex system. It is overly reductive to blame individual workers when things go unintentionally wrong. Intentional harm is an entirely different matter, and worthy of separate discussion. Omissions of care are an inevitable feature of healthcare systems; millions of patients all being treated ideally is hopelessly improbable. When these omissions lead to reprehensible harm, if someone must be blamed, only those whose position enabled them to instigate unjust or ineffective policies can be held morally responsible.

#### Mr Harry Hudson

Bristol Medical School

#### References

- Dyer C. Half of doctors investigated over Mid Staffs have faced no action, says GMC. British Medical Journal 2013; 346: f896.
- Needleman J, Liu J, Shang J, Larson EL, Stone PW. Association of registered nurse and nursing support staffing with inpatient hospital mortality. BMJ Quality & Safety 2020; 29: 10-8.
- BBC. The inside story of a six-year-old boy's death. And the trainee doctor who took the blame, 2018. https://www.bbc.co.uk/news/ resources/idt-sh/the\_struck\_off\_doctor (accessed 18/5/2020).
- Gov.UK. A promise to learn a commitment to act: improving the safety of patients in England, 2013. https://assets.publishing.service. gov.uk/government/uploads/system/uploads/attachment\_data/ file/226703/Berwick\_Report.pdf (accessed 18/5/2020).
- Watkins J, Wulaningsih W, Da Zhou C, et al. Effects of health and social care spending constraints on mortality in England: a time trend analysis. BMJ Open 2017; 7: e017722.

# Winter Scientific Meeting 2021

January 2021

WSM is happening in January. Register your interest today.

Be one of the first to know about WSM's exciting new format, that will open up our flagship conference to a wider audience of anaesthetists.

Abstracts are now open: Submit your work by the deadline of 12 August 2020.



Register your interest today anaesthetists.org/WinterScientificMeeting

# From idea to INNOVATION

Entries are now open for the 2021 Award for Innovation in Anaesthesia, Critical Care and Pain



Recognising and rewarding ideas and innovation in healthcare.



#### Winner of the 2020 Innovation Award

"SageTech are very excited to bring the possibility of recycling inhalational anaesthetics to life, to reduce our carbon footprint and enable flexibility in the way we deliver anaesthesia."

Dr Sebastian Brown, Co-Founder and Research Director of SageTech Automated Extraction Machine



Deadline to apply: **29 September 2020** 

anaesthetists.org/Innovation









#### Warm your patients safely in ICUs, Theatres, Obstetrics and on Wards with the HotDog air-free patient warming system.

Single-use medical devices and accessories create mountains of waste. Converting to the reusable HotDog warming system could eliminate over 12 million pounds of forced-air disposable waste worldwide per year.\*

HotDog air-free warming consumes 80% less energy than forced-air which could reduce carbon dioxide emissions by an estimated 200 million pounds per year.

\*Based 37.5 million surgeries worldwide per year using patient warming for an average of 2.5 hours per use.







Cost-effective\*\*



Eco-friendly











plastic

waste

Ecofriendly

> Costeffective





### Leadership and Management: the essentials

30 September 2020 | Leeds, The studio...



BOOK NOW rcoa.ac.uk/events

# SAS professional Up to £2,000 development grant 2020

The Association of Anaesthetists awards this grant to enthusiastic SAS doctors who are Association members, for training and professional development opportunities.

The grant is intended to enhance the individual's experience, for example in attending clinical management, leadership and other educational skills courses or acquiring new skills which are relevant to the workplace, in particular where this improves the quality of patient care and improves service development. The total fund available is £2,000 and the awarding Committee may decide to grant multiple awards within the total available but in exceptional circumstances may award the full amount to one applicant.

The grant must not fund routine CPD activities which should be funded through normal study leave budgets, nor examination fees, exam preparation courses or college related fees.

For more details and to apply visit the website http://anaesthetists.org/sas-grant



The closing date for applications is 25 September 2020 for consideration at the autumn meeting of the SAS Committee.

Promoting the highest standards of anaesthetic practice in the care of mother and baby

### Obstetric Anaesthetists' Association





#### **Obstetric Anaesthesia Update Webinar**

09:00-12:00, Saturday 3 October 2020

**Online** 

**Booking now open** 





#### **Obstetric Anaesthesia 2021 Edinburgh**

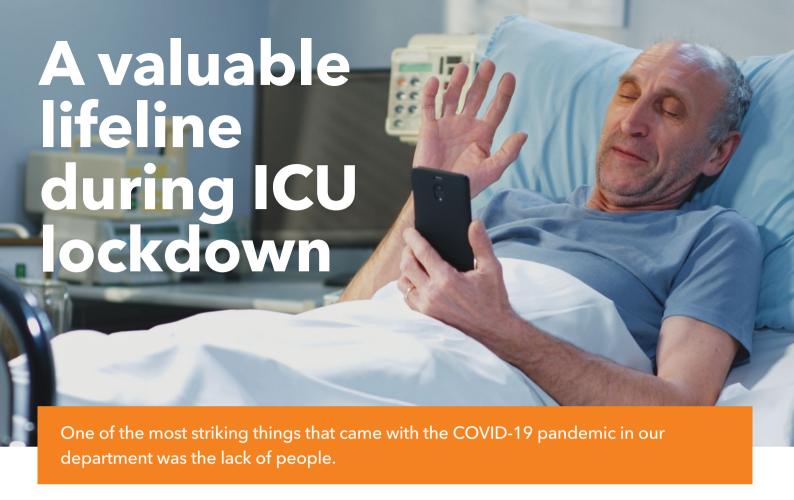
Thursday 20 - Friday 21 May 2021

EICC, Edinburgh

Save the date

Further information available online

www.oaa-anaes.ac.uk



Obviously we still had a unit that was inundated with patients, and a host of new staff, but we lost those that are arguably the most vital to a patient's stay in ICU: we lost their loved ones. This wasn't obvious at first, but as time crept on there was an eerie silence masked only by the beeps from the equipment, the buzz of normal conversation a distant memory.

Early on in the crisis, our department had the foresight to purchase 30 iPhones to enhance communication between 'yellow' and 'green' zones. When they hit the floor, my colleagues were quick to introduce new uses, of which the best was video-calling relatives.

Lockdown has made us all increasingly reliant on technology, being our source of education, communication and entertainment throughout this time. From the elderly in isolation 'Zooming' their grandchildren, to teachers giving virtual lessons, every generation has been thrown in at the deep end of technology.

The same can be seen in our ICU. It's now a common sight to see a colleague holding a phone up to an intubated patient's face, bridging the gap that telephone updates can never cross. One cannot help but overhearing the heart-warming messages of love and support from quarantined home as they reconnect with their missing family member. Furthermore as patients start to recover, they are able to communicate back. I'll never forgot the image of one of our patients waving down the iPhone at his children and silently mouthing "I love you". I can't imagine what that feeling must have been like for his family, after weeks of worryingly slow progress, to finally see him awake and responding. I think their reactions tell this story much better than I ever can.

The possible communication goes beyond connecting loved ones. On Easter Sunday, although we weren't allowed to have a chaplain come, one of my brilliant colleagues organised a virtual spiritual visit, providing hope and a tie to the outside world.

Throughout this time, the use of video calls and the overwhelming support from the community has been genuinely uplifting. However, it is vital that we do not underestimate the strain of lockdown in ICU. Like most centres, we've had our fair share of untimely deaths, and often we haven't been able to have people's relatives there at that time. In these circumstances, it's been possible for relatives to say goodbye or a last prayer using the phones. Though this is by no means sufficient in a 'normal' world, during this time it has provided a measure of comfort and closure.

Bedside manner is a critical part of patient care, but this is difficult with the restrictions of PPE and normal visiting. In a bid to flatten the curve, it is easy to overlook the value of seeing someone, fulfilling their spiritual needs, and looking after them as a person, not just a patient. Whilst video calling isn't the all-encompassing solution to this situation, it has made a substantial impact to our patients and staff, and I cannot recommend it enough. This use of technology has been a valuable substitute for the human interaction that is so necessary alongside medical interventions.

#### **Benedict Shinner**

Foundation Year 2 Doctor Queen Elizabeth Hospital, King's Lynn

First posted 18/6/2020 on Association of Anaesthetists website / COVID-19 guidance

### Anaesthesia News

Call now for a media pack

# The official magazine of the Association of Anaesthetists



Anaesthesia News now reaches over 10,000 anaesthetists every month and is a great way of advertising your course, webinar, meeting, seminar or product.

For further information on advertising

Tel: +44(0) 20 7632 8803

Email: chris@anaesthetists.org | 21 Portland Place, London, W1B 1PY www.anaesthetists.org/anaesthesianews



Join us at the national conference for anaesthetists in training, first-year consultants and medical students.

# 21

### **Trainee Conference 2021**

7-9 July 2021, St James' Park, Newcastle Football Club, Newcastle









Save the date!

anaesthetists.org/TraineeConference



It was March 2020, and as a brand new anaesthetic CT1, I was finally feeling vaguely confident about performing solo anaesthesia. I was proud to have gotten over the initial steep novice learning curve. Then COVID-19 changed everything.

It set us on a surge rota - firm-based, almost entirely consultantled, and split into intubating, ICU, transfer, and CEPOD teams. I saw my new-found independence disappear and felt like a novice all over again, with my sought-after elective lists of ASA 1-2 patients scrapped. The stakes were suddenly higher, the patients sicker, and ICU overwhelmed. Our department was quick to reshape its service and redeploy staff to match the unprecedented demand.

One night, I was allocated to work in one of our pop-up ICUs, in what used to be our theatre recovery. Fully donned, I went in to begin my night reviews totally unprepared for what I would see next. Four of the eleven patients were proned and required fourhourly head turns. I had never seen a proned ICU patient, much less cared for one. We were using three types of ventilators, and all but one were new to me. The redeployed ICU nurses were in an unfamiliar environment and struggled to find basic items. They were stretched to a one-to-two nursing ratio, or were supervising two recovery nurses (who had only recently stepped up to provide ICU care) while caring for their own patient. Still, I relied heavily on their experience and guidance. On top of that, I had to deal with the overwhelming and incessant beeping of the low oxygen pressure alarm, while fully donned in very sweaty and claustrophobic PPE. Any competence I thought I had seemed to escape me in that moment.

I'm still processing this experience and making sense of what this pandemic has brought out in me, my workplace and our society. While exhausted, I feel more resilient and adaptable than before. Local businesses have generously donated, ranging from 3D-printed visors to meals at all hours. Over 150 medical students have volunteered across the trust to assist in nonclinical work - packing our emergency grab boxes, assembling visors, keeping check of stock, conducting virtual family visits

with donated iPads, and helping our logistics team man the walkie-talkies. I have worked with redeployed ophthalmology and radiology registrars who have cheerfully rolled up their sleeves and got stuck in. They have carried out nursing tasks including charting hourly observations and measuring urine output, and have helped when simply more hands were needed. Meanwhile, our surgical colleagues formed proning and transfer teams to support the anaesthetists.

Sometimes, I have fleeting worries about what this means for my training in the next year, how I'll ever be ready for the Primary, if I will gain necessary competencies or when I will feel confident performing solo anaesthesia. But deep down, I know things will work out and that us CT1s will be fine. I've seen how quickly my consultants, our Trainee Programme Directors and college tutors, have drawn together to respond so efficiently. They listened seriously to our worries and feedback in daily meetings and set up a wellbeing team. They have also put themselves in the highest risk situations and demonstrated what a good team looks like, even with our large variety of personalities. For the first time, I feel both genuinely looked-after by my team and appreciated by the public - something that I hope will feature in our new normal.

"Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different."

Arundahti Roy (Novelist)

#### **Ee Jane Lim**

CT1 Anaesthetic Trainee (North Central London) Royal Free Hospital NHS Foundation Trust

# The WFSA, and how you can become involved

As the world's foremost global alliance of anaesthesiologists with a network of hundreds of thousands of anaesthesiologists from 137 member societies in 150 countries, the WFSA seeks to ensure access to safe anaesthesia through programmes in four key areas:

- education and training
- advocacy for the availability, safety and quality of anaesthesia
- innovation and research that supports universal access to safe anaesthesia
- safety and quality, including global standards and wellbeing

The WFSA has worked to raise awareness of global anaesthesia through:

- working closely with the Lancet Commission on Global Surgery and the WFSA Global Anaesthesia Workforce Survey
- supporting campaigns such as #KetaminelsMedicine and Safe Anaesthesia for Everybody Today (SAFE-T)
- producing guidelines and resources to guide anaesthesiologists, societies, administrators and governments on the quality and safety of anaesthesia care, such as the WHO-WFSA International Standards for a Safe Practice of Anaesthesia and the Anaesthesia Facility Assessment Tool

While part of the WFSA's work is dedicated to advocating policies to support safe surgery and anaesthesia at international fora such as the World Health Assembly, many of the WFSA's efforts are focused on directly supporting anaesthesiology colleagues like you around the world. Each programme is supported by anaesthesiologists who volunteer their time and expertise, either through fundraising, contributing to the virtual library, as trainers, project leaders, or by serving on the committees, Council or Board.

The WFSA runs a number of courses such as Safer Anaesthesia from Education (SAFE), Essential Pain Management (EPM), Vital Anaesthesia Simulation Training (VAST), Inspire Through Clinical Teaching and Teach the Teacher Courses, and supports in-country anaesthesia training projects such as the Palestinian Anaesthesia Teaching Mission. In the last year, WFSA provided 53 training courses across 22 countries, drawing participants from over 30 countries. Through these channels 1240 clinicians were trained, with a further 258 trained as trainers.

The Global Fellowship Programme provides opportunities for anaesthesiologists to undertake subspecialty training through 53 fellowships across eight subspecialties in 14 countries. Additional fellowships include Simulation and Research Fellowships in the USA; the WFSA have partnered with the Royal College of Anaesthetists to offer anaesthesiologists the chance to participate in the Medical Training Initiative scheme. The Scholarship Programme enables anaesthesiologists from lower-income countries to attend the World Congress of Anaesthesiologists (WCA) and regional congresses. Through their Innovation Awards, the WFSA encourages the development of innovations that have the potential to transform anaesthesia and improve patient safety. The WFSA is also part of the Association of Anaesthetists International Relations Committee, which supports UK anaesthesiologists undertaking work, training or research in low and middle income countries.

Publications include the open access online educational resource Anaesthesia Tutorial of the Week and Update in Anaesthesia, the official journal of the WFSA. Translated in five languages, these provide clear, concise overviews and articles for anaesthesiologists around the world. A virtual library of resources is available online, including these and links to other online publications. In addition, the WFSA and the International Anaesthesia Research Society partnered to establish a global health section in the journal Anaesthesia and Analgesia. In response to the COVID-19 pandemic, the WFSA has been working with its global membership to create, curate, and disseminate up-to-date and practical COVID-19 guidance for anaesthesia and perioperative care providers.



#### How I became involved

I first became involved with the WFSA by volunteering as a trainer on a SAFE course taking place whilst I was working overseas through a local partnership. This initial experience introduced me to the SAFE initiative and to WFSA colleagues. Subsequently, a series of regional training events began as part of a Safe Surgery programme, and I coordinated this across the country. When the programme expanded to other countries I continued to be involved, and have gone on to direct and lead several WFSA projects. I have since become co-lead for the obstetric component of the SAFE initiative and a WFSA(UK) Trustee, and this year I applied to serve on the Education Committee. In recent weeks, I've been part of a team working to develop and collate COVID-19 resources.

Through engaging in these activities I have enhanced my knowledge of global anaesthesia and developed skills in teaching, research and management, as well as networking with many inspirational colleagues across the world that I'm proud to work alongside, and I look forward to continuing to work with the WFSA.

#### How you can become involved

WFSA: www.wfsahq.org

There are a variety of ways to volunteer and support WFSA programmes. This includes becoming a trainer on a short course or educational initiative, contributing to Anaesthesia Tutorial of the Week, or writing an article for Update in Anaesthesia. Why not fundraise for a course, project or the 'Fund a Fellow' campaign that supports providers in lower-income countries to access fellowships and advanced training? If you are already involved in a partnership or overseas project and would like to collaborate with the WFSA, get in touch.

For those who are interested to become more formally involved, roles on the committees, Council and Board carry a four-year term coinciding with the General Assembly held at the WCA. There are ten permanent committees that provide the main source of expertise and guidance for WFSA programmes and activities: Constitution, Finance and Audit, Safety and Quality of Practice, Education, Publications, Scientific Affairs, Professional Wellbeing, Obstetric, Paediatric and Pain Management. The chairs of these committees, trustees and representatives of national societies and regions make up the Council, which provides advice on policy. The Board comprises the President, Past President, Secretary, Treasurer, Directors of Partnerships and Programmes, plus two rotating members of Council, and is responsible for management, leadership and guidance of the WFSA.

Applications and nominations are submitted in advance and require support from the candidate's national society, plus two other societies for Council and Board nominees. New committee members are selected by the Board in consultation with Council and committee chairs, and council members and officers are elected by ballot at the General Assembly. Applications for the coming term have now closed with committee member selections underway; elections are likely to follow a different format this year because of the postponement of the WCA.

The 17<sup>th</sup> WCA will now be held from 1<sup>st</sup> - 5<sup>th</sup> September 2021 in Prague. This global gathering of our speciality will be an opportunity for learning, networking and engaging in dialogue on important topics in anaesthesia. Until and beyond then, there are lots of ways to become involved with the WFSA.

#### Jolene Moore

WFSA (UK) Trustee Consultant Anaesthetist, NHS Grampian, Aberdeen



# The hidden cost of the second victim

I have been qualified for 25 years this month, and twice I have openly cried at work. I am not sure whether that is normal, because being a British man I did not talk about it. The only people who know were the two nursing sisters who consoled me at the time (and now of course all of you!).

Ironically these episodes were at the two extremes of my career; the first in my first week as a Houseman (FY1-equivalent for those who missed the Houseman era), following my first unsuccessful resuscitation and breaking bad news experience. It goes without saying that my training had not prepared me for either. The second was just last year. I am now an experienced Intensive Care consultant who has experienced my share of distressing events, to the point where I thought that I could deal with most things - but I was wrong.

What made me put pen to paper was a regular mailshot from my defence organisation that highlighted the existence of the second victim online resource (secondvictim.co.uk). This concept was originally suggested by Wu in 2000 [1]. Did I feel like a victim? No, not really, but I certainly felt an extreme reaction to what had and what was happening.

To expand on the second episode: the patient was my age, with children the same age as my own, who presented overnight with what eventually turned out to be an ischaemic stroke, but with atypical neurological signs and symptoms. A CT scan done overnight, and reported by an overseas contracted radiology service, was reported as normal. A subsequent review of the same CT scan by in-house radiologists demonstrated the stroke. He did not receive any intervention for his stroke. He died two days later following palliation on the ICU.

I broke the news of the CT findings to the family following the re-reporting of the scan. I told the family that there had been a mistake (as I felt I should under my Duty of Candour responsibility). They were very angry, threw the pictures of his children at me, and said "How could you leave these children without a father?" I apologised, discussed the next steps, and retired to my office. You can probably guess the next bit, and I thank the Sister who realised my predicament and comforted me.

There are many obvious reasons why this affected me so much and they are not the issue, but what I could not and cannot now still get away from is how a system failure could have had such a profound effect on me. I felt wholly responsible for how the NHS let this family down; I was the face that represented the whole system, and was therefore to blame.

This comes under the concept of 'moral harm': how frontline clinicians are placed in patient-facing clinical activities with, at times, an inadequate unsafe system where they cannot provide the care that they feel they should be providing.

The patient and family are the most important victims when medical errors occur, but there are recognised processes for support. The second victims, the frontline clinicians who have to deal with them, do not have this, and in fact, sometimes may be vilified for what happened. The NHS has forgotten about these staff in its broken system, and is losing frontline good and experienced clinicians as a result.

The result of what happened, and my frustration with how my complaint was dealt with, led me to request that I cease my ICU practice. I felt I could no longer work in an acute specialty that relies on multiple other systems to provide safe care, and fails to deal with critical patient safety matters. I was only willing to cry

#### **Matthew Davies**

Honorary Secretary Elect, Association of Anaesthetists Consultant in Anaesthesia and ICU North West Anglia NHS Trust

#### Reference

Wu AW. Medical error: the second victim: the doctor who makes the mistake needs help too. British Medical Journal 200; 320: 726-7.

Editors note: This article was written before the COVID-19 pandemic. Although an unprecedented number of healthcare workers will now be dealing with extremely traumatic events, memories will gradually fade. However, we must not go back to the 'bad old days', but keep new staff support systems thriving.

# Anaesthesia in the Hautes Pyrénées

The travails of working in the NHS can get to us all at times. After 12 years as a consultant anaesthetist, I was beginning to feel I needed a different perspective. Returning home from a summer holiday in France last year, my husband and I had our usual discussion - one that I am sure many of us have had.

"How about actually living in France for a while? Would I be able to work as an anaesthetist and what would it involve? Would our language skills be good enough? Most of all, what about the kids?"

This time, however, the crazy idea seemed to persist. 'The kids' were probably the main reason - we had long wanted them to have the chance to become reasonably fluent in another language, and there seemed to be a window of opportunity in their education coming up.

Brexit was looming though, and we really had no idea whether it was at all possible.

First stop; my long suffering Head of Department. He didn't even blink, but said he would be happy to support my application for a sabbatical year in France. My medical director agreed - "as long as it was cost neutral for the hospital."

Next up I needed a job! Luckily France currently is even more short of anaesthetists than the UK, and a few nerve-wracking Skype interviews succeeded in landing me a short-term contract in a small hospital in South-West France, near a school that would take our boys aged 13 and nine.

Then the paperwork! This took several months to complete while we held our breath as (luckily for us) Brexit was delayed again and again. My medical registration was finalised in an interview with the very grand sounding 'Ordre des Medecins'. My fears that I would be tested on the pluperfect subjunctive proved groundless - instead it was a friendly chat, whilst looking at my dossier.

Then a weekend course in medical French in Lille run by the amazing Anglo French Medical Society (info@anglofrenchmedical. com). This was invaluable, and provided a fabulous handbook which became my bible for the next few months.

A few months later we pitched up in the Department des Hautes Pyrénées just in time for the start of the school year. The boys were a bit worried, but the eldest had done an exchange with a French boy that summer and was feeling more confident. The nineyear old was more concerned about whether anyone would be interested in Pokemon at his new school.

I had specified that I needed at least two weeks of observing practice before I started work, and this proved to be completely essential. The constant concentration needed to speak and understand was exhausting. I would find that by the end of each day my ability to understand any French at all, still less speak it, had reduced to practically zero. However things improved gradually, and I find that I have friendly colleagues who seem not at all put out to have a UK anaesthetist with peculiar British ideas working with them.

So, what things have I learned about anaesthesia in France so far? Here one anaesthetist covers two theatres, while nurse anaesthetists do most of the actual anaesthesia. Doctors decide on type of anaesthesia, airway management and drug doses, but it is definitely a partnership and sometimes it has been hard to hand over control of the airway. Developing a relationship of trust in a different language has been a key challenge.

Regional anaesthesia is extensively used and is done only by doctors. I've enjoyed the chance to improve my skills in this area, without feeling the pressure of impatient surgeons who would rather I did a 'quick GA'!

Running two theatres means that medical time is very efficiently used, and the case-mix in a morning can be immensely varied. A recent typical morning involved five ENT cases in one theatre, and four gynaecological cases plus an elective caesarean section in the other theatre. All completed by 2 P.M. The first two patients are usually on the table well before 8.30. The whole morning is normally very high intensity, with a rapid turnover of cases and the expectation that most of the work will be done by lunchtime. Sadly the rumour that everyone sits down together for a proper meal plus a glass of wine at lunch is incorrect, at least where I am working!

The nurses who start at 7 A.M. all finish work at 3.30 P.M., except a small team sufficient to run two theatres who continue till the evening. This means that overrunning cases and regular late

finishes for staff are almost unheard of, and I feel this is almost certainly a factor in the undoubtedly higher quality of work-life balance and job satisfaction for the nursing staff.

The afternoons for anaesthetists are mostly given over to anaesthetic consultations. The law in France states that all patients having any kind of anaesthesia must be seen by a medically qualified anaesthetist between three months and 48 h beforehand, unless it is an emergency. This bizarrely includes all pregnant women, just in case they might need an intervention - although, of course, with an epidural rate of 85% and a caesarean section rate of 35% most of them do.

Surprisingly, some of the things I have found hardest to adjust to have been the small details, such as the absence of pillows for patients in theatre. Occasionally head supports are used, but mostly tracheal intubation is performed whilst lying completely flat.

Intubation is used more than in the UK, often without a muscle relaxant. Spontaneous ventilation with a laryngeal mask is rare. During paediatric anaesthesia, parents are not allowed into theatre or recovery to be with their child; although the theatre staff are great with children, this is something that I have found hard to accept.

Despite much in the French press recently about health spending cuts and bed closures, the system is under a fraction of the pressure of the NHS. Patients rarely have to wait to see a doctor, and surgery is normally booked and planned within a timeframe of a few weeks at most. When the staff here complain about cuts and bed shortages, I say it could get a lot worse before they have a UK-style problem. They generally look at me in horror, at this point and I can see them mentally crossing the UK off their travel wish list!

The patients have all been astonishingly kind about my accent and occasional failure to find the right word. None of them (yet) have asked to see a proper French doctor, but I fear that the pluperfect subjunctive is still out of my reach.

I have learnt many interesting new words and phrases. 'Il a cassé la rate' doesn't mean 'he has broken the rat', but that he has a ruptured spleen. I have been subjected to plenty of Brexit jokes - all good humoured, but with an underlying sense of hurt and bewilderment that we want to leave.

Most fun of all, having never managed a family skiing holiday we now find ourselves only an hour from the nearest ski resort in the Pyrenees. I have discovered that after 18-year (me) and 30-year (husband) gaps, we can still get down a mountain on skis more-or-less intact - soon I guess to be overtaken by 'the kids', who seem determined to leave us behind as quickly as possible.

"Bah oui," said my 13 year old the other day in his best Midi accent, "feng, France c'est vachement sympa!"

Postscript: this article was written before COVID-19 arrived. France, like the UK, has suffered badly, although in this small corner of the South West we have been less severely hit than other regions. To start with, organisational preparations and availability of PPE and hand gel were lagging behind the UK. Since then colleagues have pulled together to completely re-organise the hospital, with a triage tent outside the hospital and two separate medical COVID wards. ICU (Réanimation) has fortunately not been overwhelmed, and many of our anaesthetic nurses with their impressive airway skills and ventilator knowledge volunteered to work there temporarily. Normal operating was reduced to emergency and major cancer cases, with maternity and some urgent endoscopies.

Now at last things are returning to some semblance of normality, although with mask wearing and 1-metre social distancing. We were even able to have a small outdoor party to boost morale and say goodbye to our two interns who are moving on to their next posts, having stayed longer than expected due to the virus. If the dreaded second wave comes our way, at least we will now be well prepared.

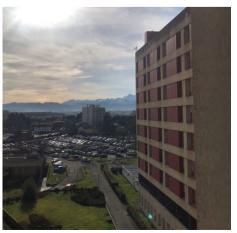
#### Juliette Lee

Consultant Anaesthetist Salisbury NHS Foundation Trust











# The Association of Anaesthetists' International **Relations Committee**

The International Relations Committee (IRC) is currently chaired by Dr Ann Harvey, and reports to the Board of Trustees of the AAGBI Foundation. It has two sections: a core group that includes grant funding partners who discuss and allocate the different types of monetary grants; and an advisory group, a forum with wider representation functioning as a source of expertise, information exchange and strategy (Box 1).

One of the main functions of the committee is to pool resources in order to fund a variety of anaesthesia-related projects to promote safe anaesthesia and surgery in low resource countries through the exchange of knowledge and skills. Having spent the last two years on the committee, I'd like to highlight available grants. In ordinary circumstances, applications are reviewed and awarded four times per year for the following:

- International travel grants: up to £1000. These can be applied for by individuals travelling for short projects (< 1 month) that benefit resource poor countries; e.g. Mercy Ships, Operation Smile or to attend educational fellowships. In general, up to 50% of travel costs can be awarded.
- International volunteer/ OOPTE grants: up to £20,000. These can be applied for when undertaking long-term volunteer work in low resource countries; e.g. travelling to work on projects such as the Zambia Anaesthesia Development Programme as fellows.
- International project grant: this can be applied for by an individual or team undertaking projects over a period of weeks or months, either as part of an existing project. or those seeking to establish a new programme; e.g. those introducing the SAFE-OR programme in low resource countries may apply for this type of grant.
- SAFE project grant funding: up to £20,000 two times per year; applications for these are reviewed by the SAFE steering group.

There is also an annual International Scholar Fellowship funded by the Association; the aim is for one scholar to attend a major Association meeting (Annual Congress, WSM or Trainee Conference) to support their continuing professional development, and for this to be combined with an observership programme in an NHS Trust.

This year we appointed our first IRC Fellow (Dr Natalie Wood). This is a position for ST5+ trainees with a strong interest in global anaesthesia who will be able to gain experience within the IRC and SAFE steering committee. The IRC Fellow will be involved in awarding grants, evaluation of the results from previous awards, and development of educational resources, among other activities.

As well as funding, the IRC is involved in the development of educational resources. Alongside the RCoA and e-learning for Health (e-Ifh) team, e-safe educational material has been developed and is free online and via USB sticks on all courses. There is also an e-primer in development that has resources for those considering volunteering or working in low resource countries.

The IRC is also a point of contact for organisations within and working in low resource countries and can help with the development and coordination of projects. We have developed strong links with newly developed organisations such as CANECSA (the College of Anaesthesiologists of East, Central and Southern Africa), and our global anaesthesia partners map is available on the website should you wish to know what projects are ongoing and who is involved.

Having spent the last two years as a member of the IRC, it has been inspiring to see the variety of international volunteer work carried out and the dedication of those involved, both from the UK and Ireland and those from countries where projects are being undertaken.



Box 1.

#### **Grant funding partners**

Association of Anaesthetists Difficult Airway Society Regional Anaesthesia UK Royal College of Anaesthetists World Anaesthesia Society

#### Advisory group

Association of Anaesthetists

Difficult Airway Society
Global Anaesthesia, Surgery & Obstetrics
Collaboration
Lifebox
Regional Anaesthesia UK
Royal College of Anaesthetists
World Anaesthesia Society
World Federation of Society of Anaesthetists
Zambia Anaesthesia Development Program
Essential Pain Management Advisory Group
Faculty of Pain Medicine, RCoA
Pain in Developing Countries Special Interest

### Safer Anaesthesia From Education (SAFE) - a trainee perspective

The SAFE project is a joint collaboration between the Association of Anaesthetists and the WFSA which was developed in 2007. To date, over 125 SAFE courses have been delivered in over 33 countries, training over 3480 clinicians; over 520 anaesthesia providers have been trained as SAFE Trainers. The underlying principle is to equip anaesthetists or anaesthesia providers with the essential knowledge and skills to deliver safe care to their patients, even in very low resource countries, and to train as many anaesthesia providers as possible in each country in order to create a sustainable training model that can be embedded in the national health system.

I've had the opportunity to teach as faculty on a SAFE obstetrics course in Nigeria and a SAFE paediatrics and SAFE Train-the-Trainer course in Namibia. I was amazed at the levels of engagement and enthusiasm by all who attended, some of whom had travelled over 500 miles. Teaching on SAFE gave me the opportunity to learn about different cultures, their approach to the provision of anaesthesia, and the factors that influence health care access. This made me very grateful for the NHS. One of the reasons I wanted to get involved with SAFE is because its aims include sustainability, the importance of training local faculty, and delivery of training resources so that the course has a lasting educational impact. This really resonated with me. Although we had an extensive curriculum to get through over the 3-day courses, this was a knowledge exchange amongst participants, local and international faculty; I certainly learned more about halothane and malaria than I ever knew before. This left me feeling aweinspired at the dedication of those working in low resource environments, and the ingenuity required in these situations.

#### Divya Raviraj

ST7/ Elected Member of the Association of Anaesthetists Trainee Committee

Group, British Pain Society.

# Developing anaesthesia skills in low and middle-income countries through the work of the Future Health Africa Trauma Team

Future Health Africa (FHA) is a UK-based charity that strives for sustainable improvement in the health and wellbeing of people in low and middle-income countries (LMICs). The aim of the charity is to transform lives, relieve suffering and reduce poverty through collaboration with local health providers.

FHA projects currently take place in Kenya. Volunteers have trained in the UK or are Kenyans working in government facilities. All are committed to reducing inequality in healthcare and making a personal contribution to the internationally-agreed UN sustainable development goals [1].

The charity has recently launched a new website and increased its media visibility, with a view to gaining sponsorship and a more predictable income.

#### The Future Health Africa Trauma Team

Motorbikes are ubiquitous in Kenya, usually ridden with multiple passengers without helmets carrying a heavy cargo. Roads are treacherous, so accidents are frequent. In addition, many people sustain injuries through manual labour, and childhood trauma remains common.

Trauma is a 'Cinderella' specialty in Kenya; often patients who suffer fractures go untreated, resulting in long-term disability with deleterious consequences for their dependents.

"Fixing one person will influence a whole family, even a community" [2].

The FHA Trauma Team offers medical aid, but aspires to and achieves so much more. We categorise our work into gold, silver and bronze:

- Bronze is medical aid: treating fractures and making nonfunctional limbs functional.
- Silver is side-by-side working with our Kenyan colleagues, with education and exchange of ideas.
- Gold is the introduction of a permanent change in practice or service delivery to improve trauma care in the long-term. As one key example, we have successfully introduced the WHO theatre checklist.

Most of the Trauma Team volunteers work in hospitals in the South West of England (Truro, Plymouth, Torbay and Exeter). We take a full theatre team, radiographers, physiotherapists, and an administrator who ensures smooth running of the project. We are fortunate to have an enthusiastic Kenyan consultant orthopaedic surgeon and a Kenyan middle-grade doctor who play vital roles in directing team development.

We live, eat and work together for the duration of the trip. Consequently, we gain an increased insight into each other's specialities that leads to enhanced multi-disciplinary working. We operate a non-hierarchical team, with all views and opinions valued.

#### Anaesthesia provision in Kenya - what services are available?

Kenya does not have a national health service. There is no primary care, and few emergency departments. Healthcare can be purchased for 500 shillings per month (£3.80), but only applies to a nominated hospital. Populations distant from Nairobi are less well catered for.

Anaesthetic equipment is variable, but there is usually a good quality anaesthetic machine with a circle system. Halothane and isoflurane are typically available, with oxygen supplied from either a concentrator or a cylinder. A gas analyser and ETCO<sub>2</sub> monitor are not guaranteed, but blood pressure, ECG and oximetry are available. Post-operative monitoring, and the



presence of skilled recovery staff, are scarce in the peripheral hospitals. Bed sharing is common, with family members playing a significant role in patient care.

Postoperative pain management does not get the same level of attention as in the NHS. This needs addressing as a systems failure; there is an abundance of goodwill, but staff education alone will not ensure success. In addition, cultural differences exist: complaining of pain in Northern Kenya may be seen as a sign of weakness. Promotion of good analgesia to achieve rapid return to full function would clearly be beneficial.

History-taking is challenging; several languages are spoken in rural areas. There are no translation services so hospital staff, relatives and sometimes other patients act as interpreters. This can lead to inaccurate history-taking and explanation of surgical procedures, as interpreters may not appreciate the nuances of medical terminology. The impact on patient confidentiality is obvious.

#### Who delivers anaesthesia in Kenya?

Kenya has a population of 43 million, with three cadres of anaesthesia providers: Physician Anaesthesiologists, Registered Clinical Officer Anaesthetists (RCOA) and Kenyan Registered Nurse Anaesthetists (KRNA). With all three cadres combined, the ratio of anaesthesia providers to population stands at about 1.7 per 100,000, significantly below the recommended world standards of five physician anaesthesiologists per 100,000.

Clinical officer anaesthetists undertake a 3-year medical diploma after high school, followed by a 1-year internship. This is followed by two years as a general clinical officer, and then 18 months in anaesthesia. Approximately 100 clinical officer anaesthetists are trained per year. They are accredited by the National Association of Clinical Officer Anaesthetists which has 1600 members.

Nomenclature is important. Clinical officers and nurse anaesthetists are referred to as anaesthetists, whilst those with medical degrees and formal training in centres like Nairobi are referred to as anaesthesiologists, an example we may need to adopt in the UK in the future.

Task-shifting will be vital for developing anaesthesia in Kenya. Training anaesthesiologists at a rate fast enough to provide the population with access to safe surgery is impossible without significant investment. Currently clinical officer anaesthetists and nurse anaesthetists deliver the majority of anaesthesia. With the WHO recognition of essential surgery and anaesthesia as vital components to universal health coverage, there is a need for increased investment in strengthening both access to, and quality of, surgery and anaesthesia care [3].

Task-shifting is not unique to Kenya. Nurse anaesthetists and physicians assistants are becoming common in Europe. The concept of matching the skillset to the job carries substantial merit in terms of finance and the speed of workforce expansion.

#### Taking the project forward

Historically, FHA attempted to engage local anaesthesiologists and clinical officers, however they are often too busy (usually undertaking emergency caesarean sections concurrently in shared operating theatres). Subsequently, we have invited anaesthetists from other localities to join us for on-the-job teaching and learning.

Recently our focus has been teaching ultrasound-guided nerve blocks. Regional anaesthesia has more to offer in terms of delivering safe anaesthesia than it does in the UK. It avoids reuse of airway equipment and the use of volatile anaesthesia in the absence of end-tidal monitoring. An awake, comfortable patient is safer in recovery, given the lack of monitoring and staffing. Kenyan anaesthetists are highly skilled with spinal anaesthesia, but less experienced with limb blocks. Teaching ultrasoundguided blocks comes with the same problems as it does in the UK: knowledge of anatomy, hand-eye co-ordination, and safety principles are new to a number of those delivering anaesthetic services. Some hospitals have an ultrasound machine (often shared with other departments and not easily repairable). As ultrasound has so many advantages in this setting, our vision is to enthuse local teams about the benefits of ultrasound-guided regional anaesthesia.

#### Future Health Africa - trainee perspectives

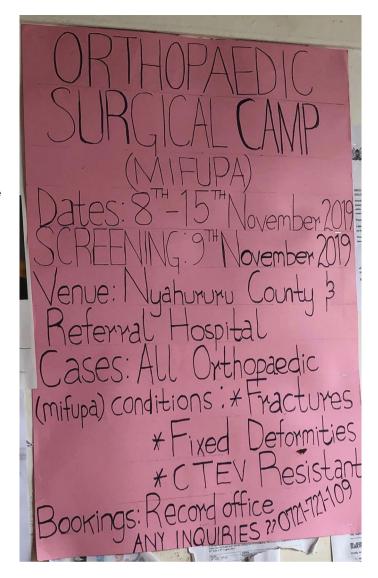
Since its inception. Future Health Africa has offered anaesthetic trainees in the South West Peninsula Deanery a valuable experience working beyond the NHS. In November 2019, we joined the trauma teams travelling to Nyahururu and Marsabit hospitals.

#### Katharine Sprigge, Nyahururu

Nyahururu Hospital is four hours North-West from Nairobi. It serves an urban population of 36,450 and the surrounding rural inhabitants. Approximately one third of patients present with trauma.

Our patients arrive at the hospital in response to adverts and word-of-mouth. The surgeons and physiotherapists methodically review each patient's suitability for surgery. Each case is carefully considered: does the damaged limb remain functional? Is osteomyelitis present? What are the chances of postoperative complications, and can they be managed after we leave? Observing the complex decision-making gives me a new insight into my colleagues' roles and responsibilities. I assess the patients chosen for surgery with the help of a Kenyan orthopaedic surgeon who has joined us for the week. She kindly offers to translate so that I can consent patients for spinals and regional nerve blocks.

Seeing patients with chronic displaced limb fractures is upsetting when you are accustomed to a nationally-funded health service. I meet a 40 year-old man with two broken forearms, the fractures are months old. He could only afford one operation on his dominant arm, which is now infected. He is diabetic, but taking none of the medications that he would receive free under the NHS. He has been unable to work and support his family since his injury. We list him for surgery on both arms.



The following day surgery begins with an 80 year-old lady with a fractured distal femur. She has confusing X-rays, having sustained the same injury on her other leg the previous year which was left to heal conservatively. The WHO checklist illustrates its use as a safety net to prevent wrong site surgery. She receives a distal femoral nail under spinal anaesthesia, with a femoral nerve block at the end.

Later in the week a patient requires a general anaesthetic. Having never used halothane before, what can I remember about it from the FRCA examination? Not to let the ETCO2 get too high for fear of cardiac arrhythmias? There is no ETCO, or gas monitoring available anyway, so I proceed up a very steep learning curve, frequently peering under the drapes to check the chest movement and feel for regular pulses.

Our anaesthetic team is joined by a Kenyan anaesthetic officer, Fenwick Muthangya. He gives us his insights into provision of anaesthesia in Kenya, and we are thankful for his help as a translator. The FHA anaesthetists teach him ultrasound-guided femoral nerve block, practising needle technique on a goat's leg before successfully placing one in a patient. We pass on the Association of Anaesthetists guidelines for managing local anaesthetic toxicity.

On the wards I offer pain management teaching to the junior doctors. Knowledge of nociceptive pathways and the WHO analgesic ladder is well established, but neuropathic pain and chronic pain models are new concepts. We discuss the rationale for regional anaesthesia to avoid opioid side effects, as well as the physiological and psychological benefits of good pain management.

The trauma team meets each evening for a ward round, which gives us a chance to see how our patients are managing following surgery (and how hard the physiotherapists are working to encourage function and mobility). Later, after dinner we discuss and plan our patients for the following day. Working in such close proximity means that our MDT has become highly functional very quickly. We go into the following day well prepared, with a more holistic understanding of our patients' treatment.

My time spent in Kenya has undoubtedly reinforced my appreciation for the resources we have available in the UK. I hope to bring back with me a better regional anaesthesia skill set and a new understanding of the challenges of providing safe anaesthesia outside the NHS. I would highly recommend the FHA project for fellow trainees considering volunteer work abroad.

#### A regional anaesthesia perspective -**Gareth Meredith, Marsabit**

Peripheral nerve regional anaesthesia is little practised in Kenya. Having completed advanced training in regional anaesthesia, I felt well prepared to deliver loco-regional techniques to facilitate awake surgery. I was less prepared for the challenging conditions in which this would be provided.

The benefits of regional techniques seen in patients in the UK are only emphasised in Marsabit. Avoiding resource-heavy general anaesthesia, often in the absence of ETCO2 and gas monitoring, has significant patient and economic benefits. Beyond that, immediate post-operative pain control is well provided for, avoiding reliance on systemic analgesia in a system with few nurses and doctors delivering postoperative care with limited drugs. Patients are reluctant to request analgesia, which is likely to be because of cultural but also financial reasons. Recovery facilities are exceptionally limited, occurring in a corridor outside theatres without monitoring. To have an awake, haemodynamically stable, comfortable patient without the need for airway support is a significant benefit. Morning discussions were held with the team, exploring the expected duration and course of surgery and the expectations and needs of the physiotherapists for post-operative management.

Clearly there are significant challenges in bringing regional anaesthesia to the Kenyan rural population. However, this should not be seen as insurmountable. Formal training will provide the greatest challenge. We spent time teaching basic ultrasound scanning, probe handling and needle orientation as well as ultrasound-guided brachial plexus, forearm and femoral nerve blocks. The recent editorial by Turbitt et al. recognising regional anaesthesia 'not just for the cognoscenti' certainly carries weight in Kenya [4].

I would whole-heartedly recommend joining the FHA team to provide regional techniques for trauma patients. I returned to the UK with a renewed vigour, a greater understanding of the roles of our non-anaesthetic colleagues, an increased appreciation for the NHS, and a reinforced belief in what regional anaesthesia has to offer.

#### **Gareth Meredith**

ST7 Anaesthetics

#### William Jewell

Consultant Anaesthetist

#### Katharine Sprigge

ST7 Anaesthetics

Royal Cornwall Hospitals NHS Trust, Truro

#### References

- 1. United Nations. Sustainable development goals, 2015. https://sustainabledevelopment.un.org/?menu=1300 (accessed 17/6/2020).
- 2. Future Health Africa. FHA Trauma Team, 2020. https:// www.futurehealthafrica.org/traumateam (accessed 17/6/2020).
- 3. TUKO. Shortage of anaesthetists in Kenya big threat to safe surgeries, 2019. https://www.tuko.co.ke/314660shortage-anaesthetists-kenya-big-threat-safe-surgeries. html (accessed 17/6/2020).
- Turbitt LR, Mariano ER, El-Boghdadly K. Future directions in regional anaesthesia: not just for the cognoscenti. Anaesthesia 2020; 75: 293-7.



# Education by Innovation: Anaesthetic Escape Rooms

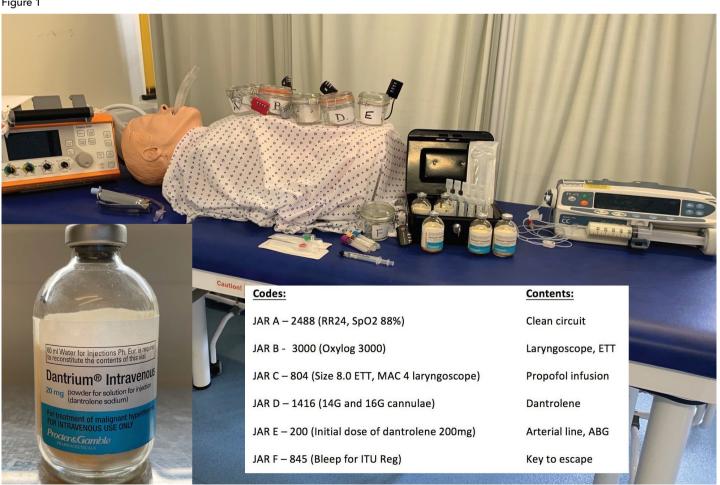
With a new cohort of anaesthetic novices within our hospital, we decided to create a novel method of enhancing multi-disciplinary team (MDT) working, as well as anaesthetic emergency management, through the form of an escape room.

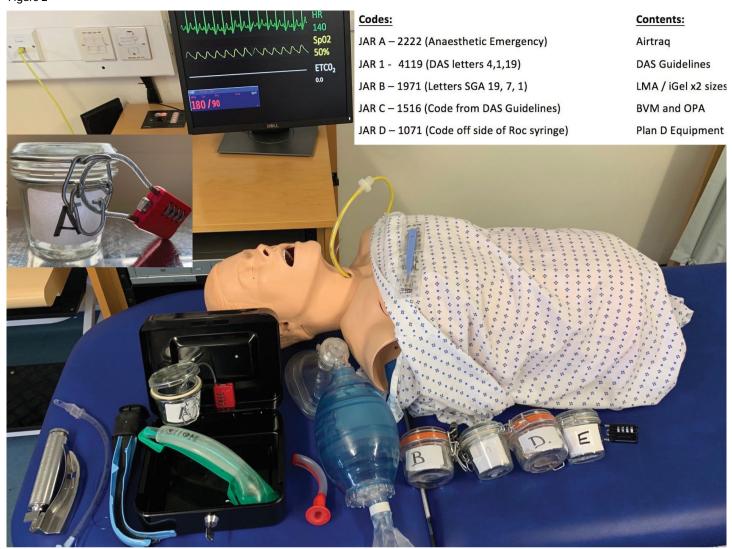
Whilst escape rooms continue to increase in popularity in the social environment, there has been a gradual increase in their use for education. Until now, however, there are no noted anaesthetic escape rooms in the literature.

We created two escape room scenarios as a novel approach to teaching. The two anaesthetic emergency scenarios we included were malignant hyperthermia and Can't Intubate Can't Oxygenate (CICO). The teaching was designed with FRCA examination preparation in mind, but also for MDT engagement in non-technical skills and human factors training. The MDTs included anaesthetic novices, ODPs, medical students and foundation doctors rotating through the department.

The concept of the escape room focussed more on teamwork and abstract thinking, rather than academia, and was aimed at being a fun and novel approach to learning. The sequence of events and clues followed the management of malignant hyperthermia and CICO, as per the Association of Anaesthetists and DAS guidelines respectively.

Figure 1





To adhere to the escape room ideology, jars labelled from A to F with numerical locks were hidden around the room along with key-locked boxes. In the brief, participants were instructed to work through their identified jars and boxes in alphabetical order, to ensure that clues followed a logical pattern. To ensure that we achieved FRCA knowledge acquirement, one box in each room contained a copy of the guidelines for management of that scenario. However, it did not necessarily contain the equipment to treat the issue within the same box!

The participants were divided into two groups of five, each comprising two anaesthetic novices, one ODP trainee, one foundation doctor and one medical student. The groups entered either Room 1 (MH, Figure 1) or Room 2 (CICO, Figure 2), and under timed conditions attempted to solve the case and escape the room. This involved finding clues in the room to generate numerical codes that would unlock the jars, releasing equipment to treat the patient. For example, the combination of the respiratory rate (24) and the SpO<sub>2</sub> (88%) on the anaesthetic chart generated the code for Jar A (2488).

Once all the tasks had been completed and jars decoded, it was taken that the patient had been successfully managed and the game concluded. A debrief of the room and learning conversation followed, focussing on non-technical skills such as communication, teamwork, leadership and task prioritisation, as well as curriculum-based content of the emergency encountered. Following this, the teams then switched rooms to address the other emergency.

The response from the scenarios was extremely positive, with feedback giving the escape rooms a combined satisfaction score of 6.7 out of 7. The white box answers provided insight into the experience, with "An excellent method for team building" and "Great teaching tool to work with other grades of doctors and ODPs" suggesting that the MDT aspect was a success. The escape room scenarios are a novel way of introducing emergency scenario management to novice anaesthetists and the MDT, as well as a fun and interactive method of introducing the MDT to one another outside the clinical environment. When considering a teaching session, why not try something novel and different that might just enhance effective clinical learning?

#### Chris Clulow

ST6 Anaesthetics & Clinical Teaching Fellow

#### Ryan Jones

CT2 Anaesthetics & Clinical Teaching Fellow

#### **Paul Jones**

Consultant Anaesthetist Royal Shrewsbury Hospital

### Letter of the Month prize

It's your *Anaesthesia News...* and we'd love to encourage more of our readers to share their opinions and experiences. A Letter of the Month prize will be awarded to the best letter each month. The winner will receive a £50 voucher to use against the cost of one of the Association of Anaesthetists educational events.

#### To increase your chances of winning:

- Keep it short (no more than 300 words)
- Be clear and accurate
- Use humour where appropriate
- Keep it topical

The award will be made at the discretion of the Editor, and his/her opinion will be final. No cash alternative will be available. The voucher will remain valid for 18 months.

Send your letters to:The Editor, *Anaesthesia News* at anaenews.editor@anaesthetists.org



### **Evelyn Baker Award**

#### An award recognising the 'unsung heroes' of anaesthetic departments.

The Evelyn Baker Award was instigated by Dr Margaret Branthwaite in 1998, dedicated to the memory of one of her former patients at the Royal Brompton Hospital. The award recognises the 'unsung heroes' of anaesthetic departments, the often unspoken backbone of the department who is the 'go to' person for clinical or other advice. The award is given to individuals who set themselves apart from peers by demonstrating an exemplary track record in clinical excellence, teaching and training, and supporting colleagues.

#### To be eligible, a nominee:

- Must be a consultant or SAS doctor in anaesthesia, usually with more than ten years in post
- Must be in clinical practice at the time the nomination is submitted (but can have retired by the time the award is presented)
- Must be a current member of the Association
- Must NOT be in possession of a NATIONAL Clinical Excellence Award.

#### Nomination is by citation, which:

- Must be submitted by a current member of the Association
- Should include an indication that the nominee has broad support within their department
- May include additional comments from departmental and other colleagues.

The citation which should be of 1000 words or fewer, should explain how the nominee demonstrates outstanding competence that sets them apart from others, under the following headings:

- Clinical excellence (encompassing technical proficiency, consistently reliable clinical judgement and wisdom, and skill in communicating with patients, their relatives and colleagues)
- Teaching and training (encompassing the ability to train and enthuse trainee colleagues is seen as an integral part of communication skill, extending beyond formal teaching or academic presentation)
- Supporting colleagues and co-workers

Details of previous winners and further information can be found on the website http://anaesthetists.org/Evelyn-Baker-Recipients



The nomination and citation of up to 1000 words, should be sent to the Honorary Secretary at honsecretary@anaesthetists.org by 17:00 on 21 August 2020.

# Proud to be part of the NHS and to manufacture critical medicines in the UK

As part of the NHS, Torbay Pharmaceuticals, have been working diligently to manufacture and support the supply of critical medicines during the COVID-19 pandemic. As supply chains outside of the UK have stalled, we have acted fast and manufactured:



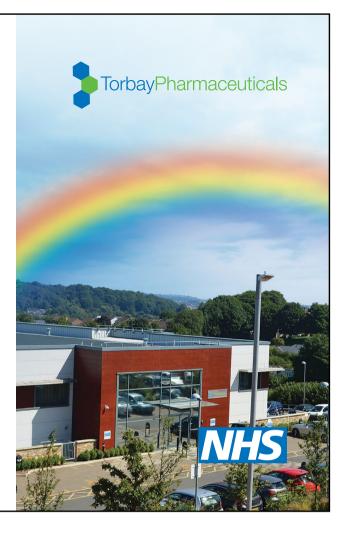
Up to 3,000 units of hand sanitiser per week



In excess of 3,000,000 additional units of intensive care medicines and are continuing to manufacture even more...

We believe it is paramount that we continue to support the NHS during these challenging times and we are prioritising the manufacture and supply of our range of anaesthesia products to support essential services within UK hospitals.

Find out more at torbaypharmaceuticals.nhs.uk



## Anaesthesia-themed cryptic crossword



Answers to the Anaesthesia-themed cryptic crossword featured in the July issue of Anaesthesia News

#### Sam Spinney

Locum Consultant Anaesthetist Royal Cornwall Hospital, Truro



### **Online seminars and Core Topics**

Join us online as we start to move some seminars and Core Topics to a digital bite-size format.

- Great online education with experts in their field
- Delegate numbers restricted to maximise learning
- Receive the recording to watch back
- Special member-only discounts

#### Find out more:

anaesthetists.org/Home/Education-events/Online-Seminars-Core-Topics





# Anaesthesia Digested

August 2020

#### A COVID-19 information pandemic: how have we managed the surge?

Kearsley R, Duffy C

"The endless cycle of idea and action, endless invention, endless experiment" T. S. Eliot, choruses from 'The Rock'

Fear not, Dear Reader, there are no new data in Kearsley and Duffy's commentary, but there is wisdom. They ask whether too much knowledge can be a bad thing, or indeed, too much data, particularly when flawed. Whilst I write, an almighty cockup of bad data, shared by the *Lancet* and the *NEJM*, seems to be brewing.

T. S. Eliot continues his poem, "Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information? The cycles of Heaven in twenty centuries, bring us farther from God and nearer to the Dust", and then, "Silence! and preserve respectful distance" (2 m).

### Improving decision-making through presentation of viscoelastic tests as a 3D animated blood clot: the Visual Clot

Rössler J, Meybohm P, Spahn DR, et al.

I admit it was the title that drew my attention, "The Visual Clot". Click on the video link, which takes you to Pac-Men, chewing fibrin as a clot disintegrates. I would turn the sound down if I were you. We should use interactive software in *Anaesthesia* more than we do, particularly as we turn away from paper. My penchant is for some lovely interactive graphs, generated by R.

## Association of Anaesthetists guideline 2020: audio/visual recording of doctors in hospitals

Yentis S, Shinde S, Bogod D, et al.

Accepted by *Anaesthesia* on 20th January 2020, this guideline surfed the approaching COVID-19 tide, with its flotsam of video consultations and the heartburn of tablets at the end of life. Keep an eye on the background - it might not contain only basketball gorillas.

Back to contents

## **Obituary - Dr Ruth Hutchinson**



It is with great sadness that we report the death of Ruth Hutchinson (BA, MBBChir, DRCOG, DA, FFARCS), one of the true leaders in the development of anaesthesia on the African continent. Born in Barrow-in-Furness in 1928, she was educated and trained in the UK, taking up her first consultant post at Bournemouth & Poole General Hospital in 1964. After 16 years in Poole, she took early retirement and moved to Harare in Zimbabwe, where she worked as senior consultant at Harare Central Hospital for the remainder of her career. It is for this that she will be remembered, becoming the godmother to generations of Zimbabwean and African anaesthetists. She died at home on Hayling Island after a short illness on the 4th February 2020.

Ruth was an exceptional person who was a real advocate of 'getting involved to change things for the better'. She was instrumental in the organisation of the first All Africa Anaesthetic Congress in Harare in 1996. This was the inaugural congress of the Africa Region of the WFSA. Largely because of Ruth's international accomplishments, she was the recipient of the Pask Award and Honorary Membership of the

Association of Anaesthetists. She was a compassionate doctor, with a huge heart for those less fortunate and the under-privileged. Through the many social crises and tragic economic catastrophes in Zimbabwe, Ruth worked with her charity groups to feed the hungry, keep orphaned children in school, and train unemployed school leavers and get them jobs.

Ruth certainly fits into the 'legendary' status and will be remembered for many things. She was an inspiring doctor, a gifted teacher and leader, mentor and role model, and committed bell ringer; her firm Christian beliefs were evident in how she lived her life. She was an approachable friend and confidente to many. It was a privilege to know her.

Gone from this world, but a life well-lived and not forgotten.

#### Laurie Marks

Consultant Anaesthetist North Devon District Hospital, Barnstaple

# **Forthcoming webinars**



Log in and learn from the comfort of your own home, office or anywhere that is convenient. Receive the live recording 24 hours after the webinar has taken place, whether you attend or not. Special discounts for members.

Monitoring the brain in adults Free



Kindly sponsored by Masimo

Tuesday 29 September 2020 18:00 - 20:00



Focused transthoracic echocardiography for anaesthetists

Thursday 1 October 2020 18:00 - 20:30

Neuromuscular blockade (NMB) monitoring: enhancing clinical practice

Tuesday 17 November 2020 18:00 - 20:00

#### Free COVID-19 webinars

Catch up on our COVID-19 related webinars, which are free to download from our website.

Members £25 | Trainee members £20 | Non-members £55



anaesthetists.org/webinars





# Your letters

Send your letters to: The Editor, Anaesthesia News at anaenews.editor@anaesthetists.org

Please see instructions for authors on the Association's website www.anaesthetists.org

#### **Dear Editor**

#### Obstetric emergency - hyponatraemia

During a recent shift on Labour Ward, a well woman in labour was noted to have an incidental severe hyponatraemia of 113 mmol.l-1. Following an episode of hypertension, pre-eclampsia was excluded. Restriction of fluid intake was advised, but rejected for fear of slowing her labour. Her labour progressed without augmentation, but vaginal delivery of a healthy baby was followed by a 2.5 I post-partum haemorrhage. Oxytocin boluses and infusion were required, followed by general anaesthesia for uterine evacuation and balloon tamponade. She was transfused two units of red cells and extubated without complications. Her serum sodium at that time was 109 mmol.l-1. Following fluid restriction to 2 l.day-1, her hyponatraemia resolved fully within 24 h. She remained asymptomatic throughout.

Mild hyponatraemia is often asymptomatic. Severe hyponatraemia (≤ 125 mmol. l-1) may present with headache, nausea and vomiting, or tonic-clonic seizures. A rapid fall in sodium to < 115 mmol.l-1 can cause coma and respiratory arrest.

Working as a teacher led to obsessive drinking of water between lessons. During her maternity leave, this escalated to 6-7 l.day<sup>-1</sup> regardless of thirst, rising further in labour. Given the history, serum and urine osmolality, rapid correction, and absence of other confounding factors, a diagnosis of primary polydipsia (water intoxication) was made.

The outcome of this case was positive, but there are several learning points:

- 1. Water intoxication can present in any setting.
- Liberal fluids assist the progress of labour. When care differs, clear communication within multi-disciplinary teams is key.
- Hyponatraemia is increasingly recognised in labour and the postpartum period [1].
- Severe hyponatraemia is associated with increased mortality after major surgery [2].
- Oxytocin has structural similarities to antidiuretic hormone, and may complicate hyponatraemia further.

Written informed consent for publication has been obtained from the patient.

#### **Michael Jarvis**

ST4 Anaesthesia

**Congratulations to Dr Michael Jarvis for** winning August's Letter of the Month prize.

#### Rebecca Simons

Consultant Anaesthetist University Hospitals of Derby and Burton, Burton-on-Trent

#### References

- 1. Moen V, Brudin L, Rundgren M, Irestedt L. Hyponatremia complicating labour--rare or unrecognised? A prospective observational study. British Journal of Obstetrics and Gynaecology 2009; 116: 552-61.
- Cecconi M, Hochrieser H, Chew M, et al. Preoperative abnormalities in serum sodium concentrations are associated with higher in-hospital mortality in patients undergoing major surgery. British Journal of Anaesthesia 2016; 116: 63-9.

#### **Dear Editor**

#### The i-gel® cradle is now recyclable - a response

As a strong advocate of waste reduction, recycling and sustainability within our speciality, I was pleased to read in the June edition of Anaesthesia News the letter noting that i-gel® cradles are recyclable [1]. The importance of waste reduction, recycling and impact of anaesthesia on the environment is gaining much more prominence, and these issues have merely been shelved by the COVID-19 pandemic.

Intersurgical are pleased to state that the i-gel® cradle is recyclable. However, I have discovered that very few recycling centres in the UK which are managed by local councils recycle this and various other types of plastic used in healthcare. It took much work to find a company in the North East that does this, but eventually I discovered 'Aim to Recycle', a company that recycles clean plastic waste from industry. They have allowed us to initiate a plastic recycling trial for our Trust, accepting i-gel cradles, hook rings, drug vial lids and other healthcare-based plastic waste.

Healthcare is a large producer of plastic waste, and I am pleased that this trial might allow recycling of products that have been going to landfill. However, my questions are "Why generate waste in the first place? Does an i-gel need to come on a cradle? Could the cradle be made from a non-plastic alternative?" It is our role as clinicians to challenge manufacturers and drive change for a greener, more sustainable NHS.

#### **Elaine Winkley**

Consultant Anaesthetist Northumbria NHS Trust

#### Reference

1. Hickman J. The i-gel® cradle is now recyclable. Anaesthesia News 2020; Issue 395: 42.

# Your letters

Send your letters to: The Editor, Anaesthesia News at anaenews.editor@anaesthetists.org

Please see instructions for authors on the Association's website www.anaesthetists.org

#### **Dear Editor**

#### A simple approach to reduce the Irish anaesthesia carbon footprint by focusing on the outdated face mask hook ring

Hospitals, clinical departments and individual healthcare workers are increasingly keen to reduce their carbon footprint. We were inspired by an article that we read in the Anaesthesia News February 2019 edition titled 'Let's get hooked on reducing plastic waste'. The authors investigated plastic waste in the NHS and focused on the anaesthetic face mask hook ring. With the involvement of the Association of Anaesthetists Environment and Sustainability Committee they secured a manufacturer (Intersurgical) who would supply the anaesthetic face mask without the hook ring [1].



The Irish HSE produces waste to the same degree as the NHS. The average Irish hospital theatre complex segregates 11% of total waste for recycling, when up to 40% is possible [2]. An easy way to reduce plastic waste is to eliminate unused items [2], such as the hook ring which is essentially redundant since the invention of the LMA! Each individual hook ring weighs approximately 2 g, equivalent to 1.56 kg CO<sub>2</sub> or 0.5 l of diesel fuel [3]. Although each individual hook ring seems insignificant, their use adds up to approximately 365 kg of plastic waste, equivalent to 702 I diesel, in the Republic of Ireland each year [4].

Intersurgical, who currently supply our anaesthetic face masks, have agreed to provide them without the hook ring attached at no extra cost. Once current stocks have been exhausted we can start to use the new planet friendly version! This was a very simple undertaking, and we would urge other anaesthetic departments in Ireland and the UK to take the leap too.

#### Sophia Angelov SAT1 in Anaesthesiology

Associate Professor of Anaesthesiology St Vincent's University Hospital, Dublin

#### References

Crina Burlacu

- 1. Rattenberry W, Shinde S. Let's get hooked on reducing plastic waste. Anaesthesia News 2019; 379: 20-1.
- National Health Sustainability Office. Best Practice Guide. Healthcare risk waste reduction in the theatre, 2020. https://www.hse. ie/eng/about/who/healthbusinessservices/national-health-sustainability-office/files/best-practice-guide-on-healthcare-risk-wasteefficiency-in-theatres.pdf (accessed 28/5/2020).
- Radhakrishna S, Rangappa D. Anaesthetic mask hooks: their economic and environmental costs. British Journal of Anaesthesia 2016; 116: 562-3.
- Health Service Executive. National Clinical Programme for Anaesthesia. Can H.I.P.E be used as an audit tool for Anaesthesia, 2015. https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/anaesthesia-audit-work-stream.pdf (accessed 28/5/2020).

#### **Editorial note**

The updated Airways Framework of NHS Supply Chain is due to go live in October 2020. It will state that face masks must not be supplied with a hook ring routinely. We hope that this change will dramatically reduce hook ring waste in England and Wales, but also help to make face masks without hook rings more readily available around the world.

#### William Rattenberry

Trainee Representative on Anaesthesia News Editorial Committee

# Your letters

Send your letters to: The Editor, Anaesthesia News at anaenews.editor@anaesthetists.org

Please see instructions for authors on the Association's website www.anaesthetists.org

#### **Dear Editor**

#### Safer tracheal extubation under a clear drape

Using a clear barrier drape during extubation may help reduce aerosol generation and fomite production in the immediate environment [1]. Our team have developed a technique to reduce the spread of potentially infected aerosol during extubation. We use a clear plastic drape with an adhesive strip, supplied with the Bair Hugger™ warming blanket (Figure 1; pictured folded), to cover the patient's nose and mouth while sticking the adhesive edge to the forehead (Figure 2; in use before full PPE mandated). This allows safe suctioning, re-positioning of the tubing and extubation. The soiled tracheal tube can then be wrapped in the drape, allowing secure disposal of the contaminated material.

Figure 1



Figure 2



There are complex barrier hood devices available that show a marked reduction in aerosols reaching the anaesthetist [2]. However we wish to share this technique that is zero-cost and easily reproducible within the wider community.

Written informed consent for publication of photograph has been obtained from the patient.

#### Priyanshu Saha

Medical Student

#### Alvina Lone

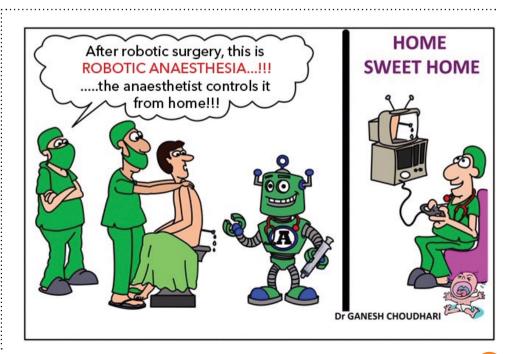
Consultant Anaesthetist

#### Darren F. Lui

Consultant Orthopaedic Surgeon St George's University Hospital, London

#### References

- Matava CT, Yu J, Denning S. Clear plastic drapes may be effective at limiting aerosolization and droplet spray during extubation: implications for COVID-19. Canadian Journal of Anesthesia. 2020; 67: 902-4.
- Kangas-Dick AW, Sweari ngen B, Wan E, Chawla K, Wiesel O. Safe extubation during the COVID-19 pandemic. Respiratory medicine 2020; 170: 106038. Advance online publication.



# My Preop

The online preoperative assessment solution helping re-start elective surgery - AAGBI Innovation winner 2019

Request a demo now: info@ultramed.co



Ultramed® www.ultramed.co





Following the success of the EBPOM 2020 'Live from London' Congress in July, EBPOM Global and TopMedTalk invite you to join us at our Next 'Live from' conferences

Live from Chicago EBPOM USA Masters Course

A Perioperative Care Practicum

**September 11<sup>th</sup> - 13<sup>th</sup>, 2020** *Abstract submission now open* 

Live from Dingle EBPOM Ireland, Dingle 2020

22<sup>nd</sup> Current Controversies in Anaesthesia & Perioperative Medicine and SIAA

November 10<sup>th</sup> & 11<sup>th</sup>, 2020

Abstract submission now open

Making the world healthier, through the power of conversation

Join the conversation





www.topmedtalk.com www.ebpomglobal.org





PRESCRIBING INFORMATION Presentation: Sinora 0.08 ma/ml: 1ml contains 0.16 mg noradrenaline bitartrate corresponding to 0.08 mg of noradrenaline base, each 50ml vial contains 4mg of noradrenaline base. Sinora 0.16 mg/ ml; 1ml contains 0.32 mg noradrenaline bitartrate corresponding to 0.16mg noradrenaline base, each 50ml vial contains 8mg of noradrenaline base. Indication: On-going treatment of hypotensive emergencies in adult patients weighing >50kg with escalating noradrenaline requirements. Dosage and inistration: For intravenous infusion into a central vein via cannula. Should be used with a suitable syringe driver pump capable of accurately and consistently delivering the minimum specified volume at a strictly controlled rate of infusion. Should only be administered by those familiar with its use. Should not to be used for initiating vasopressor treatment; consider for use in patients already established on noradrenaline therapy whose dose requirements are clinically confirmed to be escalating. Sinora 0.08 mg/ml solution for infusion may be commended at a flow rate of 1.5ml/h and Sinora 0.16 mg/ml solution for infusion may be commenced at a flow rate of 0.75ml/h. Blood pressure control should be monitored carefully for the duration of therapy, and preferably controlled by arterial blood pressure monitoring. Initiation should be performed using a less concentrated noradrenaline solution to enable more accurate titration, by 0.05 and 0.1 mcg/kg/min steps. The initial dose is usually between 0.05 and 0.15 mcg/kg/min. The recommended maintenance dose is between 0.05 to 1 mcg/kg/min and should be titrated in steps of 0.05 to 0.1 mcg/kg/ min as necessary with the aim to establish low normal systolic pressure (100 to 120 mmHg) or adequate mean arterial pressure (>65 mmHg - depending on the patient's condition). Infusion rates and relative adjustments must be determined according to the required posology. Manual bolus for priming when initiating an infusion is not recommended. Caution is required during syringe relay to avoid haemodynamic instability. Continuous noradrenaline infusion through a double pump system and an extension set reducing dead-space volume should be encouraged. Administration should continue until highdose vasoactive support is no longer needed. Abrupt withdrawal can result in acute hypotension, therefore the infusion should be gradually reduced and switched to a lower concentration infusion. The solution for infusion should not be diluted before use. It should not be mixed with other medicines. Where it is necessary to administer noradrenaline at the same time as total blood or plasma, the latter must be administered in a separate drip. There is no experience in treating patients with renal or hepatic impairment. Elderly patients may be

more sensitive to the effects of noradrenaline. Efficacy and safety in children and adolescents have not been established. Contraindications: Hypersensitivity to noradrenaline or to any of the excipients, hypotension due to hypovolaemia, use with caution in patients receiving cyclopropane or halothane anaesthesia, or any other cardiac sensitising agent or who exhibit profound hypoxia or hypercarbia. Precautions and Warnings: Noradrenaline should be used in conjunction with appropriate blood volume replacement. During infusion, blood pressure and rate of flow should be monitored frequently to avoid hypertension. Prolonged administration may result in plasma volume depletion which should be continuously corrected by fluid and electrolyte replacement therapy. Failure to do so may result in hypotension when noradrenaline is discontinued or maintenance of blood pressure with the risk of severe peripheral and visceral vasoconstriction with reduced blood flow and tissue perfusion with subsequent tissue hypoxia, lactic acidosis and possible ischaemic injury. Care should be taken to avoid extravasation and injection site should be changed in the event of injection site blanching. In the event of extravasation, the injection site should be irrigated using a fine needle with 10 to 15ml of physiological salt solution containing 5 to 10mg phentolamine mesylate. Caution is recommended in patients with hyperthyroidism or diabetes mellitus, major left ventricular dysfunction associated with acute hypotension, patients with coronary, mesenteric or peripheral vascular thrombosis, patients with hypotension following myocardial infarction and patients with Prinzmetal's variant angina. Dosage must be reduced if arrythmia occurs during treatment. The product contains 165.3 mg sodium per 50 ml vial, equivalent to 8.3% of the WHO recommended maximum daily intake of 2 g sodium for an adult. Interactions: Concomitant use with volatile halogen anaesthetics should be avoided due to the risk of severe ventricular arrhythmia. Concomitant use with imipramine or serotoninergic-adrenergic antidepressants should be avoided due to the risk of paroxysmal hypertension and possibility of arrythmia. Use with caution with MAO-inhibitors and linezolid due to the potential increase in pressor action. Use with alpha-blockers may reduce the vasopressor effect of noradrenaline. Use with beta-blockers may reduce the stimulating effect of noradrenaline on the heart and increase the risk of severe hypertension. Use with caution with thyroid hormones, cardiac glycosides and antiarrhythmic agents due to the risk of increased cardiac effects by these drugs. Ergot alkaloids or oxytocin may enhance the vasopressor and vasoconstrictive effects of noradrenaline. Pregnancy and Lactation: Use in pregnancy may impair placental perfusion

and induce foetal bradycardia, with the potential to exert a contractile effect on the uterus leading to foetal asphyxiation in late pregnancy. The risk to the foetus should be weighed against the benefit to the mother. No information is available on use in lactation. Undesirable effects: Anxiety, insomnia, confusion, weakness, psychotic state, headache, tremor, acute glaucoma (very frequent in those predisposed), tachycardia, bradycardia, arrythmias, palpitations, increase in cardiac muscle contractility, acute cardiac insufficiency, stress cardiomyopathy, arterial hypertension, tissue hypoxia, ischaemic injury (including gangrene of the extremities) resulting in coldness and paleness of the members and the face, respiratory insufficiency or difficulty, dyspnoea, nausea, vomiting, urine retention, injection site irritation and injection site necrosis. The frequency of these adverse reactions cannot be estimated from available data. Continuous administration in the absence of blood volume replacement may cause severe peripheral and vascular vasoconstriction, reduced renal blood flow and urine production, hypoxia and increased serum lactate levels. **Overdose:** Overdosage may result in severe hypertension, reflex bradycardia, marked increase in peripheral resistance and decreased cardiac output. These may be accompanied by violent headache, photophobia, retrosternal pain, pallor, intense sweating and vomiting. In the event of overdosage, treatment should be withdrawn, and appropriate corrective treatment initiated

#### Please refer to full SmPC for Sinora before prescribing.

Legal Category: POM Basic NHS Cost: 0.08 mg/ml; 1 x 50ml vial £9.97. 0.16 mg/ml; 1 x 50ml vial £14.22 Marketing Authorisation Numbers: Sinora 0.08 mg/ml solution for infusion - PL £6926/0003. Sinora 0.16 mg/ml solution for infusion - PL £6926/0004. Marketing Authorisation Holder: Sintetica Limited, 30th Floor, 40 Bank Street, Canary Wharf, London, E14 5NR, United Kinddom Date of Review: March 2020 (SINT067)

Adverse events should be reported to the local regulatory authority. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard.

Adverse events should also be reported to Sintetica Limited Medical Information on 01748 827269 or via e-mail to SinteticaGB@EU.ProPharmaGroup.com





