



THE INTERNATIONAL ANAESTHETIST

The e-newsletter for international members of the Royal College of Anaesthetists

August 2018

This publication is an opportunity to demonstrate the diversity of our membership. Please continue to make suggestions for topics, and write articles for us – this is your e-newsletter. Please email any thoughts to us at global@rcoa.ac.uk

Since the last edition, we ran two successful membership engagement sessions, considering how the College might better support our international members. We would like to solicit your views further, and invite those who were not able to attend to join a future session. These will take place on **Thursday 13 September at 10am (BST) and 3pm (BST)**. Both sessions will take place via Skype for Business. We would ask that you ensure you have a reliable internet connection if you wish to participate. Places will be allocated on a first-come-first-served basis. If interested, please email us at global@rcoa.ac.uk

The Global Partnerships Committee continues to be active. In collaboration with the World Federation of Societies of Anaesthesiologists (WFSA) and the Association of Anaesthetists of Great Britain and Ireland (AAGBI) we agreed to fund 300 bursaries for [Essential Anaesthesia](#), to allow anaesthetists from low-income countries to access this vital e-learning resource. Over 450 applications were received for the bursaries.

We have been actively supporting the development of the College of Anaesthetists of Eastern Central and Southern Africa, as this fledgling college is the future for anaesthesia training and exams in the region. We have continued our engagement with colleagues in Zambia, who have been tasked with setting up an Anaesthetic College.

We are excited about the [upcoming conference](#) between the Australian and New Zealand College of Anaesthetists (ANZCA), the Hong Kong College of Anaesthesiologists (HKCA), the College of Anaesthetists Ireland (CAI) and RCoA, which will be held from 29 April to 3 May 2019 in Kuala Lumpur. Please put these dates in your diaries and attend if you are able. It would be fantastic for our international members to be represented.

This edition covers a wide range of topics which we hope will be of interest to you.

Professor Ellen O'Sullivan
Chair of the Global Partnerships Committee and RCoA Council Member

 @RCoANews



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A day in the life of... Insight from Greece

Dr Labros Athanassiou, Private Sector Consultant
Anaesthesiologist, Athens Medical Centre



There is a distinction between public and private healthcare in Greece. I practice as a private sector anaesthesiologist in the Athens Medical Centre.

In this environment, it is uncommon for groups of more than two or three anaesthesiologists to work interchangeably, sharing practice and covering absence. Instead, we tend to work independently with the assistance of theatre staff. Despite our independent practice and the small numbers of staff on site at any one time, we have a good team spirit, with all staff, no matter where they are in the hierarchy, and we sit together for a chat over coffee.

In the private hospital where I work, my practice is mainly determined by the patient's health insurance and choice of surgeon. My patients are operated on by a number of different surgeons across many different specialties. In the past year, the case mix has consisted of urology, orthopaedics, and general surgery, with some vascular, neurosurgery/spine, maxillofacial, ENT, plastics, ophthalmology and radiology suite.

My contribution has ranged from monitored anaesthesia care (MAC) for MRI or cataract removal, to anaesthesia and perioperative management for

robotics, orthopaedic revisions, compound face fractures, fulminant peritonitis and blood-splashed vascular jams. The bulk of my practice has consisted of arthroscopies, large joint replacements, hip fractures, transurethral resection of the prostate (TURPs) and transurethral resection of bladder tumour (TURBTs), hernia repairs and laparoscopic cholecystectomies. General anaesthesia with or without spontaneous breathing, sedation, epidurals, regional blocks, and combinations of the above, with patient-controlled epidural analgesia or patient-controlled analgesia for postoperative analgesia, have all been employed.

Being a private sector anaesthesiologist working in Athens for the past 15 years has been both challenging and fulfilling at the same time. Sometimes restrictions in hospital staff or infrastructure can have a limiting effect on my practice, particularly in relation to available resources.

The recent introduction of formalised international standards has put a welcome emphasis on safety, but has also increased bureaucracy and non-medical influence interference in our everyday work.

The extreme financial constraints that Greece is facing nowadays builds nervousness and potentiates the inherent unease of the surgeon-dependent freelance private sector anaesthesiologist. However, many will appreciate the variety of disciplines I enjoy and, even more, will cherish the contentment of the smiles of our patients after the end of a laborious operation.

Partuer update

The first year of Acute Care Common Stem (ACCS) training in Iceland



Dr Kári Hreinsson, Consultant Anaesthetist, National University Hospital, Landspítali, Iceland

We started preparing our anaesthetic training in Iceland after a successful meeting with the RCoA in June 2016. The programme started in September 2017 with 12 ACCS trainees (four each from anaesthesia, acute medicine, emergency medicine and intensive care medicine).

We also started a core anaesthetic training with five trainees, aiming for the core level training part of the CCT in anaesthetics (the first two years of training). Until now we have had informal training in anaesthesia, as our specialist training has for the most part been undertaken abroad. Our junior colleagues interested in the specialty have trained in our departments from about 12 to 24 months before continuing their training at larger university hospital clinics in one of the Scandinavian countries, elsewhere in Europe or the United States.

The reason for seeking collaboration with the RCoA was primarily the very well-structured training programme. It is not our intention to offer a complete training in anaesthesia and intensive care medicine in Iceland, as that would be difficult due to our small volume health care system.

The RCoA organised and ran a 'train the trainer' course early in September 2017 and, in addition, some of us had undergone clinical and educational supervisors' training provided by the Royal College of Physicians (RCP) in conjunction with the core medical training.

Our training programme at Landspítali University Hospital is run at two hospital sites, which together represent most surgical specialities. This gives the trainees an introduction to the various anaesthesia subspecialties.

As we approach the end of our first year of the training programmes, a little overview of how things have gone is appropriate. We've had great support from the College throughout. There are a lot of issues that have to be solved

on the go when starting a high stake training programme. Issues regarding the use of the e-portfolio have been handled swiftly and well by Mr Shamim Ullah the College's Lifelong Learning Product Owner.

There have also been some challenges. We have found that some trainees and supervisors have been more engaged than others, especially around learning opportunities. This I expect is a universal experience and is being addressed going forward.

I would like to close with expressing our sincerest thanks to Miss Maria Burke, Mr Shamim Ullah and Mr Russell Ampofo at the RCoA for their invaluable help and kindness at this challenging and exciting time.



An update from the Safe Anaesthesia Liaison Group (SALG)



Mrs Emily Basra, Patient Safety Manager, RCoA

SALG is a joint committee between the RCoA, the Association of Anaesthetists of Great Britain and Ireland, and NHS Improvement. Its membership includes a number of other governmental and non-governmental organisations with an interest in anaesthesia safety, and representation from lay members.

SALG's primary purpose is to review potential or existing patient safety incidents that occur in UK hospitals so as to find opportunities for learning and improvement. The group produces a quarterly newsletter, the SALG Patient Safety Update (all published updates are available [from the SALG website](#)), which includes information on relevant incidents, accompanied by guidance on how these may be prevented in the future.

SALG actively engages with the specialty via the Patient Safety Network, a group of anaesthetists who have volunteered to act as a point of contact for SALG within their hospitals.

SALG acts as a reference point for healthcare professionals and organisations with enquiries about anaesthetic patient safety, and it is involved in producing national patient safety alerts relevant to anaesthesia. Where a gap is identified in guidance on a national patient safety topic, the group may also set up a working party to review available evidence and produce its own guidance.

Each year, SALG holds a conference to update doctors engaged in clinical anaesthesia, pain management and intensive care medicine on patient safety related topics. For 2018, the conference will be held on 22 November, and registration is now open. Please keep an eye on the [SALG website](#) for updates.

If you are interested in becoming a member of the SALG Patient Safety Network, would like to ask a question, or raise a topic for discussion by SALG, please email: salg@rcoa.ac.uk

For further information about SALG, please visit our website www.salg.ac.uk



Reducing the carbon footprint of inhalational anaesthetic agents



Dr Tom Pierce, Environmental Advisor, RCoA

There is not a reader amongst you that does not know of the link between rising levels of CO₂ in the atmosphere, increasing temperatures and climate change. The science behind this extends to include the impact of the inhalational anaesthetic agents we commonly use in clinical practice.

The Stefan-Boltzmann law relates the energy emitted by a black body to be proportional to the fourth power of the absolute temperature, and Planck's law defines the frequency of that radiation in relation to the temperature. Thus the sun at 6,000K radiates in the visible spectrum, and Earth, with a mean surface temperature of 290K, radiates in the infrared (IR) spectrum, with a peak at 10µm. Naturally occurring greenhouse gases (GHG) in the atmosphere (water vapour, nitrous oxide, carbon dioxide and methane) ensure that some of the outgoing IR radiation is absorbed and subsequently re-emitted, some of which returns to Earth. There is little naturally occurring absorption over 8–12µm, the so-called atmospheric window. With changes in atmospheric constituents, the solar energy delivery is no longer balanced by the IR energy loss. The energy gain is known as radiative forcing and in 2016 was 2.8 Wm⁻².

Table 1 Changes in some atmospheric constituents

Part per million (ppm), part per billion (ppb), part per trillion (ppt), global warming potential (GWP₁₀₀)

The product of the mass of GHG released and the GWP is the CO₂ equivalence (CO₂e). For example, vaporising a 250 ml bottle of sevoflurane has a CO₂e of 44 kg CO₂, whereas vaporising a 240 ml bottle of desflurane has a CO₂e of 860 kg CO₂

	Pre-industrial concentration	Current concentration	GWP ₁₀₀	Percent of total RF
CO ₂	280 ppm	400 ppm	1	65.4%
N ₂ O	240 ppb	328 ppb	296	6.4%
CH ₄	600 ppb	1,800 ppb	25	18%
Sevoflurane	Nil	0.25 ppt	130	10.2%*
Isoflurane	Nil	0.12 ppt	510	
Desflurane	Nil	0.35 ppt	2,540	

*For all halogenated and fluorine containing GHGs including CFCs and anaesthetic vapours.

To compare GHGs, the IR adsorption characteristics and the atmospheric lifetime are used to calculate the global warming potential over 100 years (GWP_{100}). By definition, the GWP_{100} for CO_2 is one. As many halogenated volatile compounds absorb IR in the 8–12 μ m range where little natural IR absorption occurs, their overall effect is disproportionately large considering the significantly lower atmospheric concentration. This is shown in Table 1.

A freely available smart phone app** allows the conversion of fresh gas flow and vapouriser setting into a CO_2e for an hour's anaesthesia. Using the app, a 1 litre oxygen/air fresh gas flow with 5 per cent desflurane has a CO_2e of 52kg CO_2 whereas 2.5 per cent sevoflurane would have a CO_2e of only 2 kg CO_2 . This is shown in Figure 1. One litre per minute of nitrous oxide for an hour has an additional CO_2e of 32 kg CO_2 , which is the equivalent of driving 200km in a small car.

The overall impact of the release of anaesthetic vapours on global temperatures is small and has been estimated to be equivalent to one coal-fired power station. However, at least half of the CO_2e of North American operating theatre suites is attributable to inhalational anaesthesia.¹ Having the opportunity to quantify the real-time CO_2e enables environmentally responsible decision making.

Figure 1

A screenshot of the Anaesthetic Impact Calculator illustrating the differences in CO_2e of different agents in clinical use.



5 KEY MESSAGES

- 1 Inhalational anaesthetics are potent GHGs.
- 2 A smart phone app calculates the CO_2e of inhalational anaesthesia.
- 3 Low flow anaesthesia reduces the CO_2e .
- 4 Sevoflurane is the agent with the lowest GWP.
- 5 Oxygen enriched air has a significantly lower CO_2e than N_2O .

Reference

- 1 MacNeill AJ, Lillywhite R, Brown CJ. The impact of surgery on global climate: a carbon footprinting study of operating theatres in three health systems. *Lancet Planetary Health* 2017;**1**:e381–88.

App store and Google Play

- ** iOS search Anaesthetic Impact Calculator.
Android search Anaesthetic Impact Calculator.

Essential Pain Management (EPM)

Dr Clare Roques, Consultant Anaesthetist and Inpatient Pain Lead, Heatherwood and Wexham Park Hospitals, Berkshire, UK; Chair of the EPM Advisory Group (EPMAG)

Dr Karen Gilmore, Consultant in Pain Medicine, Derriford Hospital, Plymouth, UK; Member of the EPMAG

EPM was devised by Roger Goucke and Wayne Morriss (Australian and New Zealand College of Anaesthetists) in 2010 to teach pain management in low resource environments.

The UK Faculty of Pain Medicine (FPM), through the EPMAG, has coordinated the delivery of a number of workshops, primarily in Africa, with financial backing from the RCoA, the Association of Anaesthetists of Great Britain and Ireland Foundation, and the World Federation of Societies of Anaesthesiologists (WFSA).

The EPM course centres around an acronym – Recognise, Assess, Treat (RAT) – which provides a framework for a multidisciplinary, biopsychosocial approach to the management of acute, chronic and cancer pain. Workshops use interactive lectures and small group case discussions and teaching materials are adapted to suit local circumstances. Discussion of barriers to effective pain management and potential solutions plays a significant role. The three-day workshops include a 'train the trainer' component, facilitating early handover to local staff who deliver this final part of the workshop. Hence the potential for sustainability is built into the programme.

Workshops have been delivered in over 50 countries and they generally receive very positive feedback, although continued roll-out of the programme in low resource environments has been inconsistent. Therefore EPMAG, in collaboration with the RCoA and WFSA, has embarked on a partnership with two organisations in Uganda: St Mary's Hospital, Lacor and

Kumi Hospital. This project is supported and financed by the Tropical Health and Education Trust and aims to create a more sustainable model of EPM delivery. Local instructors will receive increased back-up and a comprehensive evaluation programme will both support and allow adaptation of the project. Clinical impact will be audited and efficacy at overcoming barriers monitored. Additionally, a survey on pain management service provision across Uganda will be undertaken.

EPM has also been modified to teach pain management in the UK ([EPM UK](#)) and is currently at various stages of introduction in 18 out of 33 British medical schools. Early work has been undertaken to extend this to the multidisciplinary team via a 'train the trainers' course held for nurses, physiotherapists and psychologists. The aim is to provide a universal system for teaching pain management throughout the UK.



Dr Clare Roques



Dr Karen Gilmore

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New worlds Come explore

ANZCA ASM 2019
April 29 – May 3
Kuala Lumpur, Malaysia
asm.anzca.edu.au

Key dates

Abstract submissions open late September 2018
Registration opens late November 2018

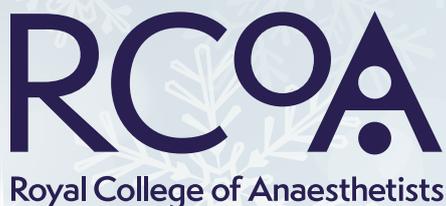
Keynote and Invited speakers

- Associate Professor Phil Peyton, Australia
- Associate Professor Marcus Skinner, Australia
- Professor Donal Buggy, Ireland
- Dr Mary Cardosa, Malaysia
- Dr Shahridan Fathil, Malaysia
- Professor Bruce Biccard, South Africa
- Baroness Susan Greenfield, United Kingdom
- Professor Harriet Hopf, United States
- Professor Ellen O'Sullivan, United Kingdom
- Associate Professor Chad Brummett, United States
- Dr Lawrence Poree, United States



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WINTER SYMPOSIUM

12–13 December 2018 | RCoA, London

Innovation is the theme for this year's Winter Symposium and the varied programme will feature a mix of lectures, short updates and debates with the addition of airway workshops to refresh your front of neck access (FONA) and fiberoptic techniques.

Experts will bring you up to speed with recent changes in practice and explore what the next five years may bring.

Topics include:

- novel analgesics
- how NAP6 will change your practice
- recent curriculum and training advances and the impact to you
- obstetrics
- recent changes in paediatrics
- have your say: can technology improve your hospital communications?
- and many more...

This event sold out in 2016 and 2017 – book soon to avoid disappointment!

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