

Programme

Association of Paediatric Anaesthetists of Great Britain and Ireland

44TH ANNUAL SCIENTIFIC MEETING

hosted by Bristol Royal Hospital for Children



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Association of Paediatric
Anaesthetists of Great Britain
& Ireland



Welcome

44th Annual Scientific Meeting

The APAGBI and our local hosts are pleased to welcome you to Bristol for our 44th Annual Scientific Meeting.

We have arranged an excellent scientific programme on a wide range of topics relevant to both teaching hospital and district general hospital practice. The meeting is preceded by the neuro-anaesthesia meeting which continues our recent practice of putting the focus on a particular speciality before the annual meeting. We hope to meet you at the reception at the Bristol museum which should be a lovely evening with food and music; if not there, then at the excellent SS Great Britain evening where we will have a jolly time imagining the conditions aboard an international sailing vessel from the 19th century whilst enjoying excellent food, company and refreshment and avail ourselves of the fascinating museum.

The main scientific programme covers topics as diverse as human factors and clinical governance to the cutting edge science of tissue engineering. There are three excellent state of the art lectures relevant to our understanding of anaesthesia and the brain from Brian Anderson, Andrew Davidson and Laszlo Vutskits. The President of the Royal College of Anaesthetists will be here to talk after the debate about the role of the aging anaesthetist. We also have Steve Bolsin as our Jackson Rees lecturer.

Bristol is a beautiful city with a merchant heritage and some classic landmarks. We think that it is a brilliant place to meet, exchange ideas, catch up with old

friends and try and gauge how our speciality is changing in 2017.

We hope to meet you during sessions or at the social events,

Andrew Wolf, President of APAGBI

Judith Nolan, Local Organising Committee Chair, Bristol

Jonathan Smith, Meetings Secretary, APAGBI



Contents

Acknowledgements

Thank you to the local hosts for organising this meeting, especially Judith Nolan as Chair of the Local Organising Committee

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Revalidation for Anaesthetists



This meeting has been approved by the Royal College of Anaesthetists for the purposes of continuing professional development. Claim up to 5 points for each day. 1 CPD point is equivalent to 1 hour of learning.



General Information

Abstract Prizes

At the end of the Conference, at the start of the last session on Friday 9th June, prizes will be awarded for the Oral and Poster Competitions.

Badges

Name badges will be issued to all participants when they arrive at Registration. Participants are kindly requested to wear their own badge at all times throughout the days of the Conference. Badges may be checked at any time for security purposes. Access to all scientific events and exhibition areas will only be possible with your own name badge. Replacement name badges may be purchased from the Registration Desk.

The badges are coloured-coded as follows:

Red: Local Organising and Scientific Committees

Green: Delegates

Yellow: Invited Speakers

Blue: Exhibitors/Sponsors

Catering

Delegates' lunch and teas and coffees through the Conference will be served from the various service points within the Exhibition areas (Levels 1 and 3). Please visit a range of points during the Conference.

Please take time to visit the Exhibitors during the breaks. They will be pleased to see you.

Certificates of Attendance

Each pre-registered delegate *for whom full payment has been received for their Registration* will receive a Certificate of Attendance with their Registration pack on arrival.

Checking out of your accommodation

Please ensure that you check-out of your accommodation by the required time. Please ensure that you settle any hotel room extras (telephone, meals etc) on departure. See Luggage Storage Facilities section below.

Cloakroom/Luggage Storage Facilities

Please ask at Registration for where to store your luggage. A room will be allocated.

Exhibition

We encourage all participants to visit all Exhibition stands. Please go exploring to ensure that you visit the companies which may be of interest to you.

Please refer to pages 31 – 35 for full listings.

Feedback Forms

It is important for Organisers to have feedback to help direct future events. Please take time to fill in the Feedback Form in your pack and hand it in at the Registration Desk before leaving the Conference. We value your views.

Instructions to Presenters

Oral Presenters:

Please allow plenty of time for pre-loading your presentation to the main computer located in the main hall.

Poster Presenters:

Posters should be put into place as early as possible on the first day of the Conference and removed at the end of the Conference. Authors of posters are invited to be by their posters during break times through the Conference. The Posters will be judged on Thursday.

Each poster has been allocated an area to be displayed, with a poster number. This number cannot be moved or the poster location swapped for any other.

PLEASE REMEMBER TO TAKE YOUR POSTER HOME WITH YOU! POSTER LEFT BEHIND WILL BE DESTROYED.

A listing of all posters by title is given on pages 27 – 30.

Liability

Neither APAGBI, Index Communications Meeting Services nor Bristol Music Trust is able to take responsibility whatsoever for injury or damage to persons or property during the Conference.

Messages

Telephone number for Colston Hall is + 44 (0)117 204 7104. It may take time for messages to reach participants in this large building, but every effort will be made.

General Information

Mobile Phones and Recording

We appreciate that all Conference participants need to be available for calls, but the Organisers ask that ***all mobile phones and tablets are switched off or to mute mode in all sessions.*** We would like to make a polite request that any calls be made or taken in the foyer areas or as far as possible away from the auditorium to avoid disruption.

Please do not use your mobile phone, tablet or other recording device to record the Conference. The Conference is being officially recorded in order to create a pod cast where invited speakers who have given permission will feature, with their slides. Unofficial recording by audience members is a distraction to other participants and to the presenters: so we politely request that you refrain from doing this in order to protect the professionalism of this Conference.

Registration Desk

The Registration Desk will be open during the following hours:

Wednesday 7th June:

Arncliffe	12.00 – 16.00 hrs
Bristol Museum	18.00 – 20.00 hrs

Thursday 8th June:

Colston Hall	0800 – 1730 hrs
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Friday 9th June:

Colston Hall	0800 – 17.00 hrs
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Smoking

Please note that this is a No Smoking Conference.

Transport

Useful information

Taxi: for a selection of firms:

<http://www.bristoltaxinumbers.co.uk/>



Public Transport

All public travel information including, bus, trains and trams Metro timetables call Traveline on 0871 200 22 33

Venue

Colston Hall, Colston Street, Bristol, BS1 5AR.

Sat Nav reference: BS1 5AR

Tel: + 44 (0)117 204 7104

Wifi

Wifi is available in the venue. This is complimentary and open for general browsing purposes. Please be aware that many people may be connecting at the same time, during break times, for example.

There is no password.

Annual General Meeting

Members of the APAGBI are cordially invited to attend the Annual General Meeting at 12:30 on the 8th of June. Whilst the meeting is formal and one of our obligations as a registered charity, it will allow you to see just what the APAGBI does besides organising a meeting (providing leadership, expertise, guidance and science)!

The Association belongs to its members and the Council are keen to engage with and elect younger members to ensure that the leadership group remains in touch with the membership and relevant to our speciality.

You are most welcome to join us.

Dr Chris Gildersleve
APAGBI Honorary Secretary
E: secretary@apagbi.org.uk



9th June 2017 at 12.00

Colston Hall

www.apagbi.org.uk



Social Programme

The Bristol Museum

Welcome Reception & Registration in

The Bristol Museum

7th June 2017

The Bristol Local Organising Committee invite all delegates to join them in the Museum for drinks, some entertainment and welcome food, but most importantly to meet up with colleagues and friends to kick start the conference.

Bristol Museum & Art Gallery is a wonderful space to start the conference proceedings. We will enjoy Winterstoke Hall (the front hall) which provides a grand

entrance foyer and the Wills Hall (the rear hall) is the centrepiece of the museum, complete with a grand staircase and chandeliers. Both halls boast extravagant vaulted glass ceilings and balconies.

The Bristol City Pipe Band will be playing as you enter the Museum and inside entertainment will include Jayne Corrigan, one of less than seventy women in the world to be elected to the prestigious World Famous Magic Circle.

We also have the honour of welcoming Flora and Co: an excellent and well established wind quintet from Wells Cathedral School for a short recital.



SS Great Britain

Conference Evening on

SS Great Britain

8th June 2017

Breaking with APAGBI Conference Dinner tradition

Join your colleagues for an evening of Bristol and some of its nautical history on the SS Great Britain with the wonderful backdrop of Bristol's floating harbour.

There is an option to take a water taxi from the city centre to travel through the Floating Docks to the dry dock where the SS Great Britain is berthed. We have organised a private viewing of the Dockland Museum for the APA members and their guests. This is a fascinating place that tells the story of the SSGB and its restoration.

From here you will then be welcomed aboard the ship to enjoy welcome refreshments to the sounds of the City of Bristol Pipes and Drums. The guests can meander throughout the vessel and mix with colleagues above and below deck.

Breaking with previous traditions of the APA Conference, the dinner will be casual with a menu served over three decks of the ship. Seating will be informal and dress code is smart casual.

After dinner the Dell Stars will strike up for those wishing to bop and for others there is the rest of the vessel to explore or just enjoy the lounge deck areas with friends and colleagues.

Ticket price includes: Ticket to the Dockland Museum, to board SS Great Britain and dinner.



If you have not pre-booked your ticket, please contact registration for availability.

Trainee Half Day Meeting

Wednesday 7th June

Neuro-anaesthesia Day:

THE ARNOLFINI, BRISTOL

13:30

Introduction

Prof Andrew Wolf, Bristol

Session A

Chair: Gail Lawes, Bristol

What is special about Neuro-anaesthesia? 3F00

Dr Liz Wright, Liverpool

Epilepsy surgery 3F00

Dr Mike Carter, Bristol

New Epilepsy drugs and anaesthesia 1A02, 2A07

Prof Brian Anderson, Auckland, New Zealand

Break

Session B

Chair: Stephanie Bew, Leeds

Posterior fossa tumours 3F00

Mr Richard Edwards, Bristol

Intracranial drug delivery for malignant brain tumours 3F00

Mr Will Singleton, Bristol

Interventional Neuroradiology 2F03, 3F00

Dr Adam Rennie, London

17:00

Close

Managing Emergencies in Paediatric Anaesthesia Meeting

Friday 9th June

Meeting Room 1

Lower ground floor. Colston Hall
from 12:30 – 2.00pm

Convener: Nick Boyd, London

Please bring your lunch with you!

Scientific Programme

Thursday 8th June

STREAM ONE		COLSTON HALL	STREAM TWO		THE LANTERN
09:00	Session 1: Advances in surgery Chairs: Prof Andrew Wolf and Dr Anthony Bradley, Bristol		09:00	Session 2: Doing better? Outcomes in abdominal surgery Chair: Dr Karen Bartholomew, Halifax	
	Laparoscopy in the very small 2D02 Dr Peter Brooks, London			Abdominal surgery in the networks 2D02, 1I05 Dr Janet McNally, Bristol	
	Advances in Craniofacial Surgery 2D02 Dr Ed Carver, Birmingham			SW Network laparotomy audit 2D02, 1I05 Dr Simon Courtman, Plymouth	
	Growing the trachea 3G00, 3J03 Prof Paolo De Coppi, London			Laparotomy for children in the North West 2D02, 1I05 Dr Russell Perkins, Manchester	
10:30	Coffee, Exhibition and Poster Viewing		CH Foyer – Levels 1 and 3		
11:00	Session 3: ‘State of the art’ Chair: Dr Suellen Walker, London		11:00	Session 4: Maintaining skills, avoiding trouble and getting help. THE LANTERN Chair: Dr Nirmala Soundararajan, Hull	
	The Pharmacokinetics of ‘sleep’ in children 1A02 Prof Brian Anderson, Auckland, New Zealand			Retaining competence and confidence in the DGH 1I02 Dr Karen Bartholomew, Halifax	
	Determining depth of Anaesthesia in children 2D02, 1E06 Prof Andrew Davidson, Melbourne, Australia			How one can avoid the legal landmines 1I03 Mr Bertie Leigh, Hempsons, London	
				The work and role of the National Clinical Assessment Service 1I04 Dr Alison Budd, London and Dr Charles Stack, President Elect APAGBI, Sheffield	
12:30	Session 5: APAGBI AGM – see page 5		CH Foyer – Levels 1 and 3		
13:30	Lunch, Exhibition and Poster Viewing		CH Foyer – Levels 1 and 3		
14:30	Session 6: ‘At the forefront’ Chair: Dr Tom Engelhardt, Aberdeen		14:30	Session 7: ‘First on the scene’ Interactive THE LANTERN Chair: Dr Mark Thomas, London	
	Xenon and Neuro-protection 3J03 Dr Hannah Gill, Bristol			Traumatic brain injury in children anaesthesia: immediate response 2F01, 2F03 Dr Breda O’Neill, London	
	The susceptibility of the developing myocardium to cardiac insults 3J03 Dr Martin Lewis, Bristol			Early management of the child with burns: impact on outcomes 2A07, 2A05, 3H00 Dr Amber Young, Bristol	
	APRICOT 3J03 Dr Walid Habre, Geneva, Switzerland			Sepsis – the ‘golden hour’ 2C03 Dr James Fraser, Bristol	
16:00	Coffee, Exhibition and Poster Viewing		CH Foyer – Levels 1 and 3		
16:30	Session 8: Honorary members		COLSTON HALL		
	Jackson Rees Lecture – Lessons from the Bristol Inquiry Dr Steve Bolsin, Geelong, Australia				
17:45	Close				
	SOCIAL EVENT AT THE SS GREAT BRITAIN				

Scientific Programme

Friday 9th June

STREAM ONE		COLSTON HALL	STREAM TWO	THE LANTERN
09:00	Session 9: Free Papers <i>See page 25 for schedule</i> Chairs: Dr Suellen Walker, London and Dr Tom Engelhardt, Aberdeen			COLSTON HALL
10:30	Coffee, Exhibition and Poster Viewing			CH Foyer – Levels 1 and 3
11:00	Session 10: Debate: ‘The Long Run?’ Chair: Dr Alistair Cranston, Birmingham		11:00	Session 11: ‘Editors Picks’: Chair: Dr Andrew Davidson
	Pro “the older anaesthetist is a boon to the department” 2H01 Dr Marc Cohen, London			Basic science 1A02 Prof Laszlo Vutskits, Geneva, Switzerland
	Con “the older anaesthetist gets in the way of progress” 2H01 Dr Crispin Best, Glasgow			Education and training 1H02 Dr Mark Thomas, London
	‘Getting on’ – the ageing (paediatric) anaesthetist 1I03 Dr Liam Brennan; President of the Royal College of Anaesthetists, Cambridge			Clinical trials 3J03 Dr Tom Engelhardt, Aberdeen
				Critical analysis of reading a paper 1H02 Prof Andrew Davidson, Melbourne, Australia
12:30	Lunch, Exhibition and Poster Viewing			CH Foyer – Levels 1 and 3
13:45	Introduction: Prof Andrew Wolf, Bristol			COLSTON HALL
	From blind trust to kind truth 1I05, 1I03 Dr Phil Hammond, Bristol			
14:20	Session 12: Developing World Chair: Dr Charles Stack, Sheffield		14:20	Session 13: State of the Art Chair: Isabeau Walker, London
	Lifebox and SAFE 1I02 Dr Nick Boyd, London			The neonatal brain and anaesthesia 2017 2D02, 3J03 Prof Laszlo Vutskits, Geneva, Switzerland
	The Nairobi Fellowship 1H01 Dr Susane Nabulindo, Nairobi, Kenya			Why is complex airway management in children so different? 2A01, 2D02 Dr David Mason, Oxford
	Health Care in a conflict zone 1I02 Dr Rachael Craven, Bristol			
16:00	Session 14: with Ice Cream! – ‘A little deep sleep’ Film Chair: Dr Andrew Wolf, Bristol			COLSTON HALL
	‘Twenty years on’ – The origins of clinical governance 1I05, 1I01 Prof Steve Bolsin, Geelong, Australia			
17:00	Prizes and Close			



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This document is intended to provide information to an international audience outside of the US.

Workshops

Writing Workshop

hosted by Pediatric Anesthesia Journal Team
Meeting Room 1, Lower Ground Floor
Thursday 8th June 2017

Pediatric Anesthesia are hosting this workshop with Andrew Davidson (RCH, Melbourne and the Editor in Chief) and some of the associate editors to provide an interactive seminar on the common pitfalls and

misconceptions that might prevent you from being a successful author and making a successful contribution in your specialist area of children's anaesthesia.

The Pediatric Anesthesia Journal Team will take you through the process from idea to development of project design and subsequent write-up and publication with an eye on the key common themes that prevent

work being accepted by a journal. It is not the intention to provide a 'clinic', where an expert can sub-edit one of your own papers, but you will have excellent access to a small expert group who regularly deal with this and show you how to avoid the usual problems.

Places are limited to 24 participants.

Please contact Registration for availability.

The Paediatric Patient Journey Sim Workshop

Course Fee: £45.00

Led by: Anthony Bradley, Natasha Clark and Judith Nolan

Bristol Medical Simulation Centre
Friday 9th June 2017

Morning Session commences 09.00
(Full at the time of going to print)

Late Morning Session commences 11.30

Afternoon Session commences 13.45

Target participant:

Consultants and senior trainees (ST6 and above) who cover paediatric emergencies as part of their on call commitment. It is probably most suited for those who work in non-tertiary centres.

Managing patients with time critical injuries is stressful and resource consuming. The additional challenges (practical and emotional) that are thrown up multiplies these stresses. By simulating such a scenario, candidates get to experience this in a safe environment. As well as

non-technical skills and resource management, the focus of the debrief will include current evidence based management of time critical injuries and the role of local trauma networks. The clinical material will reflect some of the content of the Bristol APA meeting.

The Paediatric Patient Journey Sim Workshop is happening in the state of the art simulation centre, linked to the Bristol Royal Hospital for Children. It will take candidates through the journey of a child arriving in a District General Hospital emergency department with time critical head injuries, through to the delivery of the same patient to the emergency department in the Major Trauma Centre.

'Our aim is to promote efficient and effective learning in a modern simulation centre that will influence the individual's attitude and approach to group working under stressful conditions'.

The scenario

It is 6pm on a Friday evening. You are on call in your District General Hospital when the paediatric emergency response

bleep goes off in your possession. A 4 month old baby is being brought in by ambulance having been dropped by their parent. You have a team at your disposal and it is up to you to sort out and stabilise this child.

The Paediatric Patient Journey is a high fidelity, real time simulation work shop aimed to take eight candidates (acting in their own rolls) from initial resuscitation to definitive care of a young child with potentially time critical injuries.

Objectives:

- To practice and discuss priorities and techniques with respect to resuscitation and stabilisation of younger patients
- To explore potential challenges and pitfalls involved in the transfer of unstable children with potentially time critical injuries
- To discuss the local processes of referral and how this can be best used to improve patient outcomes

Please contact Registration for availability.

Prof Brian Anderson, Auckland, New Zealand

The Pharmacokinetics of Sleep in Children (Session 3)

The goal of pharmacologic treatment is a desired response, known as the target effect. Anaesthesia is traditionally divided into three sections; sedation, analgesia and muscle relaxation. Attempts to grade response for sedation have been made using sedation scores, or EEG modified signalling; for pain using pain scores, pupillometry or skin resistance changes; for muscle relaxation using neuromuscular monitoring. The grade of response relates to drug concentration and an understanding of the concentration-response relationship (i.e. pharmacodynamics, PD) can be used to predict the target concentration required to achieve this target effect in a typical child. (1) Ketamine sedation (2) and propofol-BIS models (3) can be used in children, but may not be applicable in neonates and infants. Concentration-response neuromuscular blockade relationships also differ in the younger children. (4) Analgesic scoring in the sedated child remains problematic.

Pharmacokinetic (PK) knowledge (e.g. clearance, volume) then determines the dose that will achieve the target concentration. Each child, however, is somewhat different (5) and there is variability associated with all parameters used in PK and PD equations. Covariate information (e.g. weight, age, pathology, drug interactions, pharmacogenomics) can be used to help predict the typical dose in a specific patient. Weight is commonly standardised using allometry or linear per kilo models. (6) Age can be used to describe maturation. Pathology is often considered intuitively when dosing anaesthesia drugs. The impact of pharmacogenetics is exemplified by drugs such as succinylcholine and codeine. Drug interaction models in children are infrequent. (7) The Holy Grail of clinical pharmacology is prediction of drug PK and PD in the individual patient (8) and this requires knowledge of the covariates that contribute to variability.

Learning Points

1. Appreciate the target concentration strategy as it applies to aspects of paediatric anaesthesia
2. Understand the importance of concentration-response relationships rather than dose-response relationships. Dose is calculated to achieve a target concentration.
3. Variability in both PK and PD can be large and accounting for that variability is the key to good anaesthesia

References

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2. Herd DW, Anderson BJ, Keene NA, et al. Investigating the pharmacodynamics of ketamine in children. *Paediatr Anaesth* 2008; **18**: 36-42.
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4. Fisher DM, O'Keeffe C, Stanski DR, et al. Pharmacokinetics and pharmacodynamics of d-tubocurarine in infants, children, and adults. *Anesthesiology* 1982; **57**: 203-208.
5. Anderson BJ. My child is unique; the pharmacokinetics are universal. *Pediatr Anesth* 2012; **22**: 530-538.
6. Anderson BJ, Meakin GH. Scaling for size: some implications for paediatric anaesthesia dosing. *Paediatr Anaesth* 2002; **12**: 205-219.
7. Hannam JA, Anderson BJ. Pharmacodynamic interaction models in pediatric anaesthesia. *Paediatr Anaesth* 2015; **25**: 970-980.
8. Benet LZ. A Holy Grail of clinical pharmacology: prediction of drug pharmacokinetics and pharmacodynamics in the individual patient. *Clin Pharmacol Ther* 2009; **86**: 133-134.

New Epilepsy Drugs and Anaesthesia

(Neuro-anaesthesia day: Session A)

Current antiepileptic drugs comprise of two distinct groups. The older drugs (phenytoin, phenobarbital, primidone, carbamazepine, valproate) and those that are classified as newer (vigabatrin, lamotrigine, felbamate, gabapentin, levetiracetam, pregabalin, tiagabine, topiramate, oxcarbazepine, zonisamide). First-line and second-line management of acute onset seizures remains midazolam. The older drugs interact with those used in anaesthesia through both pharmacokinetic (enzyme induction or inhibition, competition for clearance pathways) and pharmacodynamic (additivity, synergism or competition) effects. (1) The pharmacokinetic interaction between phenobarbitone and ketamine demonstrates the effect of enzyme induction. (2) Pharmacodynamic interactions between midazolam and propofol that both act on GABAA receptors are well described. (3) The new antiepileptic drugs are characterised by greatly reduced interactive qualities, although they may still occur (e.g., lamotrigine and ketamine (4)).

Adverse effects may still happen outside of drug interactions. The newer antiepileptic, topiramate, may cause intraoperative metabolic acidosis (5) and locosamide PR interval prolongation (6), although the older drugs are more commonly associated with adverse effects (e.g., valproate and platelet abnormalities (7), carbamazepine and hyponatraemia and leukopaenia (8)).

There are a number of new antiepileptic drugs either in investigation or about to be released. (9) Most should have limited interaction potential, but that premise has not yet been tested for clinical anaesthesia. Anaesthesia drugs may also have an effect on the underlying disease process causing epilepsy or alter seizure thresholds. (10)

Learning Points

1. Epilepsy is more common in children than in adults and those children present with chronic antiepileptic therapy
2. The older antiepileptic drugs had numerous with interactions with drugs used in anaesthesia; both pharmacokinetic and pharmacodynamic
3. The newer antiepileptic drugs have fewer drug interactions; it is anticipated that future antiepileptic drugs will have even less.
4. Anaesthesia drugs can alter seizure thresholds, consequently having indirect interaction with antiepileptic drugs

References

1. Bloor M, Nandi R, Thomas M. Antiepileptic drugs and anesthesia. *Paediatr Anaesth* 2017; **27**: 248-250.
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Dr Karen Bartholomew, Halifax

Retaining Competence and Confidence in the DGH.

In this session, I will summarise the situation in which many DGH anaesthetists now find themselves in, with regards to paediatric practice. The information is largely based upon the responses of the APAGBI Linkmen survey I conducted last year (2016), and also upon the many individual testimonies that were submitted separately, and which described significant difficulties in the maintenance of paediatric practice.

Clearly, there is no overarching solution to this situation, especially in the light of the ongoing reconfiguration of paediatric services nationally, in accordance with the current NHS England direction of travel.

So, as there is no obvious solution to the title; "Retaining (Paediatric) competence and confidence in the DGH"; I will describe all the strategies that I am aware that DGH colleagues are currently using. I will illustrate in more detail any that have been reported as having been particularly useful, or perceived as an especially efficient use of resources. I will also include a reminder that the APAGBI is continuing to offer financial support in order to facilitate APAGBI affiliated, or any other renowned speakers, to attend and speak at regional meetings.

Dr Crispin Best, Glasgow: for the Debate

Con: The older anaesthetist is a boon to the department

Retired Consultant in Paediatric Anaesthesia. Age indeterminate. Now living a sensible life, looking out of the window and wondering where he has left his keys.

'The children now love luxury; they have bad manners, contempt for authority; they show disrespect for elders and love chatter in place of exercise. Children are now tyrants, not the servants of their households. They no

longer rise when elders enter the room. They contradict their parents, chatter before company, gobble up dainties at the table, cross their legs, and tyrannize their teachers'.

Socrates 469-399 BC.

Dr Steve Bolsin, Geelong, Australia

'Twenty years on' The origins of Clinical Governance

The conclusions of the Bristol Royal Infirmary Inquiry chaired by Sir Ian Kennedy were that 35-40 children <1year of age died in Bristol between 1990-5 that would have survived if they had been operated on in an NHS unit with average mortality. Others have calculated that 170 children died unnecessarily in Bristol and this figure has never been disputed.

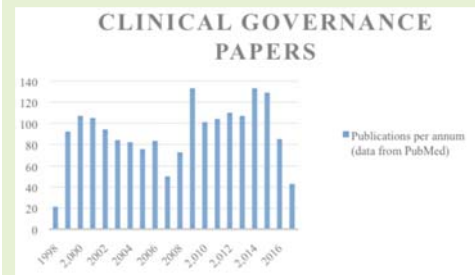
How such a catastrophic loss of life was allowed to occur in a designated UK NHS Centre of Excellence was exhaustively examined with previously confidential letters, minutes and data made available for public scrutiny for the first time. The story that these documents, and the witnesses that produced them, tell is one of administrative uncertainty, professional pride, organisational deception and persistent inaction that contributed to an ongoing mortality in the most defenceless of patients. Sadly, the last people to hear of the concerns that were clearly voiced about the quality of the paediatric cardiac surgery service in Bristol were the parents of the children themselves. Not all of them survived the trauma.

An insiders account of the pressures to perform and the efforts made to cover up the poor performance of the paediatric cardiac surgery service makes harrowing listening even today. Coupled with the paralysis of the Royal Colleges, the vacillation of the Department of Health, the deception of the Hospital executive and the contribution of the GMC this examination of the inevitable progress to the eventual exposure is one means of ensuring that such a breach of trust is never repeated in the UK NHS.

Dr Steve Bolsin, Geelong, Australia

Jackson Rees Lecture **Lessons from the Bristol Inquiry**

After the GMC Inquiry had found three senior clinicians, one of whom was the CEO of a flagship NHS Trust, guilty of 'serious professional misconduct' in 1998 the medical profession was besieged by an overriding requirement to ensure the quality of medical services in the NHS. This requirement led to the introduction of the term 'Clinical Governance', which was rapidly adopted around the world. Prior to 1998 no publications employing the term 'Clinical Governance' had been published (See Graph).



Other healthcare systems had been struggling with definitions of quality and the introduction of safe practices in hospitals, particularly with respect to the monitoring of professional performance. Additionally, the reporting of critical incidents became increasingly important as part of a concerted effort to learn more from adverse events, particularly how to prevent them from happening again. Models from the US were adopted and 'open disclosure' became a desirable goal for clinicians and health care managers.

As personal performance was put under the microscope healthcare professionals and provider organisations realised that other aspects of performance (human factors, teamwork, communication, guidelines etc.) were equally contributory to good or adverse outcomes. More recently

compliance with specialist society guidelines has emerged as an important, measurable contributor to good outcomes in specialties including cardiology, neonatology and anaesthetics.

In this Jackson Rees lecture I will outline this evolution of thinking in the fields of healthcare quality, patient safety and clinical risk, which were largely derived from the Bristol Cardiac Scandal.

Dr Nick Boyd, London

Lifebox and SAFE

The Lancet Commission on Global Surgery highlighted the huge unmet need that exists in providing safe surgical and anaesthesia care in many parts of the world. The Lifebox Foundation and SAFE courses are two important projects that aim to address this gap.

The Safer Anaesthesia From Education (SAFE) project began in 2010 as a collaborative venture between the AAGBI and the WFSA. Following the success of the SAFE Obstetric course, the SAFE Paediatric course was developed, in recognition of the high workload and specific challenges that this patient population presents for anaesthesia. The course is aimed at practicing anaesthetists in low resource settings and is the first of its kind to be written. Since running the first course in Uganda in 2014, multiple courses have been provided in 10 different countries. The project received a large grant from UK-Aid and the Tropical Health and Education Trust (THET) and has been widely well received with encouraging outcomes.

This talk will highlight the challenges of providing safe anaesthetic care to children in these settings, give an overview of the SAFE Paediatric course and present some of the outcomes that have been recorded so far. It should appeal to anyone interested in getting involved in low income country anaesthesia, teaching or running future SAFE courses or simply finding out more about this important aspect of our work.

Dr Liam Brennan, Cambridge

Getting on - the ageing (paediatric) anaesthetist (Debate)

Liam Brennan (aged 57), President, The Royal College of Anaesthetists and Consultant Paediatric Anaesthetist.

The age profile of society is changing rapidly with 25% of the European population estimated to be over the age of 65 years old by 2050. The medical profession is not immune with a 28% increase in anaesthetists aged over 50 years in the period 2010 to 2015.

In this short presentation, the learning points and issues I will explore which are facing an ageing anaesthetic workforce include:

- Economic considerations
- Implications of ageing for safe clinical practice, including decrement in clinical skills, cognitive decline & decreased ability to cope with sleep deprivation associated with on call duties
- Rising litigation & GMC referrals
- Lessons learnt from other safety critical professions
- Specific considerations for paediatric anaesthetists

In addition I will emphasise a more flexible approach to job planning with a need for a portfolio career, as anaesthetists are required to work until well into their seventh decade in order to benefit from full NHS and state pensions. Employers need to acknowledge that an anaesthetist's job plan cannot be the same at age 65 as it was at 35 and that greater recognition should be given to non-clinical activities e.g. education, QI, governance and mentoring as a means to keep the older anaesthetist safe, fulfilled and productive in the later stages of their career.

References:

1. Redfern N, Gallagher P. The ageing anaesthetist. *Anaesth* 2014; **69**: 1-13
2. Age and the Anaesthetist. *Anaesthesia News*, August 2016, AAGBI

Dr Peter Brooks, London

Laparoscopy in the very small

For many surgeons, minimally invasive surgery is an advance as significant as the discovery of anaesthesia. With improvements in instrumentation and the growth of surgical experience, more complex and delicate endoscopic procedures in the smallest patients are considered to be both feasible and safe. For paediatric anaesthetists, the provision of safe perioperative care for our youngest patients presents the greatest intellectual and practical challenges, and is associated with the highest risk. During minimal access surgery in young infants, anaesthetic management is made more challenging by the altered physiology as a consequence of insufflation under pressure and absorption of carbon dioxide, the position of the patient required for optimal surgical access and the potential complications of the technique.

During this presentation, I will:

1. Briefly review the physiological changes associated with minimal access surgery.
2. Discuss practical considerations and the challenges of monitoring.
3. Consider potential risks and benefits of these techniques.

References:

Veyckemans, F. Celioscopic surgery in infants and children: the anesthesiologist's point of view. *Pediatric Anesthesia* 2004; **14**: 424–432

McCann, ME & Schouten, ANJ. Beyond survival; influences of blood pressure, cerebral perfusion and anesthesia on neurodevelopment. *Pediatric Anesthesia* 2014; **24**: 68–73

Lacher, M et al. Minimal invasive surgery in the newborn: Current status and evidence. *Seminars in Pediatric Surgery* 2014; **23**: 249–256

Dr Alison Budd, London

(and Dr Charles Stack)

The work and role of the National Clinical Assessment Service

The talk will summarise the role of NCAS explaining the background of the organisation and where it is now. We will discuss the services that are available and how they can help you or your organisation in managing concerns about the performance of clinicians. This will include some context on how this may affect anaesthetists. The different roles of NCAS and the GMC are given consideration.

Dr Mike Carter, Bristol (Neuro-anaesthesia day – Session A) Epilepsy surgery

Dr Ed Carver, Birmingham

Advances in craniofacial surgery

This talk will focus on the mainstay of paediatric craniofacial work – non-syndromic single suture synostosis. We will explore some of the changes in surgical approach that have evolved, particularly less invasive surgical techniques and their implications for perioperative care. The second part of the presentation will review advances that have been made and some of the recent literature published in patient blood management for open calvarial surgery that often involves significant blood loss.

Reference:

Perioperative outcomes and management in pediatric complex cranial vault reconstruction: a multicentre study from the pediatric craniofacial collaborative group. *Anesthesiology* Volume 126(2), February 2017, p 276–287

Dr Rachael Craven, Bristol Health Care in a conflict zone

Dr Marc Cohen, London (for the Debate)

Pro ‘the older anaesthetist is a boon to the department’

Dr Marc Cohen (aged 35) – Consultant Anaesthetist, Great Ormond Street Hospital, London, UK

This argument will highlight why the more experienced and slightly ‘greyer’ members of our department hold the key to all our success.

Whilst modern techniques and novel training experiences are currently moulding the new generation of fresh, upbeat and forward thinking anaesthetists, we will continue to lean on our forefathers for their wisdom, experience, anecdotes and gentle guidance. I see no reason why the ‘older anaesthetist’ must remain on the same job plan or on-call commitment at the latter end of their career but we must sit up, listen and be attentive to everything they have to offer.

Dr Simon Courtman, Plymouth

SW Network laparotomy audit

This is the story about a local trainee audit in Plymouth looking at the care of children undergoing appendicectomy, designed to compare outcomes to recently published commissioning standards by the RCS and BAPS. This local audit was then supported by our regional surgical and anaesthetic networks and became a much larger network project which was able to allow our network to reflect on quality and outcomes between specialist and non-specialist centres, between our region and national published outcomes, and consider differences with international data.

This data, combined with that shared from other centres, has been used to propose the need for a national database to identify areas where we can improve care and outcomes.

This has become even more pertinent with publications highlighting the worsening outcomes for children in the UK in non-specialist centres and the continued problem of recruitment of staff to provide general surgery for children and the ongoing deskilling of existing staff. This variation is going to become the focus of restructuring of children's surgical services in the NHS in the next few years.

Prof Andrew Davidson

Medical Director, Melbourne Children's Trials Centre,, Royal Children's Hospital, Professor, University of Melbourne: Editor in chief, Pediatric Anesthesia.

Determining depth of anaesthesia in children

Various strategies are used to determine depth of anaesthesia. Crude measures include heart rate, respiratory pattern, movement, muscle tone, and pupil position and size. More sophisticated measures include various EEG based algorithms. A fundamental question in determining depth is what is meant by depth and does anaesthesia even have a depth. Of course we also have to consider what is anaesthesia? These are not trivial questions. In many ways anaesthetic depth is a somewhat abstract construct; it doesn't really correlate with any particular neurophysiologic continuum. In older children depth is determined in ways similar to adults. EEG derived depth monitors "work" in older children just as well as they "work" in adults; however there is very little data examining if they improve outcomes in children. In infants, EEG derived depth monitors don't seem to "work" particularly well. This is at least in part due to differences in the EEG with age.

Determining depth of anaesthesia in infants is made more complex as the endpoints of adequate anaesthesia are not as clearly defined as in adults. What are we trying to achieve with anaesthesia in infants? 50 Years ago infants were reportedly given very little anaesthesia, while in the 80s and 90s it was recognised that this was not ideal. Now all agree that infants need anaesthesia, but more recently issues of potential neurotoxicity and the possible harms of hypotension have forced some to question whether we are giving too much to infants. There is a renewed interest in determining not only depth of anaesthesia but also what is ideal anaesthesia in small children?

Critical analysis of reading a paper

A framework for critical analysis of a research paper is an essential skill for any thinking clinician. The research question is the fundamental component of any research paper. If you have no idea what a paper is about, it is not your lack of understanding, it is the author's inability to articulate the question. The introduction should be all about the question. What it is, why it is important to know and how the researcher is going to go about answering it. By tradition, research papers state aims rather than questions. To the two are obviously linked, but the question is the crux of the issue. Questions must be defined and not too open ended. A paper may have more than one question, but there must be a single primary aim/question. The primary question should have been defined before the study started. Papers that evidence for this, such as in trial registration or a published protocol, have considerably more veracity. At the end of the introduction ask yourself if there is a primary, clearly defined question. If there isn't, don't read further. A good paper has a short introduction. If it takes 1000 words to describe the importance of the question, then it probably isn't worth answering.

The methods should allow you to follow the key events that lead to the results, and should again focus on the primary question. Clinical research studies must report 95% confidence intervals. If the paper does not report 95% confidence intervals it is harder to determine the precision of the results. P values are of little value without the associated 95% confidence intervals. Indeed they are often misleading. The ill founded prominence of P values and in particular the totally illogical obsession with 0.05 has done immeasurable harm in how we have interpreted science.

The discussion should be all about how the results add to what is already known. It must focus on the primary question. Journals often want authors to indicate the implications of their results. This leads to over interpretation. Clinical research is an imprecise science and a single paper never proves anything is true or untrue. There is always a degree of uncertainty. Thus any recommendation to change practice should be made in the context of all evidence and not just what is reported in the results. Good clinicians are, and should be Bayesian. Each bit of new evidence augments existing evidence rather than replaces it.

Prof Paolo De Coppi, London

Growing the trachea

Dr Richard Edwards, Bristol

(Neuro-anaesthesia day – Session B)

Posterior fossa tumours

Dr Tom Englehardt, Aberdeen

Clinical trials

The audience will be alerted to recent clinical trials which may have an impact on their practice. The session will be used demonstrate as to how to critically appraise a paper.

Dr James Fraser, Bristol

Sepsis – the 'golden hour'

Sepsis has been called Britain's 'hidden killer'. This lecture will briefly review child mortality attributed to sepsis and then discuss the key management decisions relating to a child with sepsis in the first hour in a hospital setting. A clinical case will be used to set the scene.

The following areas will be specifically addressed:

- Prognostic indicators on admission for poor outcome
- Differences between children and adults:
 - Recognition (early warning scores, paediatric sepsis 6)
 - Infective agents and antibiotic choices
 - Age related vital signs
 - Fluid management and inotrope choices
- Common errors in management
- Specific situations: toxic shock syndrome
- Important differential diagnoses: cardiac, viraemic sepsis, HLH, TTP, endocrine emergencies

- Areas of controversy – fluids, steroids, early goal-directed therapy

Learning points:

1. 'Cold shock' common
2. Recognise disease severity
3. Early resuscitation improves outcome
4. Use IO needle if IV access not secured < 90secs
5. Do not delay ventilation, avoid myocardial depressant drugs in intubation, cuffed oral tube
6. Peripheral ionotropes

References:

1. *Dellinger RP et al.* Surviving Sepsis Campaign: Guidelines for Management of Sepsis and Septic Shock, 2012 (pediatric considerations). *Intensive Care Medicine*. 2013; **39**: 165-228
2. Maitland K et al. *Mortality after fluid bolus in African Children*. NEJM 2011; **364** (26): 2483-2495
3. 2016 NICE guideline NG251: sepsis recognition, diagnosis, and early management

Dr Hannah Gill: London

Xenon and Neuro-protection

Multiple rodent studies have shown that all commonly used anaesthetic drugs cause increased apoptosis in the developing brain. However, translation of this evidence to children is difficult due to confounding factors such as comparison of maturation, dosage and physiological stability: Hypercarbia and mortality (signs of overdose) are commonplace in the rodent models. Nevertheless, the FDA has issued stark warnings regarding general anaesthesia in babies and small children.

Xenon has been licensed for anaesthesia in Europe and has recently been given to babies and small children in four European trials. It has been shown to reduce isoflurane-induced neuroapoptosis in two rodent models of inhaled anaesthesia (Ma et al, Cattano et al). However, it is not clear in these studies if this effect was the result of improved anaesthetic depth or physiology.

My work is focusing on studying the effects of xenon when combined with sevoflurane. I will present data from my lab where I have established a rodent model of anaesthesia in developing brain and outline my plans for a randomised clinical trial. My overall aim is to optimise the translation between the lab and the clinic.

Prof Walid Habre, Geneva

APRICOT

Reference:

The Lancet Respiratory Medicine, Vol 5, Issue 5; pp412-425 (May 2017).

Dr Phil Hammond, Bristol

From blind trust to kind truth

Mr Bertie Leigh, Hempsons, London

How one can avoid the legal landmines

When the NHS was born medicine was a danger to health – the majority of interventions did more harm than good. Now the picture has been transformed, but instead of being grateful the patients are querulous and unforgiving. Anaesthesia is at an extreme part of this spectrum mortality having gone from Beecher & Todd's 1:1,000 to being immeasurably rare and unforgivable when it happens. I want to explore the implication of this change with you –taking into account changes in training, continuity of care, NHS funding changing views of the empowerment of patients. I will suggest that almost everything has changed despite there being nothing very new to be seen at first glance.

Dr Martin Lewis, Bristol

The susceptibility of the developing myocardium to cardiac insults

Whether the resistance of immature mammalian hearts to the damaging effects of cardiac insults, such as hypoxia or ischaemia is higher or lower than adult remains controversial (1). We have demonstrated that recovery of developing rat heart following ischaemia and reperfusion (I/R) changes during maturation and appears to follow a bell-shaped curve; our clinical research has shown age-related differences in cardiac vulnerability to cardiac ischaemia/reperfusion in patients undergoing open heart surgery(2, 3). However, the mechanisms underlying this profile of vulnerability to I/R during postnatal development are not currently known.

Ca2+-loading is key in mediating reperfusion injury and therefore developmental changes in Ca2+-mobilisation could be responsible. In fact, better preservation of Ca2+ handling has been reported in developing hearts following cardiac insults compared to adult hearts. Ca2+ levels during E-C coupling are under control mediated by β -Adrenergic receptors. This has also been linked to cardioprotection against I/R .

Our current work focuses on the role of cyclic nucleotides and their downstream signalling partners in the physiological response to stimulus and their protective effects against ischaemia & reperfusion injury in the developing heart(4).

Learning points:

- Pathophysiology of Ischaemia/ Reperfusion injury in the context of surgery on the developing heart
- Developmental changes in the heart at a subcellular level
- Possible strategies under investigation to ameliorate perioperative cardiac injury

References:

1. Ostadalova I, Ostadal B, Kolar F, Parratt JR, Wilson S. Tolerance to ischaemia and ischaemic preconditioning in neonatal rat heart. *Journal of molecular and cellular cardiology*. 1998;**30**(4):857-65.
2. Imura H, Caputo M, Parry A, Pawade A, Angelini GD, Suleiman MS. Age-dependent and hypoxia-related differences in myocardial protection during pediatric open heart surgery. *Circulation*. 2001;**103**(11):1551-6.
3. Modi P, Imura H, Angelini GD, Pawade A, Parry AJ, Suleiman MS, et al. Pathology-related troponin I release and clinical outcome after pediatric open heart surgery. *Journal of cardiac surgery*. 2003;**18**(4):295-300.
4. Khaliulin I, Bond M, James AF, Dyar Z, Amini R, Johnson JL, et al. Functional and cardioprotective effects of simultaneous and individual activation of protein kinase A and Epac. *British journal of pharmacology*. 2017;**174**(6):438-53.

Dr Janet McNally, Bristol

Abdominal surgery in the networks

Dr David Mason, Oxford

Why is complex airway management in children so different?

So why is complex airway management in children so different? Good question. Is it that there are fundamental differences in the anatomy and physiology of the airway in children? Is it that there are a large variety of congenital or inherited conditions seen in children that have an associated difficult airway? Is it that children are generally non-cooperative and non-compliant and thus the paediatric anaesthetist does not have the luxury that our adult colleagues have of being able to perform intubation in the awake patient?

These questions will be explored in the presentation looking at the flip side to difficult intubation in children. That's all the bits that are required to allow the paediatric anaesthetist to perform intubation and are often delegated to the least experienced member of the team. The approach of the presenter in managing these essential requirements is to keep it simple and work as a team.

The presenter will also look to the future to see if devices that are already used outside the anaesthetic room may have a new and innovative part to play in helping maintain oxygenation in the child with a difficult airway and hence aid the procedure of intubation.

If you are none the wiser after reading this abstract, you should come to the presentation or view it at your leisure on the APA website after the Annual Scientific Meeting in Bristol 2017.

Dr Susane Nabulindo, Nairobi, Kenya

The Nairobi Fellowship

Background: In most low and middle income countries, about 40% of the population is under the age of 14 years. Approximately 85% of these children will undergo surgery before their 15th birthday. This translates to an undisputed need for anaesthesia practitioners who are well versed in providing anaesthesia to children.

Discussion: The WFSA in collaboration with the University of Nairobi established a paediatric anaesthesia fellowship in 2013. This is a fellowship meant to serve the East African region. It is a 12-month fulltime fellowship based in Nairobi. The knowledge and skills learnt are through exposure to high volume and variety of cases. Most areas of paediatric anaesthesia are taught.

Eleven paediatric anaesthesiologists have graduated from the fellowship and most have gone back to their countries and become leaders in paediatric anaesthesia.

Challenges faced include difficulty in expanding the fellowship despite the need due to lack of teachers

present at all times to interact with the fellows. Some countries within the region also lack physician anaesthesiologist who can qualify to join the fellowship.

Learning points:

This fellowship illustrates how subspecialty training in a region can be used to transform and improve the quality of care in a cost effective way.

References:

1. World Bank. Population ages 0-14 (% of total). Retrieved from <http://data.worldbank.org/indicator/SP.POP.0014.TO.ZS>
2. Walker IA, Obua AD, Mouton F, Tendo S, Wilson IH. Paediatric surgery and anaesthesia in south-western Uganda: a cross-sectional survey. *Bull World Health Organ*. 2010

Dr Breda O'Neill, London

Traumatic brain injury in children anaesthesia: immediate response

In this session we have been asked to highlight the correct and early actions, in directing the critically ill or injured child to the right place, for immediate life saving care. My presentation addresses the immediate response of the anaesthetist in traumatic brain injury.

Many of us probably feel relatively confident in the principles of managing the brain injured child. However, are we all fully up to date when the situation isn't entirely clear cut, or when a member of the team asks you, the expert, for the latest recommendations on aspects of care?

This session aims to review available literature and recent changes in guidelines. We hope to make it interactive so that you can test your own knowledge, then review the updates, or indeed contribute some of your own comments to the discussion.

Dr Russell Perkins, Manchester

Laparotomy for children in the North West

Dr Adam Rennie, London

Paediatric interventional neuroradiology

This lecture will focus on the main areas of paediatric interventional neuroradiology. For each condition the main aim will be to highlight key treatment related factors where paediatric anaesthetic input is required. In addition the lecture will outline the nature of the conditions, the possible interventional treatments and the overall patient outcome/prognosis.

The conditions discussed will include:

- High flow intracranial AV shunts
- Intracranial AVM's
- Paediatric Aneurysms
- Intra-ophthalmic artery chemotherapy for retinoblastoma
- Spinal AVF's

Mr Will Singleton, Bristol

Intracranial drug delivery for malignant brain tumours

Malignant brain tumours are the leading cause of cancer death in children and their treatment represents an unmet clinical need. Of all the types of malignant tumour, high grade paediatric glioma carries the worse prognosis.

Treatment failure in malignant glioma is in part due to poor drug penetration of the blood brain barrier.

This lecture will provide an overview of the current experimental techniques that are being translated into the clinic that attempt to overcome this problem. I will focus on a technique of direct intraparenchymal drug delivery called convection enhanced delivery. This method of intracranial drug delivery is achieved with the stereotactic implantation of specially designed microcatheters that allows infusion of drug in a precisely controlled manner that distributes drug by bulk flow over clinically relevant brain volumes.

The main emphasis of this lecture will be to describe our translational approach to convection enhanced delivery and our early clinical experience in adapting the technique for the treatment of children with Diffuse Intrinsic Pontine Glioma, using a novel robotic surgical procedure. The main aims of the presentation will be:

- 1) To explain why there is a clinical need to improve drug delivery for the treatment of malignant glioma
- 2) To provide an overview of the current strategies that are being used to improve CNS drug delivery
- 3) Provide a theoretical understanding of convection enhanced drug delivery
- 4) Share our clinical experience of the use of convection enhanced delivery in children with DIPG.
- 5) Provide some insight into the possible future application of this technique.

Dr Charles Stack, Sheffield

See Alison Budd

Dr Mark Thomas, London

Education and training

A brief summary of the best educational articles and resources for Paediatric Anaesthetists published during the last year across a variety of journals. There will be an opportunity for delegates to submit answers to a short quiz before the conference and the highest scorer will be announced at the end of the talk and awarded the much coveted, yet inaugural (!), APA education and training cup. In the event of a tie-break the speaker's decision is final. So please enter the quiz and come to the talk.

Prof Laszlo Vutskits, Geneva

1. Basic science; and 2. The neonatal brain and anaesthesia 2017.

In this lecture, my aim is to provide a comprehensive update on the issue of developmental anaesthesia neurotoxicity. First, I will review available biological rationale allowing us to consider the potential for anaesthesia neurotoxicity. This will be followed by a brief description of laboratory data, from rodents to non-human primates, supporting this possibility. In transition toward the clinical relevance, I will also highlight important translational limitations of animal experiments. I will then focus on clinical studies and describe available new human data in this field. A critical appraisal of study designs and limitations will also be provided. Finally, I will review the recent FDA statement on anaesthesia neurotoxicity and will aim to give a practical approach on what to tell the parents about this issue.

Dr Liz Wright, Liverpool

What's special about neuroanaesthesia

The aim of this talk is to outline some of the issues we must consider when delivering neuroanaesthesia and the challenges of looking after paediatric neurosurgical patients in an adult or non-neuro environment.

Dr AER Young, Bristol

The early management of the child with burns: impact on outcomes

Burns are the fourth most common reason why children go to hospital after an accident. Many are managed in local hospitals and A&Es, and 7,500 children and young adults in England and Wales require specialist care each year. Burns cause morbidity, prolonged hospitalisation and disability. Improvements have decreased mortality rates to close to zero; morbidity remains significant. Early management will affect outcomes.

Burn care is improving with advances in surgery, critical care, microbiology and psychological care. Good outcomes are now possible despite the most severe injuries.

The most important advance in the surgical care of patients with large area burns is early excision of the burn eschar with subsequent wound coverage; ideally from auto-grafting or dermal replacement in larger area burns, and occur within the first few days after injury. This removes the stimulus for the systemic inflammatory and hypermetabolic responses, decreases the incidence of sepsis and improves survival along with cosmetic and functional outcomes.

Improved critical care including early and appropriate fluid resuscitation (with a trend towards limiting fluid replacement to 'just enough'), amelioration of the hypermetabolic response, and strict prevention and treatment (but not prophylaxis) of infection have also reduced mortality.

Positive pressure ventilation should be used with caution and only when essential. Early extubation of patients with burns (including those with facial burns) is key to good outcomes.

Incidence and management of inhalational injury remains a major determinant of survival. Diagnosis is still a challenge. The aims are early diagnosis, a protective ventilation strategy, conservative fluid management and pharmacological treatment/prevention of complications.

Quality evidence is improving, although multicentre randomised controlled trials with consistent outcome reporting are still limited, with associated difficulties in evidence synthesis. Areas of research include wound coverage for large area burns (dermal preservation and replacement), wound healing, early detection of infection with new point of care technology, accuracy of fluid replacement with a clear understanding of clinical endpoints, the role of ventilation in burn-injured patients and standardisation of care to enable audit of care pathways across services.

The importance of physical and psychological rehabilitation starting early after injury is clear. An understanding of the importance of expert, experienced multidisciplinary teamwork is also clear, as is the need to provide the best outcomes by centralising care into a few specialised centres for the rare major burns in both adults and children.

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*MacLeod D, et al. Journal of Cardiothoracic and Vascular Anesthesia. 2012;26:1007-1014.

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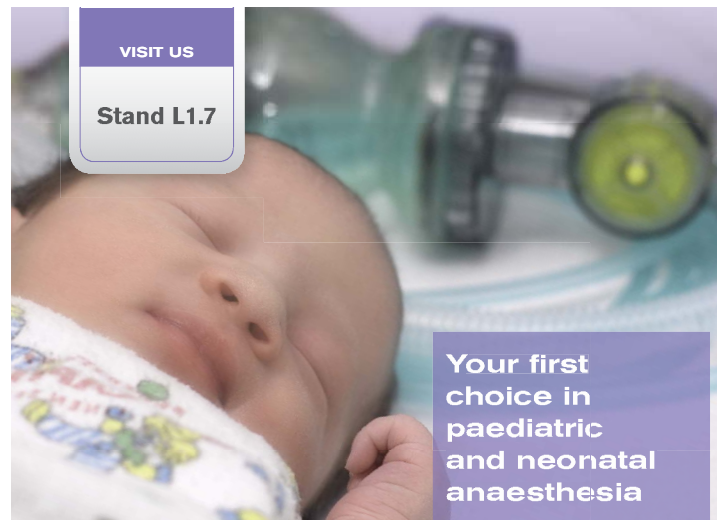
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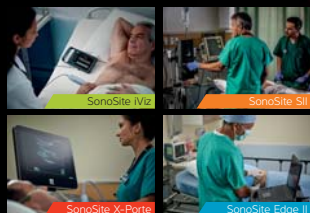
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Oral Presentations * *Oral Presentations shown with an asterisk are in the Oral Presentation Competition*

**All oral presentations will take place on Friday 9th June.
See page 9 for the rest of the programme that day**

09.00	O1	130 COUNTRIES AND >0.5 MILLION VIEWS - MEETING A GLOBAL EDUCATION GAP WITH OPEN ACCESS CLINICAL ANAESTHESIA VIDEOS Ross O., Bates L., O'Brien N., Shah S., Stubbing J., Falcinelli A., Shrimpton S., Maestro-Ruiz M, L. Tarry
09.10	O2	QUALITY OF POSTOPERATIVE RECOVERY IN CHILDREN AND YOUNG PEOPLE: THE MODIFIED QOR-15 QUESTIONNAIRE Rawlinson E., Duffin-Jones V., Cheema B.
09.20	O3	* THE DEVELOPMENT OF AN ANIMATED PARENT INFORMATION GUIDE TO AID MANAGEMENT OF PAIN AT HOME FOLLOWING PAEDIATRIC TONSILLECTOMY Lewis R. A., Marsh D. F.
09.30	O4	* IMPLEMENTING A NURSE PRACTITIONER-LED INTRAVENOUS DEXEMEDETOMIDINE SERVICE FOR MRI Sabaratnam R., Stuart G.
09.40	O5	* DO CHILDREN BOUNCE? Sahni A., Morrison C., West A., O'Neill B.
09.50	O6	* RECOGNITION OF CHILDREN AT RISK OF PERIOPERATIVE RESPIRATORY ADVERSE EVENTS Miskovic A. M., Munro M., Flynn L., Bew S.
10.00	O7	* HUMANISING HEALTHCARE EXPERIENCES THROUGH THE HOSPITAL GOWN Evans C. R. E., Copley S., Moonesinghe S. R.
10.10	O8	* VR PREP: A NOVEL VIRTUAL REALITY PAEDIATRIC PERI-OPERATIVE PREPARATORY TOOL Evans C. R. E., Moonesinghe S. R., Barnett S., Polhill S.
10.20	O9	* AUDIT OF ANALGESIA AT HOME FOLLOWING TONSILLECTOMY/ ADENOTONSILLECTOMY Konig R., Ravi R., Evans J., Walton D.

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- P2** PATIENT AND NURSE CONTROLLED OXYCODONE IN CHILDREN: A SINGLE CENTRE EXPERIENCE
Chin J. W. E., Brooke J., Rolfe P.
- P30** PREOPERATIVE PAEDIATRIC FLUID FASTING: A QUALITY IMPROVEMENT PROJECT
Baytug B. S., Watson A., Shanks J., Morrison C., Bird V.
- P36** HYPOGLYCAEMIA IN CHILDREN FASTED FOR ELECTIVE SURGERY
Wood K. A., Jones A., Prosser D., Rolfe S.
- P64** SPREAD THE WORD! UTILISATION OF TECHNOLOGY ENHANCED LEARNING IN PAEDIATRIC ANAESTHESIA
Marriott D. R.
- P80** REMOTE THEATRE SITES - REDUCING DELAYED STARTS
Forshaw N., Hume-Smith H.
- P82** CREATING A NEW POST-OPERATIVE PLAN FOR DELAYED BLADDER EXSTROPHY CLOSURE
Okonkwo I.N.C.O., Bendon A. A., Vashisht R.
- P97** SAFE PAEDIATRIC ANAESTHESIA IN EAST AND CENTRAL AFRICA
Sharkey E. J., Boyd N., Burton Z., Evans F. M., Kiwanuka J., Mndolo S. K., McDonald P., Nabukenya M., Nabulindo S., Phiri-Nyimbil H., Ttendo S., Zyambo M., Walker I. A.
- P98** NATIVA - A NEW APPROACH TO THE PAEDIATRIC SHARED AIRWAY WITH HIGH FLOW NASAL CANNULAE AND TOTAL INTRAVENOUS ANAESTHESIA
Wijesingha S., McCormack J., Baxter A., Malik O.
- P107** REMOVAL OF METALWORK FROM THE LOWER LIMB: INPATIENT OR DAYCASE?
Cooper A. H. C., Roberts S. R.

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*Posters will be located in the Lantern Hall, Lantern Foyer and Ground Floor
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