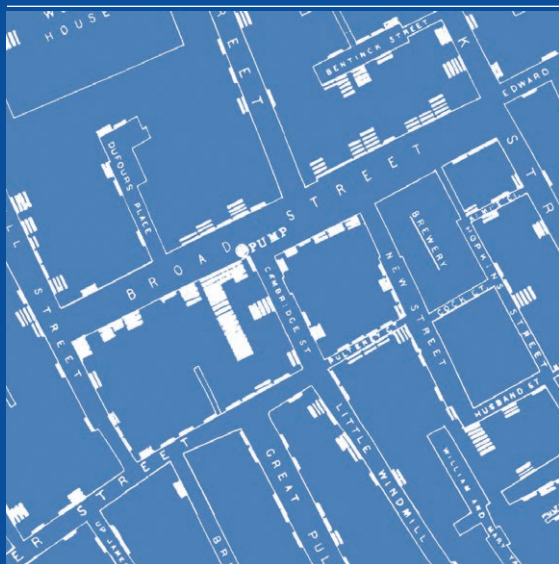
NIAA

National Institute of Academic Anaesthesia

The National Institute of Academic Anaesthesia

Comprehensive Review 2012 – 2013



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NATIONAL INSTITUTE OF ACADEMIC ANAESTHESIA

Professor Ravi Mahajan and Professor Rob Sneyd

The National Institute of Academic Anaesthesia (NIAA) has made great progress in all of its core areas of activity, and we are delighted to showcase these achievements in the following Comprehensive Review for 2012–13.

Grant activity continues to flourish, and £2,826,687 has now been awarded through the NIAA-coordinated funding rounds. We have been pleased to welcome two new funding partners: Regional Anaesthesia UK and the British Society of Orthopaedic Anaesthetists, and hope that new specialist societies will continue to join, as these partnerships lie at the heart of the NIAA's success.

It has been exciting to see grant activity grow beyond the funding rounds. In 2012 we saw two excellent projects funded through a new *British Journal of Anaesthesia* (*BJA*) / Royal College of Anaesthetists (RCoA) Career Development Grant, and in 2013 we saw the creation of the John Snow Intercalated BSc for undergraduate students, funded by the Association of Anaesthetists of Great Britain & Ireland (AAGBI)/*Anaesthesia*, the *BJA* and the RCoA. This expansion has allowed the NIAA to help budding researchers in the early stages of their career, as well as more established colleagues looking to take that important next step.

Following the appointment of Dr Ramani Moonesinghe as the NIAA's Trainee Coordinator, the NIAA has improved its support for academic trainees through events and online resources. Dr Moonesinghe organised a popular two-day Introduction to Academic Anaesthesia course in partnership with the London Deanery, which inspired requests for similar events to be organised on a regional basis, and a report of trainee experiences and learning opportunities which will act as a guide for others looking to pursue a career in academic anaesthesia has been produced.

Trainee engagement is the hot topic of the moment, and a number of regional trainee-led research networks

have been established in recent months. These schemes have proved to be a highly successful means of recruiting patients to studies on the National Institute for Health Research (NIHR) portfolio. They have also led to the establishment of a Research Anaesthesia Federation for Trainees (RAFT). The NIAA looks forward to working with the networks in the future, and has already liaised with some early pioneers to compile a 'how-to' guide on setting up a trainee-led network: (www.niaa.org.uk/article.php?newsid=925).

The NIAA has been pleased to observe the resilience of the NIHR Anaesthesia Perioperative Medicine and Pain Management Specialty Group, which is one of the top performers against time and target to non-commercial as well as to commercial NIHR portfolio studies. From April 2014, the NIHR specialty groups will change, and anaesthesia, perioperative medicine and pain management will also be grouped with critical care, injuries and emergencies and surgery. Our success to date will serve us well within this new grouping. More details about the group's success can be found in Professor Martin Leuwer's report.

The NIAA's Health Services Research Centre has become an exciting hub of activity under the directorship of Professor Mike Grocott, and we are delighted to bring updates on the National Emergency Laparotomy Audit, the National Audit Projects and news of a second research priority-setting exercise running in partnership with the James Lind Alliance. The NIAA continues to enjoy a strong relationship with military anaesthesia, and Colonel Peter Mahoney's report introduces the recently appointed honorary lecturers.

Collaboration is the key to the NIAA's success, and we would like to thank all of our founding and funding partners for helping to make the achievements reported on the following pages possible.

EFFECTIVE COLLABORATION

Professor David Lambert

In our first Comprehensive Review I ended by saying '*….the summary in this report is just the beginning; we have ambitious plans and there is much still to do*'. This piece will update you on the significant steps we have made towards this aim. With some learning and reflection, we have adopted an approach to try to raise the funding expectations of our entire researcher group. Starting at medical student and non-clinical equivalent and ending in career development awards to promote Professorial appointments. More on this later.

Our current funding portfolio is shown in the figures overleaf, with the impressive bottom line of 145 awards worth approximately £3.4 million in six years of activity. The vast majority of this supports work on patients or patient samples. We continue to run a fast and efficient review process, providing applicants with decisions (and feedback) in around 10 weeks from submission. With a success rate of 30% it has to be worth a go! We currently represent the grant-giving activity of 14 funding partners. Since the last report we have also made an award for a pre-determined joint initiative from the Association of Paediatric Anaesthetists of Great Britain and Ireland and the *BJA*/RCoA. With regards to the NIAA process, I am not aware of anything similar in any of our other clinical specialities, and the NIAA can be proud of this achievement.

The majority of our activity has been focussed on project grants and this funding stream works well for most, but looking at the demographic of applicants, the trainee and mid-career researchers dominate applications. Indeed, in an audit of 2008 – 2011 main round activity, approximately one-third of applications had a trainee as principal applicant, with a further third at non-professorial grade. Last year we started funding medical students to intercalate during their medical degree. Funded by *Anaesthesia*/AAGBI and *BJA*/RCoA seven awards were made, and we look forward to hearing the outcome of their research projects. This scheme will also run in 2014, with additional funding for obstetric projects from the Obstetric Anaesthetists' Association. At the other end of the spectrum, the *BJA*/RCoA advertised a clinical development grant for sums up to £250,000. The field was so good that we ended up making two awards: one to Dr (now Professor) Rupert Pearse, and a second to Dr Christopher Snowden.

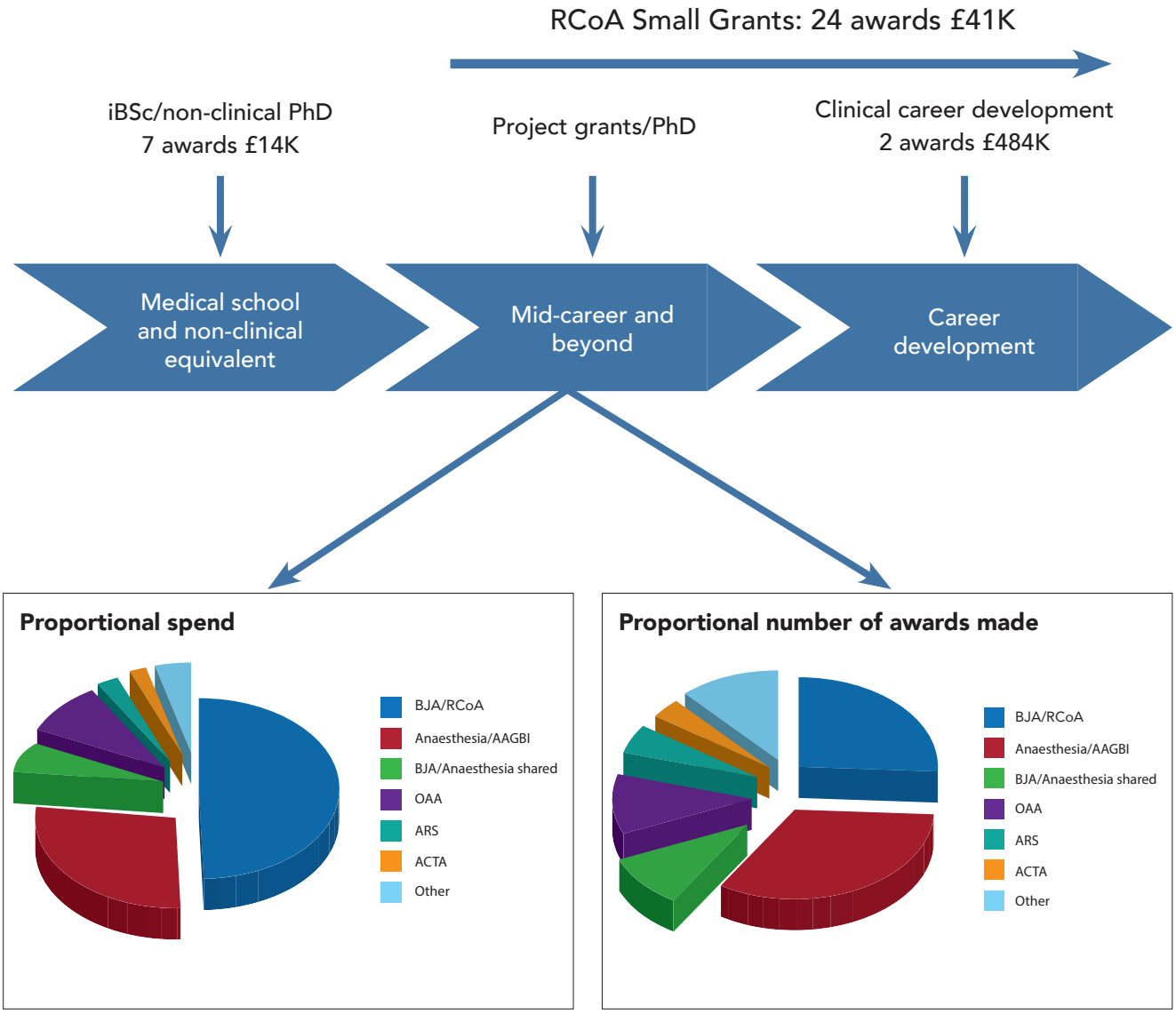
It is probably appropriate to end this update, as in the initial Comprehensive Review, by saying that we have strengthened our process, increased our portfolio of awards and attracted new partners, but there is a lot still to do. I remain committed to this process and hope that the final 'three and a bit' years of my term of office will see significant inroads made towards more strategic, pre-determined collaborative funding initiatives among our partners.

For more information on the application process, including a webcast, go to www.niaa.org.uk/NIAA_Grants_Webcast. If you have any questions regarding the application process please email info@niaa.org.uk. We encourage enquiries prior to submission and look forward to receiving your applications.

Data from 12 rounds: 2008 (R1) – 2013 (R2)

Funding Partner	Number of Awards	Spend
BJA/RCOA	29	£1,405,402.00
AAGBI/Anaesthesia	37	£772,698.00
OAA	12	£266,179.00
BJA/Anaesthesia Shared	10	£145,393.00
ARS	7	£67,018.00
ACTA	4	£54,232.00
APAGBI	2	£26,115.00
DAS	3	£23,773.00
NASGBI	2	£19,826.00
APAGBI/BJA/RCOA	1	£18,005.00
SEA UK	3	£15,046.00
RA UK	1	£10,000.00
AAGBI/SEA UK	1	£3,000.00
	112	£2,826,687.00

SUMMARY OF 6 YEARS OF NIAA GRANTS ACTIVITY



BJA/RCoA Career Development Grant 2012

Number of Awards	Spend
2	£484,164.00

John Snow Anaesthesia iBSc 2013

Funding Partner	Number of Awards	Spend
AAGBI/*Anaesthesia*	2	£4,000.00
BJA/RCoA	5	£10,000.00
	7	£14,000.00

RCoA Small Grants 2009 – 13

Number of Awards	Spend
24	£41,169.00

Total spend on all categories since 2008	£3,366,020.00
Total awards all categories	145

ANAESTHESIA AND PERIOPERATIVE CARE PRIORITY SETTING PARTNERSHIP

Dr Mike Galsworthy

The Anaesthesia and Perioperative Care Priority Setting Partnership (PSP) is an on-going partnership between the funding partners of the NIAA, perioperative care organisations and relevant patient representation bodies. Under the guidance of the James Lind Alliance (JLA), the exercise will survey clinicians, patients and public in order to identify (via free-text survey followed by screening and voting), the most important uncertainties and unaddressed research questions in anaesthesia and perioperative care.

The current research (due to be completed in 2015) follows previous investigations by the NIAA and its partners. In 2009, the NIAA conducted the first national priority setting exercise for anaesthesia with results published in 2011. Then in 2012, the NIAA surveyed the research priorities of its specialist society funding partners. However, by late 2012, it was felt that a new and more comprehensive research prioritisation exercise needed to take place with patient involvement, a clearer path to funding and a more transparent research selection process. At the NIAA Board meeting on the 31 January 2013, it was decided to apply for an 'Anaesthesia Priority Setting Partnership' in collaboration with the JLA and funded collaboratively by the funding partners of the NIAA.

In April 2013, the JLA accepted the proposal and appointed Professor Adrian Grant as Adviser to the Anaesthesia and Perioperative Care PSP. At this stage there was still no obvious patient representation body to pair with the clinical representation. Therefore, over 20 patient representation and nursing partners were contacted and invited to an Awareness Raising Meeting on Friday, 18 October 2013 at the Royal College of Anaesthetists. Representatives from 28 organisations attended, including 12 patient representation bodies, nursing bodies, the specialist societies of the NIAA, the Cochrane Anaesthesia Review Group and the JLA.

From the attendees and other interested partners, a Steering Group of 11 people was formed, evenly balancing the patient and clinical interests. The Steering Group was finalised and confirmed on 27 November 2013, and an initial Steering Group meeting organised for 20 January 2014 at the Royal College of Anaesthetists.

In the first Steering Group meeting we will plan the scope of the exercise and set a timetable for activity. There will be monthly teleconferences of the Steering Group in order to agree text and roles, and guide all partners through the process. The expectation is that the main survey (an open, online survey, with a postal option available too if necessary) will take place during June and July 2014. The survey will then close and results will be summarised. Areas of interest will be checked against the literature to clarify research coverage. It is expected that the final selection of 'top 10 priorities' will take place in January 2015. After that, there will be wide dissemination of findings and the priorities will be taken forward into NETSCC (the NIHR Evaluation, Trials and Studies Coordinating Centre) and NIHR for funding consideration.

SUPPORTING ACADEMIC ANAESTHESIA

Dr Ramani Moonesinghe

This has been an exciting and successful year in improving infrastructure and celebrating successes in academic endeavour for trainees in anaesthesia. The NIAA has been involved in a number of key themes: providing and advertising courses and meetings for potential academic anaesthetists, publicising academic training opportunities, and assisting with the development of trainee research and audit networks.

COURSES AND MEETINGS

The first NIAA-badged 'Introduction to Academic Anaesthesia' course ran in London in September 2013, jointly organised and funded by the London Academy of Anaesthesia. The meeting was fully booked and attended by trainees from places as far flung as London, Newcastle and the west coast of Africa! The high quality faculty was made up of established university and NHS academics, and also trainees engaged in research. They presented a series of lectures on a broad range of research methodology and subject areas, receiving excellent feedback. Following the success of this meeting, the NIAA and London Academy have agreed to run another course in 2014, and the NIAA will be supporting the efforts of trainees and consultants outside London in setting up regional meetings along the same theme.

In October 2013, to celebrate the Jubilee of the Royal College of Anaesthetists, the annual 'Current Concepts' symposium was used to celebrate the work and successes of 'rising stars' in anaesthesia, pain and critical care medicine. The speaker list consisted predominantly of trainees and new consultants, who presented on work related to research and quality improvement across a broad range of anaesthesia-related topic areas. Again, the meeting received excellent feedback, and there are plans to run sessions showcasing 'rising stars' in future national events.

TRAINEE RESEARCH NETWORKS

Trainee research networks are aimed at providing all trainees (not just those who want to undertake dedicated research during their training) with an opportunity to participate in clinically relevant and important research, audit and quality improvement activity. A number have been set up across the length and breadth of the country. Efforts to enable shared learning and to coordinate the activity of these networks nationally (under the banner of the 'Research and Audit Federation of Trainees' – RAFT) are being led by the trainee and consultant leads for the South West Anaesthesia Research Matrix, Tom Clark and Gary Minto. RAFT held a very successful first meeting at the RCoA in December 2013, supported by the NIAA. At the meeting, it was agreed that the first project to be supported by the RAFT movement would be the Sprint National Anaesthesia Project (SNAP-1) – see below for further details. A resource has been created on the NIAA website for trainees to learn about trainee research networks and a 'how-to' guide for setting one up in regions where none currently exist: www.niaa.org.uk/article.php?newsid=925.

SPRINT NATIONAL ANAESTHESIA PROJECT-1

Planning for the NIAA's first Sprint National Anaesthesia Project took place during 2012–2013. Funded by an NIAA administered grant provided by the Royal College of Anaesthetists (RCoA) the project will take place in May 2014. Further details can be found on page 19. This project is particularly important for trainees, as we hope to encourage them to work with the Quality Audit and Research Coordinators in each hospital to lead local study management and data collection. In return for their efforts, all trainees who are local leads will be named as collaborators in any publications which arise from this project.

FIRST NIAA ACADEMIC TRAINING REPORT

The NIAA has published a report covering 2013, which showcases the work of trainees who have undertaken a recent period of research, both those who are enrolled

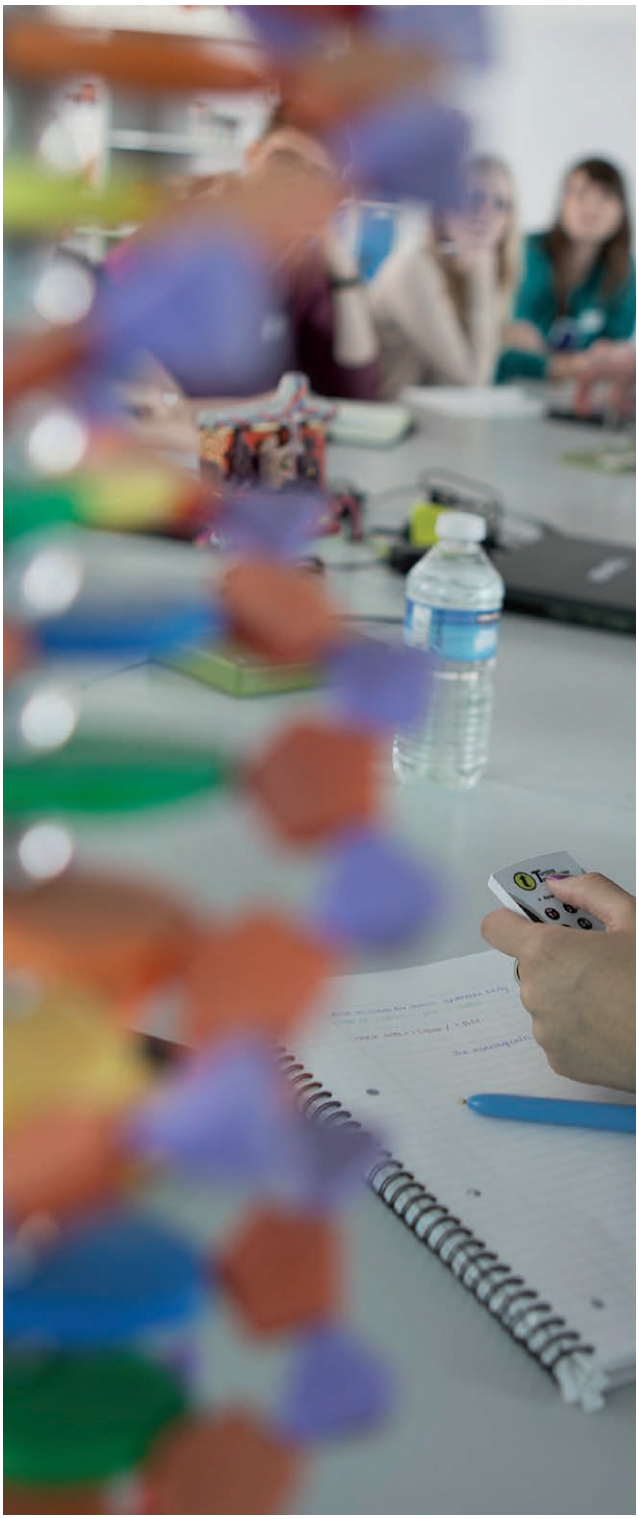
in higher degrees, and also those who have taken on one-year OOPR or OOPE posts dedicated to academic activity. The report provides a 'taster' of the future academic productivity of our profession, and we plan to publish an updated report on an annual or bi-annual basis. We hope that this report will be used as a resource for trainees across the country who are interested in academic opportunities, enabling them to see what is going on both within and beyond their own geographical location, and enabling them to contact trainees and supervisors to seek more information on research opportunities which are of interest to them.

NIAA RESEARCHERS' DATABASE

The NIAA researchers' database has been set up to encourage collaboration and networking amongst those involved in academic anaesthesia. The engagement of trainees and supervisors by their signing up to the database is crucial to our being able to provide a more complete report of trainee research activity in future years, and more importantly, to advertising research training opportunities to the widest possible audience. If you are a trainee who has been involved in research or an academic supervisor, please sign up at: www.niaa.org.uk/researchDb.

THE FUTURE: PLANS FOR 2014 – 15

The NIAA seeks to build on the work of last year in three main streams: by providing opportunities for trainees to learn about research methodology via its courses and meetings, by providing networking and tangible opportunities for trainees who want to 'dip their toes' into academic waters via the trainee research and audit networks and national trainee-led or trainee-facilitated research and audit projects (such as the SNAPs), and finally, by providing greater transparency and advertising of research opportunities for those who want to take time out of clinical training to do research, via the Researchers' Database and the Academic Training Report. We believe that there are exciting times ahead for trainees who wish to build their research knowledge and experience; all suggestions and comments are welcome, via the NIAA website or by email at info@niaa.org.uk.



Courtesy of Peninsula College of Medicine and Dentistry

MILITARY ANAESTHESIA

Colonel Peter F Mahoney OBE

The Academic Department of Military Anaesthesia and Critical Care (ADMACC) marked five years of existence in 2013, and has gone from strength to strength with the continuing support of the RCoA, AAGBI and NIAA. A key milestone was the move from honorary to formal appointments of lecturers and senior lecturers facilitated by the RCoA and NIAA – for which I am very grateful.

Departmental members continue to deploy in support of UK forces around the world and to actively publish and pursue research interests. The rest of this summary will be given over to introducing departmental members.

Colonel Peter F Mahoney
Defence Professor of Anaesthesia and Critical Care, Royal Centre for Defence Medicine, Birmingham.

Visiting Professor, Centre for Blast Injury Studies, Department of Bioengineering, Imperial College, London.

http://www3.imperial.ac.uk/blastinjurystudies/people/staff

DEPARTMENTAL MEMBER PROFILES

Lieutenant Colonel Dominic Aldington

Defence Senior Lecturer in Pain Management

Although originally a consultant anaesthetist, Dominic now spends all of his clinical time 'in pain'. Clinically he is on loan to the NHS, where he spends three quarters of the week working in the pain clinic at the Hampshire Hospitals Foundation Trust. He also works in the pain clinic at the Defence Medical Rehabilitation Centre, Headley Court. He is interested in all aspects of pain, but particularly persistent pain associated with trauma. His current role involves overseeing the pain management processes of the Defence Medical Services, from point of wounding to the point of leaving the services.

Colonel Jeremy Henning

Defence Senior Lecturer in Critical Care

Jeremy carries out his clinical practice in anaesthesia and critical care in Middlesbrough. His current major project is looking at the effect morphine has on the cardiovascular response to blood loss. He is also looking at the metabolic insult of major transfusions and is interested in human factors, governance and ethics.

MILITARY ANAESTHESIA

Surgeon Lieutenant Commander Elspeth Hulse

Defence Lecturer in Anaesthesia and Toxicology

Elspeth is a senior anaesthetic registrar working at the Royal Infirmary of Edinburgh and is undertaking a PhD in toxicology at the Centre for Cardiovascular Sciences, University of Edinburgh. Her research interests include acute lung injury, organophosphorus pesticide poisoning, and the prevention and treatment of pulmonary aspiration secondary to poisoning. She conducts her research both in the UK and Sri Lanka. Elspeth received the Stanley Rowbotham Research and Travel award from the RCoA in 2012.

Surgeon Commander Sam D Hutchings

Defence Senior Lecturer in Critical Care

Sam is two years into a PhD programme of research, based at Kings College London and DSTL Porton Down, the main focus of which is targeted resuscitation of patients with traumatic injuries. Particular themes are the use of focused echocardiography to guide systemic resuscitation, and the response of the microcirculation to injury, shock and resuscitation.

Surgeon Commander Adrian Mellor

Defence Senior Lecturer in Anaesthesia for Extreme Environments

Military personnel are frequently exposed to high altitude on deployments and adventurous training, and the military has a long history of research at altitude. Adrian's work, along with colleagues from other specialities, has looked to investigate adaptation to hypoxia at altitude and strategies reducing the debilitating effects of high altitude environments.

Surgeon Commander Simon Mercer

Defence Lecturer in Anaesthesia Education

Simon is the Defence Anaesthesia Lead for Education and Training, and responsible for the anaesthesia aspects of the Military Operational Surgical Training Course. He is the Clinical Director of the Centre for Simulation and Patient Safety, NHS England, in Liverpool, and has interests in Training Trauma Teams and Human Factors. Simon has published on Human Factors in the Trauma Team.

Lieutenant Colonel Giles R Nordmann

Defence Senior Lecturer in Anaesthesia

Giles is a consultant anaesthetist working at the Derriford Ministry of Defence Hospital Unit, Plymouth, and with 16 Medical Regiment, Colchester.

He is currently researching the use of pre-hospital blood products as part of a MD degree at Durham University in conjunction with DSTL, and is also the military Principal Investigator for Cryostat-Mil, an RCT investigating early use of Cryoprecipitate in the massive transfusion of trauma casualties.

Surgeon Commander Jane Risdall

Defence Senior Lecturer in Anaesthesia

Jane is a consultant anaesthetist with a sub-specialist interest in neuroanaesthesia and critical care. She holds an honorary visiting research fellowship at the University of Cambridge, and her principal area of interest, for her MD, is in the effects of blast exposure on the brain. Her work in this area is conducted at DSTL Porton Down and represents a collaborative project between Cambridge and the MoD. Although predominantly funded by the MoD, this work has been awarded a small grant (£6.9k) through the NIAA. Jane is also the military representative on the NIAA/Anaesthetic Research Society sub-committee.

Wing Commander Karen Smyth

Defence Lecturer in Anaesthesia

Karen is a consultant in anaesthesia and critical care currently working in Nottingham, with an operational commitment to the RAF Critical Care Air Support Teams. She will be doing a higher degree with the University of Nottingham in collaboration with DSTL. Karen intends to investigate the effect of systemic inflammation on key stages of metabolism within muscle, and identify points of modulation.

Lieutenant Colonel Tom Woolley

Defence Senior Lecturer in Trauma Anaesthesia

Tom is a consultant anaesthetist at Derriford Hospital, Plymouth, with a special interest in hepatobiliary and trauma anaesthesia. He has a research interest in trauma resuscitation and trauma induced coagulopathy and is researching this at DSTL Porton Down. He chairs the DMS Transfusion Committee.

Major Jeyasankar Jeyanathan

ADMACC Humanitarian Lead, Registrar in Anaesthesia and Intensive Care

Jeyasankar is interested in the development of Medicine in the Austere Environment for both civilian and military organisations. He is involved in development projects in Sri Lanka and Zambia and the engagement of charities and non-governmental organisations in the professionalisation of Disaster Relief Medicine, incorporating military knowledge into humanitarian assistance.

Lieutenant Colonel Timothy Nicholson-Roberts

MD Candidate (DSTL, CBRN)

Tim is a consultant in the Neurosciences ICU at University Hospital Southampton, specialising in Neurointensive Care and Trauma Anaesthesia. His research interests include treatment of toxic lung injury at DSTL Porton Down and Southampton University.

Lieutenant Colonel James K Ralph

ADMACC Representative to NATO and DATC

James is a consultant anaesthetist specialising in neuroanaesthesia. In October 2013 he was invited to chair a NATO research task group to identify requirements for anaesthesia and sedation on the battlefield, and to propose evidence based consensus NATO guidelines. He is also departmental lead in an international collaboration to develop a Definitive Anaesthetic Trauma Course.

Surgeon Commander Tim Scott

MD Candidate (lung simulation)

Tim is currently a consultant at the John Radcliffe Hospital in Oxford. He is interested in the management of 'blast lung' and to this end is undertaking a project developing a blast lung physiological model, which once validated will facilitate computerised trials of various ventilatory and pharmacological interventions.

Dr Charlotte Small

Clinical Research Fellow, Queen Elizabeth Hospital, Birmingham & VR Lead

Charlotte was formerly an RAF medical officer, and is undertaking a programme of research exploring virtual reality and interactive technologies for burns and trauma pain procedure-related distraction, as well as psychological restoration and performance feedback during recovery and early rehabilitation from critical illness.

Lieutenant Colonel Rhys Thomas

MD Candidate (EPO)

Rhys is an Army Consultant Anaesthetist with a specialist interest in Pre-Hospital Care and Trauma. He is an Honorary Senior Clinical Fellow in Trauma at the University of Swansea and is working for an MD in the use of erythropoietin in blast injury. He works for the Morriston Hospital, Swansea, and is the pre-hospital lead for the new Welsh Enhanced Care Network.

Dr Paul Wood

Civilian link to Role 4, University Hospital Birmingham

Paul is a consultant anaesthetist at the University Hospital Birmingham (UHB) in which the Royal Centre for Defence Medicine is embedded. He has acted as a linkman between the large NHS clinical department and the ADMACC. This has allowed him to make significant contributions to the clinical care of military casualties cared for at UHB and offer academic oversight to a series of projects.

NIAA HEALTH SERVICES RESEARCH CENTRE

Professor Mike Grocott

The portfolio of HSRC activity continues to expand whilst remaining focused on our core goal, delivering world class Health Services Research (HSR) in the areas of anaesthesia, perioperative medicine and related specialties.

HSRC activity is divided into three principal programmes of work: initiating and coordinating large clinical audits, innovation in clinical measurement, and facilitating research for patient benefit. In addition, the HSRC supports the NIAA's goals of increasing and improving research education, as well as ongoing development of the national anaesthetic and perioperative medicine research portfolio.

CLINICAL AUDITS

The HSRC audit programme is divided into the National Clinical Audits, currently the National Emergency Laparotomy Audit (NELA), the National Audit Projects (NAPs), and the recently developed Sprint National Anaesthesia Projects (SNAPs).

NELA commenced in December 2012 following the award of a £1.1 million three-year grant to the Royal College of Anaesthetists. The HSRC is responsible for delivering NELA (www.nela.org.uk). The Organisational Audit was completed at the end of 2013, and individual patient data collection has commenced. The first annual report, presenting the results of the Organisational Audit, will be published in May 2014. Dr David Murray is the Clinical Lead, Dr Carol Peden is leading on Quality Improvement and Mr Iain Anderson is the NELA Clinical Lead for Surgery. Close collaboration with the Clinical Effectiveness Unit of the Royal College of Surgeons, with the involvement of Dr David Cromwell on the project team, has been essential for the effective delivery of this audit and has supported the development of in-house expertise on statistics and HES (Hospital Episode Statistics) data.

The HSRC has also supported the three-month AAGBI funded National Hip Fracture Database Anaesthetic Sprint Audit of Practice (ASAP; www.nhfd.co.uk). This has been led by Drs Richard Griffiths, Stuart White and Amer Majeed of the Hip Fracture Perioperative Network and has collected data on more than 10,000 patients. The report will be published in spring 2014.

The HSRC has taken over the day-to-day management of the NAPs, and Professor Tim Cook now serves on the HSRC Executive Management Board and has been appointed as the RCoA NAP Advisor to oversee this programme. The criteria for what constitutes a NAP have been clarified: a case/case-control study of rare and significant events. A topic and leadership identification process has been developed with open adverts, interviews and a topic feasibility evaluation. Dr Iain Moppett has completed a comprehensive review of NAPs 3 and 4 to be published in 2014. The review found that NAPs 3 and 4 were a great success in terms of academic recognition and, more importantly, in initiating changes in clinical practice. The principal recommendation highlighted the importance of engaging with the independent healthcare sector for future NAPs.

The topic of NAP5 is Accidental Awareness under General Anaesthesia (AAGA), and this audit is drawing to a close under Professor Jaideep Pandit's leadership. Perioperative Anaphylaxis has been selected as the topic for NAP6.

The first Sprint National Anaesthesia Project (www.niaa-hsrc.org.uk/SNAPS), led by Drs Ellie Walker and Ramani Moonesinghe, will provide a 'snapshot' two-day evaluation during May 2014 of anaesthetic activity, patient reported satisfaction, and accidental awareness during general anaesthesia.

CLINICAL MEASUREMENT

The HSRC clinical measurement programme includes evidence synthesis and surveys of clinical practice, and works to bring these inputs together in order to develop recommendations about risk and outcome-measure use.

Dr Ramani Moonesinghe has led the evidence synthesis funded by the Frances and Augustus Newman Foundation. This has resulted in a series of systematic reviews, the first two of which have been published in *Anesthesiology*.

In parallel, Drs Jonathan Benn and Claire Maloney (NICE scholar) have completed a national Quality Measures Survey of Practice that will be published in 2014. This was the first project to use the newly established Quality Audit and Research Coordinator (QuARC) network (see below) and has described the patterns of risk and outcome measures used across the UK.

Both these workstreams are now feeding into the Joint RCoA/HSRC Advisory Group on Quality Measures in Anaesthesia, and are contributing to the development of a 'recipe book' of risk and outcome measures as well as a list of unmet needs in this area. The HSRC has also formed an international collaborative group to develop a Core Outcome Measures Set for Anaesthesia and Perioperative Care.

FACILITATING RESEARCH FOR PATIENT BENEFIT

The research-enabling elements of the HSRC portfolio expanded rapidly over the last year. Miss Maddy Humphrey, HSRC Administrator, has built up the network of QuARCs. This network is now the principal route of communication with departments of anaesthesia as well as the means of disseminating national surveys. We welcome approaches to use this network, and have refined a process for survey dissemination based on three simple criteria: a successful local pilot, a short presentation to the HSRC Board, and a named sponsor on either the RCoA or the AAGBI councils.

The James Lind Alliance (JLA) Anaesthesia and Perioperative Care Priority Setting Partnership has been launched. Building on the success of the first NIAA Research Prioritisation Setting Exercise in 2009, this time we are working closely with the JLA, and a steering group comprising patients, carers and clinicians has been established. The exercise is being guided by Dr Mike Galsworthy (HSRC Senior Research Associate) and will run from early 2014 to early 2015. The identified priorities will feed directly into the main National Institute for Health Research (NIHR) supported funding streams.

Working with the RCoA Patient Liaison Group, we have established an HSRC Patient and Public Involvement (PPI) Working Group chaired by Professor Rupert Pearse. This group offers support to high-quality funding proposals – primarily grant applications to the Medical Research Council, NIHR, Wellcome Trust and other major funders. The aim of this is to complement, not replace, local PPI arrangements.

Finally, the fifth UK Perioperative Care Research Forum (UKPCRF) was held during the NIAA Research Week in September 2013. This meeting continues to contribute to research portfolio development by bringing together clinical researchers from across the UK.

CONCLUSION

I would like to thank the entire HSRC team, which has done a superb job of continuing to build this national resource for clinicians and researchers in anaesthesia and perioperative care. Please contact us directly at info@niaa.org.uk if you would like to get involved or simply hear more.

Dr Pieter Bothma

QuARC & Consultant in Anaesthesia and Intensive Care
James Paget University Hospitals NHS Foundation Trust

My departmental Clinical Lead asked me to take on the QuARC role. This seemed to be a natural progression of my interest in patient safety and my role as CLRN representative for this area. My role in the department includes facilitation of National Audit Projects, including NELA (feeding into the EPOCH Study), and SNAP-1. I think the NIAA with NAP and HRSC are playing a tremendously important role in making healthcare safer and also encouraging each and every hospital, NHS Trust and importantly, every anaesthetist, particularly trainees, to get involved with improving healthcare through audit and research.

NATIONAL AUDIT PROJECTS

Tim Cook, College Advisor on National Audit Projects

In 2012–13, the National Audit Project (NAP) programme remains active and busy. There is ongoing activity for NAP3-6. This article will summarise that activity. Further information is available on the relevant websites at www.nationalauditprojects.org.uk.

NAP3

After something of a hiatus, there is work being undertaken with the Safe Anaesthesia Liaison Group (SALG) to produce an epidural aide-memoire for local use to improve the safety of perioperative epidural analgesia. NAP3 identified perioperative epidural analgesia as the central neuraxial block associated with the highest risk of serious complications and also identified frequent lapses in best practice when such complications arose. The NAP3-SALG project will produce a locally adaptable pamphlet designed to: i) add structure to the decision to use perioperative epidural analgesia; ii) reduce avoidable risk during placement and management; iii) emphasise 'red-flags' for the early detection of major complications and an accelerated pathway for investigation; iv) provide discharge information for patients after routine discharge and after complications such as dural puncture. The pamphlet should be released late in 2014.

NAP4

One of the major achievements of NAP4 has been the establishment of departmental Airway Leads: like NAP4 itself, a collaborative project between the College and the Difficult Airway Society (DAS). There was a very successful Airway Leads Day at the College in September 2013, and at the time of writing there are 178 leads covering 70% of UK trusts and boards. The detailed role of Airway Leads is described elsewhere but centres around ensuring high quality airway education, airway device procurement and clinical care throughout trusts including anaesthesia, intensive care and emergency departments. The College will host an Airway Leads resource web page. This will initially link to existing teaching resources for Airway Leads, and will in time be supplemented by further resources produced by Airway Leads. DAS has established an Airway Leads Forum (www.das.uk.com/content/das-rcoa-airway-lead-forum) to facilitate discussion, support and shared learning, with access for both DAS members and non-members. Airway Leads can also contact each other remotely via the Airway Leads contact database (www.nationalauditprojects.org.uk/NAPAirwayLeads). A survey examining the institutional impact of NAP4 has recently been completed, and will soon be written up. This should identify both progress and areas where further action is still required.

NAP5

The completion and launch of NAP5 is the main focus of NAP5 activity in 2014. The project has been more wide-ranging than previous NAPs, and much of the credit for this goes to Professor Jaideep Pandit and the multidisciplinary steering panel he has assembled. Last year the project published a baseline survey reporting the number of cases of accidental awareness during general anaesthesia (AAGA) known to anaesthetists. There was interest from both the public and the media. This year a major anaesthesia activity survey has been completed as part of NAP5, and the results will be published in the summer. With the Association of Anaesthetists of Great Britain and Ireland partnering the College in NAP5, we have been able to include the Republic of Ireland in the project for the first

Dr Harry Husaini

NAP5 Coordinator, Freeman Hospital, Newcastle upon Tyne

I presented on BIS, AEPex, end-tidal monitors and AAGA just before NAP5 was announced, so was a natural volunteer to be a Local Coordinator! I found being involved in NAP5 gave me a raised profile within my department and further afield. I have found the NAP5 process easy to understand and comprehensive; the NAP process has been refined over the years and the principle is established in my department. Hopefully, the national results will raise awareness (sorry, I couldn't resist) of the prevalence and risk factors for AAGA. I will be fascinated to discover what unexpected and practice changing results will emerge.

Dr Jeremy Radcliffe

NAP5 Local Coordinator, National Hospital for Neurology and Neurosurgery, University College London

NAP5 brought the College and the Association into contact with anaesthetic departments in a way that directly illustrates the ambition to improve quality and patient experience. NAP success depends also upon individuals' contributions throughout.

NAP5 has given us the opportunity to re-examine the way we practice our professional skills. In many tasks, the risk of promoting accidental awareness could be reduced. All departments will have stopped to assess for a moment some of the routine and special cases they undertake from a different and patient focused perspective. I hope the NAP5 report allows patient voices to increase our understanding of our impact on patients and refine practice.

time, and baseline and anaesthetic activity reports from Ireland are soon to be published. NAP5 has been supported by every NHS hospital in the UK and all hospitals in Ireland, and has received more than 400 contacts regarding reports of AAGA. This makes NAP5 the largest ever prospective study of AAGA, with the largest ever collection of reports of AAGA. Two supplementary projects are also planned. We plan to follow up the cohort of patients reported to NAP5 and to learn how their experiences evolve with time; a study to achieve this is currently in development. Finally, the first Sprint National Anaesthesia Project in May 2014, which will focus on patient satisfaction with anaesthesia, will also seek to use Brice questionnaires to detect AAGA prospectively in a large cohort of patients.

There is no doubt that the findings of NAP5 will be important to our specialty, and will lead to renewed public interest in the topic. NAP5 will be launched at the Royal Society of Medicine on 10 September 2014 with a series of academic lectures and reporting of results. On 23 September 2014, there will be a more public NAP5 event, including an artistic interpretation of the NAP5 reports of awareness and a lecture by Baroness Susan Greenfield. This project is led by Dr Andrew Morley, supported by a substantial Wellcome Trust grant.

NAP6

The topic for NAP6 – perioperative anaphylaxis – has been chosen. Dr Nigel Harper was appointed Clinical Lead and takes up his post in April 2014. The NAP cycle now requires almost a year of planning and preparation before data collection, and then synthesis and reporting. Engagement of the anaesthetic community and close collaboration with colleagues in immunology/allergy will be the prerequisites for success. As with the NAP projects before it, NAP6 has the opportunity to dramatically add to our knowledge of the extent, nature and consequences of this rare problem and to aid us in efforts to manage it better and improve patient outcomes.

INDEPENDENT REVIEW OF NAPS

Dr Iain Moppett of Nottingham University undertook a review of the NAPs in 2013. His report was largely positive, but included several recommendations for change and improvement. His report, and a response to it, will soon be published on the College website.

FINAL THOUGHTS

The NAPs remain an important part of the UK (and now Irish) anaesthesia landscape. NAP5 has had involvement from every public hospital in both the UK and Ireland for each of its three phases. The publications remain popular: the academic papers from NAP3 and NAP4 are the 5th and 7th most cited articles ever from the *British Journal of Anaesthesia*, and visits to the NAP3 and NAP4 websites are currently approximately 600 and 1000 per month, respectively. Since anaesthetic awareness was chosen as the topic for NAP5, there has been a remarkable flurry of editorials on the topic, even before its publication.

It is worth remembering that the NAPs are entirely funded by anaesthetists (through professional organisations' membership fees) and performed by anaesthetists for the benefit of both patients and anaesthetists. An enormous amount of work is put into the NAPs by the steering panels, co-ordinators such as Miss Maddy Humphrey, and by the leads – Jaideep Pandit for NAP5. However it is only through the continuing support of individual anaesthetists, their hospitals and particularly the Local Co-ordinators that the projects can succeed. I thank all of you for this support, and I look forward to it continuing into NAP6 and beyond.

NATIONAL EMERGENCY LAPAROTOMY AUDIT

Dr Dave Murray

In October 2011, the Healthcare Quality Improvement Partnership announced that the National Emergency Laparotomy Audit (NELA) would be one of the top two (of 11) new national audits to be commissioned in 2012. NELA grew out of the work carried out by the Emergency Laparotomy Network in describing and highlighting the striking variation in processes and outcomes following emergency laparotomy. The contract to run NELA was awarded to the Royal College of Anaesthetists, and is being run by the National Institute of Academic Anaesthesia's Health Services Research Centre. The contract officially started on 1 December 2012 and is funded for three years, with the potential to be extended for a further two years. NELA is part of the National Clinical Audit and Patient Outcomes Programme; a set of mandatory, centrally-funded national clinical audit projects that provide trusts with benchmarked reports on patient outcomes, and compliance with and performance against standards of care.

NELA is the first anaesthesia-led, nationally funded multidisciplinary audit with a focus specifically on improving the quality of perioperative care. As such, it represents a huge opportunity for anaesthesia as a speciality to bring about improvements in the quality of care of around 35,000 patients a year with a high mortality rate.

The initial work was to establish an infrastructure to deliver the audit, obtain the necessary ethical approvals and develop the audit dataset. Day-to-day management is by a central project team based at the RCoA and chaired by Professor Mike Grocott. The Clinical Effectiveness Unit at the Royal College of Surgeons of England is an integral part of this project team. Oversight is provided by a Project Board chaired by Dr William Harrop-Griffiths. Scientific input is provided by the Clinical Reference Group made up of clinical and non-clinical stakeholders, including patient representatives, who peer review the audit data collection tools and subsequent reports. We have also established a dedicated website that acts as a source for all relevant information about the audit (www.nela.org.uk) and an online patient data collection platform.

The first stage focused on an Organisational Audit which compared the infrastructure available within hospitals against existing standards of care, such as those published by The Royal College of Surgeons of England and the Department of Health. An example of these is *The Higher Risk General Surgical Patient: towards improved care for a forgotten group (* Royal College of Surgeons of England and Department of Health, 2011). All 191 hospitals that undertake emergency laparotomy in England and Wales participated in this stage of the audit. This report is due to be published in May 2014.

Patient data collection via the online platform commenced in January 2014. This is collecting information on key processes of care, along with risk-adjusted outcomes. This will support local delivery of Quality Improvement programmes for patients undergoing emergency laparotomy. The first annual patient report will be published in May 2015.

NELA represents a huge opportunity to bring about improvements in the quality of care of patients in virtually every trust in England and Wales. We look forward to the continued support of anaesthetists everywhere in order for it to be a success.

KEY DATES

Date	Project milestone
Completed October 2013	Organisational Audit
January 2014	First year of data collection for patient audit commenced
May 2014	Publication of organisational audit report
December 2014	Second year of data collection for patient audit commences
July 2015	Publication of first patient audit report

ANAESTHESIA SPRINT AUDIT OF PRACTICE

Dr Richard Griffiths

The 'ASAP' project was initially conceived at the Association of Anaesthetists of Great Britain and Ireland (AAGBI) Annual Congress in Edinburgh in September 2011. It is a collaboration between the National Hip Fracture Database (NHFD), Hip Fracture Perioperative Network, the AAGBI and the NIAA's Health Services Research Centre. The audit aimed to capture information about hip fracture anaesthesia within England, Wales and Northern Ireland.

Following some slight hiccups during 2013, Anaesthesia UK stepped up to the plate and managed to collect data on over 11,000 patients. This was a fantastic effort and was achieved with articles in *Anaesthesia News* and the Royal College of Anaesthetists' (RCoA) *Bulletin*. The Group of Anaesthetists in Training was involved in planning from an early stage, and local teams were formed in hospitals that enter data into the NHFD. The audit was called a 'sprint audit' as the extra data fields were only collected for three months.

The audit collected information on the following fields –

- Mode of anaesthesia.
- Co-morbidities.
- Grades of doctors involved.
- Degree of hypotension during surgery and anaesthesia.
- Bone cement implantation syndrome (BCIS).

Twelve standards were audited. These standards were compiled from the AAGBI Hip Fracture Guidelines, NICE 124 and SIGN 111. The standards are mainly consensus and are often not based on any detailed research evidence. Many will see these and be surprised, but with such a poor evidence base, the audit had to start somewhere. The initial report on the study has been submitted to the Healthcare Quality Improvement Partnership (HQIP) for approval, and publication is anticipated in March 2014.

The next stage will be to apply to HQIP for the outcome data from the patients that were in the ASAP study. These will be around 30 and 90-day mortality and return to normal residence. The output from this investigation will be submitted to peer-reviewed journals, and is likely to produce some interesting results.

The AAGBI is very keen for the information from the audit to be shared with the wider anaesthetic community. A Data Gatherers' Meeting will be held on 17 July 2014 at 21 Portland Place, where the results and future projects will be discussed and disseminated with those who led the teams at hospitals.

The main findings are likely to focus on the mode of anaesthesia, hypotension, sedation, nerve blocks and BCIS. It will be important that the audit is followed by educational output so that a repeat audit can be conducted in a couple of year's time. The level of hypotension is alarming, and surprisingly the incidence was double in the general anaesthesia group compared to the spinal anaesthesia group.

The report details the initial findings but the real success of the project has been the continuation of data collection within local units, which is driving up quality, and the numerous research and audit ideas that are coming from the project.

QUALITY MEASURES IN ANAESTHESIA AND PERIOPERATIVE CARE

Dr Ramani Moonesinghe

The HSRC and the Advisory Group on Quality Measures in Anaesthesia and Perioperative Care have continued with work on developing the evidence base related to measuring quality in perioperative care, and implementing the measurement of these quality metrics in clinical practice, with the aim of facilitating research and quality improvement. Significant progress has been made in these areas during 2012-2013.

EVIDENCE SYNTHESIS IN QUALITY MEASURES

Two systematic reviews relating to risk prediction/ adjustment and the measurement of patient-reported outcome (patient satisfaction) with anaesthesia were published in *Anesthesiology* in 2013. Both were press-released by the journal, and are available through open access for anyone to read:

http://journals.lww.com/anesthesiology/Fulltext/2013/10000/Risk_Stratification_Tools_for_Predicting_Morbidity.37.aspx

http://journals.lww.com/anesthesiology/Fulltext/2013/08000/Patient_Satisfaction_Measures_in_Anesthesia_.34.aspx

Work on further systematic reviews on risk prediction and outcome measurement is currently ongoing, and we hope for completion and progress towards publication on at least one of these in 2014.

DEVELOPING EVIDENCE-BASED GUIDELINES

The HSRC and RCoA have undertaken to produce evidence-based guidelines relating to the measurement of quality in anaesthesia and perioperative care, distilling the information from systematic reviews into a more 'user-friendly' format for the profession. The first of these guidelines, focusing on measuring patient-reported outcome after anaesthesia, will be published in 2014.

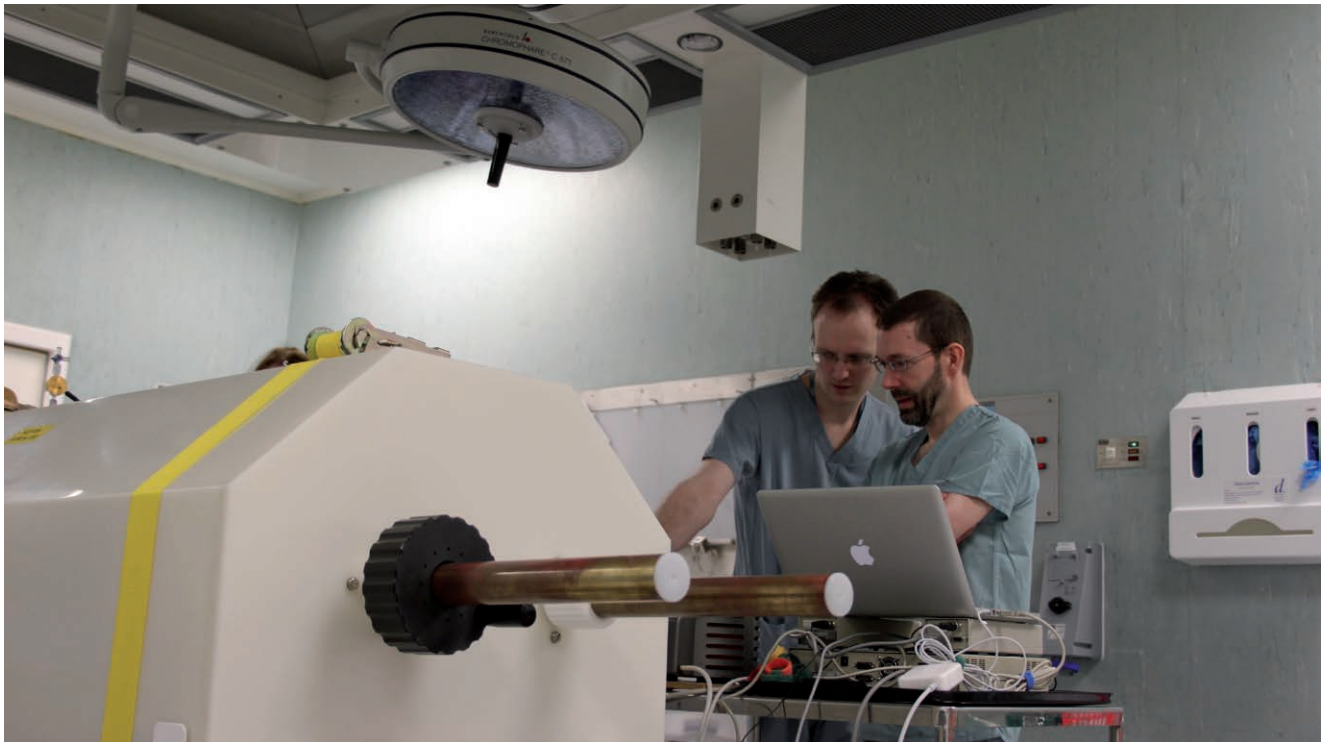
IMPLEMENTING QUALITY MEASUREMENT IN CLINICAL PRACTICE

In an attempt to 'kick start' the widespread measurement of patient-reported outcome in perioperative care, the first 'Sprint National Anaesthesia Project' (SNAP-1) will take place on 13 and 14 May 2014. SNAP-1 will ask all hospitals with anaesthetic departments to participate in a two-day exercise of recording and reporting patient-reported outcome after anaesthesia. The outcome measures used will comprise a validated patient satisfaction questionnaire identified by our previous systematic review, and also a patient-reported awareness questionnaire (a validated modification of the original 'Brice Questionnaire' which has previously been used in a major published randomised controlled trial). The Brice Questionnaire is the final strand of work linked to NAP5. We plan to implement this through trainee engagement in the project by asking them to lead data collection at local sites. We hope that by introducing a wide sample of members of the profession to this patient satisfaction measure they will be encouraged to continue using it in their own clinical practice. Depending on the number and spread of patients and procedures on which we collect data, we also hope to establish some basic national outcome statistics which can be used, for benchmarking and quality improvement purposes after the completion of this project.

DEVELOPING A QUALITY FRAMEWORK FOR ANAESTHESIA AND PERIOPERATIVE CARE

A long-term aspiration of this advisory group is to develop and implement a framework for measuring quality in anaesthesia and perioperative care. This framework should be evidence based, relevant to patients and clinicians, and allow for research, benchmarking and quality improvement. All the work mentioned above is aimed at providing evidence to support the development of this framework. In 2014, we will see the further progress of a scoping exercise for this initiative, to include evidence synthesis, based on information gathered from patients, clinicians, academics and pilot studies.

Courtesy of Peninsula College of Medicine and Dentistry



Courtesy of the Royal Centre for Defence Medicine (Academia and Research), Medical Directorate Joint Medical Command

PATIENT AND PUBLIC INVOLVEMENT IN CLINICAL RESEARCH

Professor Rupert Pearse

Patient and Public Involvement (PPI) is the creation of a partnership between patients, the public, and researchers, to try to make the research process more effective. For some time it has been considered good practice to involve patients and the public in research. This involvement can lead to the development of more relevant research questions and many funding bodies, in particular the NIHR, now require detailed information on patient and public involvement as part of the research funding process. Funders need to see how researchers have collaborated with patients and the public, and how patient needs and expectations have been incorporated into research plans. The National Research Ethics Service also asks for information about plans for public involvement during the application process for research ethics approval. This is important, not only to improve the experience of participants in the research, but also to ensure the research has real potential to deliver meaningful benefit for patients.

Common examples of the contributions made through PPI include commenting on new research proposals and grant applications, identifying research priorities, membership of trial steering committees, helping to develop patient information leaflets and other research materials, and helping to design data collection tools, for example, piloting a questionnaire. It is now commonplace for one or more patient representatives to be included as co-applicants on major funding applications.

Whilst strong PPI has been an important feature of research in chronic disease management for some years, there has been less activity in research in more acute fields of medicine where it can be difficult for clinical researchers to develop the kind of relationships with their patients that allow them to identify and invite suitable patients to take part. To help address the specific challenges of PPI in anaesthesia and perioperative medicine research, the NIAA Health Services Research Centre established a PPI group in July 2013. This group will fill an important gap in national research infrastructure, providing a service to all investigators in the field. An online application tool has been developed to make it easier for researchers to seek the help of the PPI group, and this was launched during the NIAA Research Week in October 2013. The group has now reviewed several applications for NIHR funding, providing initial feedback and comments with a provisional commitment to provide support tailored to the individual needs of the project. This initiative is in its early stages but we believe it will have a significant impact on the ability of UK perioperative medicine researchers to develop proposals of the highest quality.

Further information

www.invo.org.uk

www.niaa-hsrc.org.uk/PPI

Miss Lauren Osborne

Member, PPI Working Group

The Patient and Public Involvement (PPI) Working Group has been created in order to provide valuable and meaningful lay input to researchers at a key stage of the research process. Researchers are invited to submit requests for PPI support prior to completing their funding application. We review research proposal requests and seek to understand the patient journey throughout the entire project. Our aim is to provide support to inform and shape future research that will lead to improved patient outcomes in anaesthesia and perioperative medicine. In the future, once our expertise and resources have grown, we hope to play a more active role in clinical research. This may be through identifying and prioritising research topics or being part of research advisory and steering groups.

ANAESTHESIA, PERIOPERATIVE MEDICINE AND PAIN MANAGEMENT

Professor Martin Leuwer

The following key achievements have been made with regard to the National Institute for Health Research (NIHR) Clinical Research Network (CRN) high-level objectives/metrics:

High Level Objective One – Double the number of participants recruited into NIHR CRN portfolio studies

2010/11	1580
2011/12	3175
2012/13	7898*

*2012/13 more than double the intake of previous year.

High Level Objective Two – Increase proportion of studies delivering to time/target

	Number of studies	% green	all SRGs
June 2011	22	35%	36%
June 2012	21	55%	43%
June 2013	27	56%	51%

Percentage of closed studies achieving time/target

	Number of studies	% green	% near misses	all SRGs
2010/11	7	7%	43%	25%
2011/12	9	44%	11%	37%
2012/13	10	60%	10%	51%

As revealed by these metrics, we have been successful in meeting the high level objectives. We will work hard on maintaining, securing and enhancing this momentum.

WORKING WITH STAKEHOLDERS

In March 2013, we organised a successful meeting at the Royal College of Anaesthetists with industry partners who are stakeholders in anaesthesia and funding bodies. This generated a set of agreed action points and led to the following one/five year targets which were proposed to the NIHR Clinical Research Network:

One year target:

1) Attract at least two new industry-led studies.
2) Organise at least one meeting with each of our partner Specialty Groups in the new theme structure.
3) Organise launch-meeting of a nationwide trainee research network in support of recruitment to NIHR portfolio studies, facilitate constitution/terms of engagement and establish e-learning modules addressing clinical research issues.
4) These networks should actively recruit to portfolio studies in 25% of the regions.
5) Organise second industry liaison meeting.

Five year target:

1) National roll-out of trainee research network to be recruiting in >80% of hospitals.
2) Time and target metrics in upper quartile for SRGs.
3) Establish National NIHR grant-funding call for anaesthesia, perioperative medicine and pain management.
4) Attract at least two industry-led studies on a regular basis.

RAISING AWARENESS

Since the last Comprehensive Review, we have implemented an awareness raising strategy which includes regular HSRC UK Perioperative Care Research Forums (held biannually), which featured as part of the NIAA's Research Week in October 2013.

The Anaesthetic Research Society dedicated a very successful meeting to raising awareness about Clinical Research Networks in December 2012.

Moreover, in 2013, three invited key-note lectures were presented at the Collaborative Clinical Trials in Anaesthesia and Critical Care Meeting, Monash University, Prato.

This event was particularly fruitful in terms of generating opportunities for new large scale multi-centre studies with UK participation.

ENGAGING WITH COMMERCIAL PARTNERS

Building on the success of our first industry event in 2012, we have managed to achieve excellent results in facilitating recruitment to time and target by considerably strengthening the network of investigators with particular expertise in the field of pain management which is currently the main focus of our commercial partners.

BOC PROFESSORSHIP OF THE ROYAL COLLEGE OF ANAESTHETISTS (2011–15)

Professor Mike Grocott

The award of the British Oxygen Company (BOC) Professorship through the NIAA in May 2011 has enabled me to establish a new group to pursue the Fit-4-Surgery programme of research in Southampton. Consultant clinical exercise scientist, Dr Sandy Jack, was recruited from Aintree Hospital in 2012 to manage the programme, and Ms Lisa Loughney joined us as a PhD student in 2013. Mr Malcolm West has been appointed as an Academic Clinical Lecturer in Surgery and will be joining the group later in the year.

The aim of the Fit-4-Surgery programme is to explore the relationship between physical fitness, neoadjuvant cancer treatments and outcome following cancer surgery. The programme involves observational studies to describe this relationship in different tumour types, interventional studies to evaluate the benefits of exercise interventions in this context, and nested mechanistic studies to explore the underlying physiology and biochemical changes.

The awarded funds have supported the establishment of a new Integrative Physiology laboratory within the Wellcome Trust Clinical Research Facility in Southampton. This laboratory is fully equipped for exercise evaluation and training studies, as well as having a range of devices to pursue mechanistic studies including fresh cellular respirometry and detailed microcirculatory evaluations, much of this funded by the BOC grant.

The BOC award has also catalysed the general development of anaesthesia and critical care research in Southampton through salary and infrastructure support. The re-establishment of the University of Southampton Chair in Anaesthesia (and Critical Care Medicine), which I now hold, was accelerated as a consequence of the award, and the university has subsequently made other appointments, including two at professorial level (Professor Martin Feelisch and Professor Charles Deakin).

The University Hospital Southampton NHS Foundation Trust provided matched funds that facilitated the establishment of a separate research business unit for Anaesthesia and Critical Care within the Trust. This unit sustains six whole-time-equivalent research nurses and an administrator through NIHR and commercial income. The Trust has also supported the creation of new academic consultant posts with protected time for clinical research.

The group has nearly completed a large observational study of the effects of neo adjuvant chemotherapy on physical fitness and clinical outcomes in upper GI cancer surgery, and has just started a randomised controlled trial evaluating preoperative exercise intervention in colorectal cancer patients following neo adjuvant chemo-radiotherapy. The Research for Patient Benefit programme of the NIHR has provided funds for these studies. Recent developments include pilot work in patients undergoing lung cancer surgery and an expanding collaboration with the University of Cambridge and University College London to explore cellular, and in particular mitochondrial, responses to neo adjuvant treatment and the modulating effects of physical exercise.

In the first two years of the four-year BOC award, the Fit-4-Surgery group has produced ten peer-reviewed publications, along with many presentations and abstracts at national and international meetings. I would like to take this opportunity to thank the mentors, advisors and collaborators without whom these developments would have been impossible, and also the NIAA for the support that gave life to this programme.

NIAA RESEARCH GRANTS

2011 Round 1 – APAGBI Small Research Grant

Endoscopic evaluation of the paediatric airway after prior prolonged (>24hrs) tracheal intubation

Principal Investigator:
Dr Helen Hume Smith

Great Ormond Street Hospital

We are the UK centre for this international prospective, observational study. In order to control breathing on intensive care, a breathing tube (tracheal tube) is placed in the windpipe (intubation). Children who have previously been ventilated on the intensive care ward and who are now attending for planned surgery that requires a tracheal tube are recruited. The aim of the study is to get high-quality video recordings of children's tracheas. We want to gain more information about differences in type and degree of airway damage caused by different tracheal tubes, as well as other risk factors for airway injury in children. Thanks to the support of the APAGBI/NIAA grant and adoption on to the NIHR portfolio, we are leading recruitment to this study.

2011 Round 1 – OAA Small Project Grant

The performance of leucocyte filters for the safe re-transfusion of unwashed blood salvaged at caesarean section in resource-poor situations

Principal Investigator:
Dr Jeremy Campbell

Chelsea and Westminster Hospital

Haemorrhage remains an important cause of maternal mortality worldwide. Cell salvage carries a theoretical risk of amniotic fluid embolus syndrome, and is too costly for use in many parts of the world. To explore cheaper options, we investigated the efficacy of leucocyte filters at removing components of amniotic fluid from blood salvaged at caesarean section. We found that the filters were very efficient at removing cellular and particulate components of amniotic fluid, but had no effect on molecular components. Cell salvage using filtration alone may yet prove to be useful in dire situations of maternal haemorrhage where no alternative exists.

2011 Round 1 – SEA (UK) Project Grant

StART Project

Principal Investigator:
Dr Paul Greig

Nuffield Department of Clinical Neurosciences, University of Oxford

The StART project is a randomised, controlled trial assessing the impact of simulation training on technical and non-technical skills acquisition by novice anaesthetists in their first three months of training. The trial is generously funded by SEA (UK), and is about to begin its fourth of six recruitment rounds.

Recruits receive either their own hospitals' standard training (control arm) or attend additional simulation sessions (intervention arm), and are then assessed after 3 months. Candidates randomised to the intervention arm have been universally positive about their experience on the course. Recruitment will complete in October 2015, and report in early 2016.

NIAA RESEARCH GRANTS

2011 Round 2 – *BJA*/ RCoA PhD Studentship

Novel interactions of volatile anaesthetics on O_2-sensing and TASK channels in carotid body type-1 cells

Student: Ms Nicky Huskens

Supervisors: Professors Jaideep Pandit and Keith Buckler, Department of Physiology, Anatomy and Genetics, University of Oxford

Hypoxia is a major risk during and after surgery, as volatile anaesthetic agents persist in the body for several hours. Hypoxia elicits a carotid body-mediated chemoreflex increase in ventilation, depressed even at very low anaesthetic concentrations. We aim to explore the differential effects of halothane (potent depressant) and isoflurane (weak depressant) on intracellular calcium signalling. Secondly, we will investigate if corresponding differential effects exist on TASK channel activity, involved in O_2-sensing. We have performed cell attached patch clamp recordings for TASK channels and have already obtained some exciting results.

2012 Round 1 – OAA Large Project Grant

Quantification of epidural pressures in labouring women of varying BMIs

Principal Investigator: Professor Michael Wee

Poole Hospital NHS Foundation Trust

The project funded by an OAA grant in 2012 was completed in 2013. Its main finding was that with increasing BMIs, mean epidural insertion pressures reduce and the reason for this is currently being investigated. A coincidental finding was that anaesthetists have a 'signature' epidural trace, which could be utilised for training. This information has been used to develop a unique epidural simulator, which will support clinical training and improve patient safety. The project picked up a prestigious award for innovation from the Institution of Engineering and Technology (IET) 2013 and was shortlisted in the IT & Technology category at the National Patient Safety Awards in 2013.

Team members: Drs. Richard Isaacs, Neil Vaughan and Venky Dubey; Bournemouth University.

2012 Round 1 – NASGBI Project Grant

Defining novel biomarkers of dysautoregulation after subarachnoid haemorrhage using non-invasive optical techniques

Principal Investigator: Dr Martin Smith

The National Hospital for Neurology and Neurosurgery, University College London

Many protective mechanisms, such as maintenance of adequate brain blood flow (cerebral autoregulation), can be impaired or absent after brain injury, rendering the brain liable to on-going damage that adversely affects outcome. Near infrared spectroscopy (NIRS) is a non-invasive technique that can monitor changes in brain blood flow and metabolism, and we have identified novel NIRS-derived markers of cerebral autoregulation. With support from this short-lived grant, we used complex analysis techniques to identify specific NIRS signals that are associated with impaired cerebral autoregulation. These data have informed the design of subsequent clinical studies and funding applications.

NIAA RESEARCH GRANTS

2012 Round 2 – ACTA Project Grant

The pulmonary-vascular/right ventricular response to lung resection

Principal Investigator: Dr Ben Shelley
University of Glasgow/Golden Jubilee National Hospital

Over 5000 patients undergo lung cancer surgery annually in the UK. The right heart pumps blood to the lungs, and it is believed that after lung surgery it comes under significantly increased strain. By using magnetic resonance and echocardiography techniques (never previously applied to this group of patients) to examine right heart function perioperatively, we plan to improve understanding of these effects. We anticipate that increased understanding will lead to future studies of targeted therapies aimed at reducing right heart strain and ultimately reducing complications. Recruitment for this study is almost at the halfway mark – ahead of schedule!

Courtesy of Peninsula College of Medicine and Dentistry

BJA/RCoA RESEARCH FELLOWSHIP 2012

Measuring and reducing surgical risk

Professor Rupert Pearse
Barts & The London School of Medicine & Dentistry

Over 230 million patients worldwide undergo major surgery each year. Mortality rates as high as 4% have been reported for inpatient non-cardiac surgery. One in four patients who develop complications will die without leaving hospital, whilst those who survive suffer reductions in functional independence and long-term survival. Variations in mortality strongly suggest the potential to improve patient outcomes. Most deaths occur amongst the high-risk surgical population, which consists primarily of older patients, with associated medical problems who undergo major surgery. Common complications include pneumonia, heart attacks and infection. Doctors frequently fail to identify these high-risk patients and to provide enhanced care after surgery. Patients who choose to undergo surgery often do so without the information they need to make an informed decision. The overarching aim of the proposed research is to define which patients are most in need of critical care after surgery and to investigate the benefits of this approach. Our specific aims are to develop simple techniques which doctors and nurses can use before surgery to provide a broad estimate of a patient's risk of death, to assess the accuracy of exercise-testing and blood tests in providing a more detailed estimate of this risk, and to provide evidence of the effect of critical care admission on patient survival following surgery. This research has the potential to redefine current concepts of adequate care for patients undergoing major surgery, and provide evidence to ensure that objective and meaningful assessment of risk is possible for every patient.

Exercise therapy for the older surgical patient

Dr Chris Snowden
Freeman Hospital, Newcastle upon Tyne

The long-held clinical belief that 'the fitter you are, the better you do postoperatively' is rapidly gaining an evidence-based momentum. The concept that an improvement of preoperative fitness has major potential to impact on surgical outcome is also not difficult to grasp. However, the implementation of 'prehabilitative' exercise therapy represents a radical directional change from the predominantly supportive perioperative care we offer our surgical patients.

Since older people make up the majority population of a high-risk surgical population, they have much to gain from any active approach to perioperative care. Evidence that exercise therapy promotes health benefits in older people with and without chronic disease is well established. If we can extend these benefits to the preoperative setting, the postoperative impact is likely to be significant.

The feasibility of developing prehabilitation for the deconditioned older patient creates a complex, unique challenge however, and remains formally untested in the perioperative context of a major surgical procedure. Determination of barriers and facilitators, both behavioural and practical, which determine older patient and healthcare professional engagement with prehabilitation regimes, is a fundamental prerequisite to a workable clinical implementation strategy.

The RCoA/*BJA* Career Development Award will allow time aside from clinical work to develop leadership of a multidisciplinary, collaborative research team in Newcastle upon Tyne. Staged development of an effective strategy for preoperative exercise therapy implementation for older surgical patients is planned. The long-term aim is to deliver a structured exercise-training programme, specifically tailored to the needs of older people, which is effective in improving outcomes after major surgery and is generalisable throughout the NHS.

JOHN SNOW ANAESTHESIA iBSC AWARDS 2013

The impact of preoperative haemoglobin level on thirty-day major adverse cardiac events and complications in high-risk, non-cardiac surgical patients

Mr Alex Fowler, Royal London Hospital, Barts Health NHS Trust

High-risk patients make up 15% of the surgical population, yet account for 80% of the deaths associated with surgery. This project is looking specifically at the high-risk patient group, and aims to determine the impact haemoglobin levels have on outcomes. The primary outcome is major adverse cardiac events, and the secondary outcome is overall complication rate. We will also be looking specifically at the impact of haemoglobin on infection. This study is using data collected as part of the Vascular Events in Noncardiac Surgery Patients Cohort Evaluation (VISION) Study. All data has now been collected, and analysis is underway – as is a systematic review and meta-analysis of the topic.

Funded by the AAGBI/*Anaesthesia*

Neurophysiological correlates of consistent placebo analgesic responses

Mr Matthew Leung, University Hospital South Manchester

Endogenous brain mechanisms contribute significantly to the overall analgesic effect of many medications. However, the magnitude of these effects varies depending on multiple factors, including individual neural differences and treatment modality. My research project aims to investigate such mechanisms by testing people's responses to different modalities of placebo analgesic treatments. By using EEG as a tool for measuring both pain anticipation and response, we aim to understand why certain individuals respond consistently to different placebo analgesic modalities. This research could have the potential to contribute towards placebo screening in clinical trials involving pain. Most of our data is collected and analysis is currently underway.

Funded by the AAGBI/*Anaesthesia*

The physiological impact of acute changes in cardiac position following lung resection

Mr Iain Slessor, University of Glasgow

This project is still in its early stages. ECG pilot data has been examined and has shown significant changes in cardiac axis following lung resection. The trend appears to be a leftward shift of the axis regardless of which lung or lobe is operated on. The next step is to examine around 200 ECGs looking for postoperative changes in cardiac axis and acute right ventricular strain, and to explore any association between these changes and indices of postoperative cardiovascular function. Pre and postoperative cardiac MRI images will then be examined to determine actual anatomical axis changes and their effect on MRI derived indices of cardiac function.

Funded by the *BJA*/RCoA

To determine whether the noble gases helium, neon, argon and krypton are neuroprotective in in vitro models of stroke and traumatic brain injury and to understand their mechanism of action

Mr Sukha Sandher, Imperial College London

The aim of this project is to determine whether the noble gases helium, neon, argon and krypton are neuroprotective in in vitro models of stroke and traumatic brain injury and to understand their mechanism of action. Xenon is remarkably effective as a neuroprotectant, however at present it is expensive. Helium argon and krypton are much less expensive. If other inert gases were also neuroprotective, this could represent a major advance in treatment and could potentially be rolled out across the NHS. The unfortunate skiing accident involving Michael Schumacher has highlighted the importance of neuroprotection to the public, which may lessen future cognitive and behavioural impairment in these circumstances.

Funded by the *BJA*/RCoA

Courtesy of the Royal Centre for Defence Medicine (Academia and Research), Medical Directorate Joint Medical Command

RCoA SMALL GRANTS AND AWARDS

2011 Stanley Rowbotham Fund

Volunteer work at Queen Elizabeth Central Hospital, Blantyre, Malawi

Dr Laura Peltola, Imperial College Healthcare NHS Trust

This award enabled me to volunteer at a teaching hospital in Blantyre, Malawi for ten months. During this time I gained significant clinical experience, in particular in obstetrics and paediatrics. I learned to work in a different culture with limited resources, hone my clinical judgement and also improvise. I contributed to the department with regular teaching and audit, and I also led the department in sorting over 30 years of donated equipment to reduce the re-use of airway equipment. Through fundraising, we also donated 15 Lifebox pulse oximeters to the department. I remain in contact with the department and have facilitated other UK anaesthetic trainees to visit the department.

2011 Foundation Fund

The incidence of persistent pain after caesarean section and its association with maternal anxiety and socioeconomic background

Dr Steven Young, Glasgow Royal Infirmary

Our group used the Foundation Fund award to follow up parturients four months after caesarean section, looking for persistent pain (from any site). Retrospective studies had flagged this up as a potential issue. We wanted to confirm this with a prospective study, and also to look at some of the factors that might be associated with it. Of 96 patients with a full data set, 35 (36.4%) reported pain at four months, suggesting that this is a significant and under recognised problem.

2012 Stanley Rowbotham Fund

An observership of anaesthesia for hepatic cancer surgery at the Memorial Sloan-Kettering Cancer Centre, New York, USA

Dr Matt Dickinson, Royal Surrey County Hospital

I arranged to visit the world-renowned MSK Cancer Centre in New York to share our experiences and exchange ideas. Many of the fundamental principles of anaesthesia for liver resection surgery were similar at both institutions. At MSK there was a lower usage of neuroaxial blockade, and the perioperative use of goal directed fluid therapy using cardiac output monitoring and enhanced recovery pathways were both new concepts, which contrasted with our current standard of care. It became apparent, however, that the support structures for anaesthesiologists, in particular IT infrastructure, were far superior at MSK to those in the UK, ensuring accurate data capture and aiding quality improvement initiatives.

RCoA SMALL GRANTS AND AWARDS

2012 Ernest Leach Fund

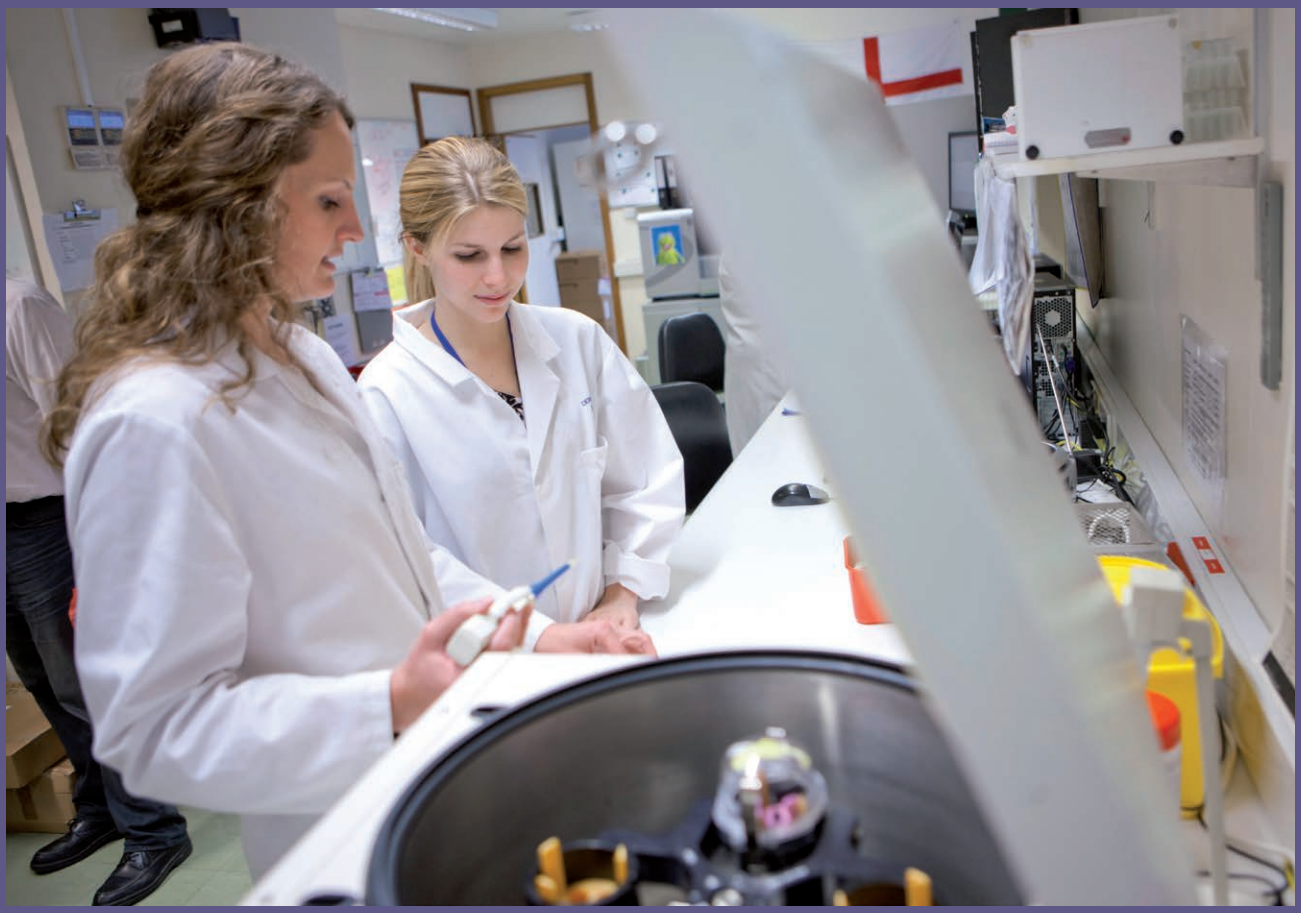
Near-patient blood propofol measurement may enable more accurate control of propofol TCI

Dr Mike Sury, Great Ormond Street Hospital

The performance of target controlled infusion (TCI) of propofol (using Paedfusor or Marsh models) was studied in 20 children undergoing scoliosis surgery. Arterial blood propofol concentrations (Cm) were compared with predicted (Cp) approximately every 30 minutes using a near-patient blood propofol analyser. In 154 measurements, Cm was almost always > Cp but 2 children consistently had Cm < Cp (lowest Cm = 1.74 when Cp = 3mcg/ml). The means of all Median Performance Errors (~ bias) and Median Absolute Performance Errors (~ imprecision) were >40% but were appreciably improved by applying a correction factor based on Cm at 30 minutes after the start of the TCI.

This project was led by Michael Sury[1,2] and carried out by Selva Panchatsharam[3], Michael Callaghan[1] and Rachel Day[4].

1 Department of Anaesthesia, Great Ormond Street Hospital for Children NHS Foundation Trust, London
2 Portex Department of Anaesthesia, Institute of Child Health, University College London
3 Department of Intensive Care, University Hospitals of Leicester NHS Trust
4 Brighton and Sussex Medical School



Courtesy of Peninsula College of Medicine and Dentistry

REPORTS FROM NIAA EVENTS

HSRC UK Perioperative Care Research Forum: 12 March 2012

Dr Mike Sury, Great Ormond Street Hospital

These are hard times for researchers in anaesthesia and intensive care. We have a culture now in which few anaesthetists have completed a research project thanks to excessive research regulations. The HSRC Perioperative Care Research Forum in March 2012 was a call to arms. The message was that research is worth the effort and funds will be granted but only for important questions that apply to large numbers of people. Two key principles 'stood out' for me. One, that we should focus on minimising risk and, two, anaesthetists should avoid being negative. We should therefore see the potential in new developments, rather than reject them too readily.

HSRC UK Perioperative Care Research Forum: 21 January 2013

Dr Mudassar Aslam, Birmingham Heartlands Hospital

I have lost count of the number of times a budding research fellow, academic foundation trainee, or even senior registrar, has asked me what research questions are out there for prospective academic anaesthetists to pursue. My answer? Attend the next HSRC Perioperative Care Research Forum! Having been fortunate to attend the third and fourth forums, my eyes as an NIHR Academic Clinical Fellow were opened to a world of questions and problems tackled by today's academic anaesthetists, from laboratory based benchside research to national audits and large scale epidemiological studies. With so many opportunities, there is only scope for growth in academic anaesthesia – but trainees need to get involved!

Introduction to Academic Anaesthesia: 9–10 September 2013

Dr Edward Pugh, ST4 Anaesthesia, Northern Region

The inaugural 'Introduction to Academic Anaesthesia' conference was held on 9th and 10th September 2013. A variety of topics were covered, including the design of clinical trials, quality improvement projects and how to get started in research. The first day ended with an informal drinks reception at the Royal College of Anaesthetists, which provided an excellent opportunity to meet speakers and colleagues. I especially enjoyed the presentations from trainees who had recently undertaken different types of research (from MRes to PhD) and their experiences (the ups and the downs!). Overall, this was an outstanding conference with very relevant topics and excellent speakers. I came away motivated to get involved in quality improvement and research and will certainly be recommending this meeting to my colleagues.

BJA Research Methodology Day: 30 September 2013

Dr Maria Chazapis, University College Hospital

The Research Methodology Workshop is a great practical introduction to setting up, conducting and presenting good research. This was ideal for me, as I wanted to get more involved in research, and to learn how to do it well. The lectures were informative and thorough, ranging from developing your research ideas, to study design and statistics. The lecturers were very enthusiastic and approachable. Interspersed throughout the day were small group teaching sessions, which provided a forum for some stimulating discussions. The course helped me set up and complete a research project, and successfully apply for a research fellowship.

BJA Peer Reviewers' Workshop: 1 October 2013 and Anaesthetic Research Society Winter Meeting: 1–2 October 2013

Dr Mhamad Al-Hashimi, University Hospitals of Leicester

Attending the *BJA* Reviewers' Workshop gave me the opportunity to interact with delegates from all over the world which reflects the global impact of the BJA. The workshop was very well organised and quite unique in bringing together leading academics and editors as key speakers that helped me to improve my skills as an author. The ARS meeting was full of interesting presentations covering many aspects of anaesthesia and applied basic sciences. It was a good opportunity to discuss my research interests and seek on the spot informal peer review and guidance.

NIAA EVENTS

HSRC UK Perioperative Care Research Forum: 3 October 2013

Dr Eleanor Carter, Norfolk & Norwich University Hospital

The fifth HSRC UK Perioperative Care Research Forum was held as part of the NIAA Research Week in October 2013. Research-interested anaesthetists of all grades enjoyed presentations showcasing exciting current UK anaesthesia research. The morning session focused on risk stratification and epidemiology topics, with the afternoon session devoted to short presentations on recently completed and currently recruiting studies. Both new and established researchers delivered presentations with ample opportunity for stimulating discussions. The event was a fantastic opportunity to learn about research that will impact on routine anaesthesia practice in the near future, and to explore opportunities to become involved in clinical research.

Research and Audit Federation for Trainees Meeting: 2 December 2013

Dr Charlotte Small, Queen Elizabeth Hospital Birmingham

On the 2 December 2013 the Research and Audit Federation for Trainees (RAFT) was born. Hosted by the RCoA and NIAA, the kick-off event saw the members of regional trainee research networks share ideas on how future national collaboration could look and function, with shared experience between established networks and those just starting out. The day saw agreement on committee structure, a draft constitution and even some project proposals. Alongside colleagues from other specialties, notably the surgical trainee research networks, we aspire to harness enthusiasm and experience, providing the tipping point for trainees to lead high quality research and quality improvement projects.

Introduction to Academic Anaesthesia – September 2013

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APPENDIX A

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Dr Carol Peden
Quality Improvement Lead

Dr Kate Walker
Statistician

NIAA GRANT AWARDS

2012 Round 1				
AAGBI/*Anaesthesia* Departmental Project Grant	Dr A Conway Morris	University of Edinburgh	Characterising T-reg subgroup phenotypes in human sepsis	£23,968
	Dr R Sanders	Imperial College London	The impact of statins on perioperative mortality in noncardiac surgery in a United Kingdom database	£21,873
ARS Heath Family Project Grant	Prof H Galley	University of Aberdeen	The effect of mitochondria-targeted antioxidants on TRPV1 expression on dorsal root ganglion cells in paclitaxel induced neuropathy in vitro and in vivo	£14,675
BJA/RCoA Project Grant	Dr I Moppett	University of Nottingham	Feasibility and metabolic effects of carbohydrate loading in patients with fragility hip fracture - a randomized double blind pilot study	£64,310
	Dr M O'Dwyer	Queen Mary University of London	A characteristic cytokine gene expression signature may predict the development of postoperative pneumonia following major gastrointestinal surgery	£50,000
DAS Project Grant	Dr W King	The Royal Surrey County Hospital NHS Foundation Trust, Guildford	Bench study comparing three different emergency tracheal access devices in a porcine model	£3,855.40
NASGBI Project Grant	Dr M Smith	University College London	Defining novel biomarkers of dysautoregulation after subarachnoid haemorrhage using non-invasive optical techniques	£9,834
OAA Large Project Grant	Dr N Beale	John Radcliffe Hospital, Oxford	Oxford Persisting Post-Operative Pain Study (OxPPOPS): the incidence and predictive factors of persisting pain one year after caesarean section	£10,156
	Dr C Ralph	Royal Cornwall Hospital	Is cell salvage of vaginal blood loss suitable for re-infusion?	£50,100
	Prof M Wee	Poole Hospital NHS Foundation Trust, Dorset	Quantification of the pressures generated during insertion of an epidural needle and subsequent imaging of the epidural space in labouring women of varying body mass indices	£32,354
OAA Small Project Grant	Dr R Fernando	University College London	Does Magnetic Resonance Imaging (MRI) correlate with severity of headache following accidental dural puncture (ADP) during epidural catheter placement for labour analgesia?	£15,750

2012 Round 2				
AAGBI/*Anaesthesia* Departmental Project Grants	Dr N Crooks	Heart of England NHS Foundation Trust	PECaN-ED (Probiotic E. coli Nissle 1917 - Efficacy & Dosing) - Evaluation of the efficacy and dosing of probiotic Escherichia coli Nissle 1917 in ventilated intensive care patients	£13,210
	Dr R Krishnaiyan	University of Leicester	Prognostic value of SSEPs in hypoxic brain injury with therapeutic induced mild hypothermia at different time intervals	£14,995
	Dr G Minto and Dr R Struthers	Derriford Hospital, Plymouth	A pilot study into the non-invasive measurement of oxygen delivery and consumption after elective major upper abdominal surgery	£7,825
	Dr K Pattinson	University of Oxford	The effect of chronic opioid therapy on respiratory control during sleep	£14,940
	Surg Cdr J Risdall	Addenbrooke's Hospital, Cambridge	Blast brain injury: use of genetic probes to identify key cell types involved in the cerebral inflammatory response to blast exposure	£6,945
	Dr R Sanders	Imperial College London	The impact of blood pressure thresholds on perioperative mortality in non-cardiac surgery in a United Kingdom database	£14,320
	Dr N Saxena	Royal Glamorgan Hospital	Understanding the mechanisms of sedation: Effects of GABAergic and non GABAergic sedatives on magnetoencephalographic visual gamma responses	£15,000
ACTA Project Grant	Dr B Shelley	University of Glasgow	The Pulmonary Vascular / Right Ventricular Response to Lung Resection	£26,932
2013 Round 1				
AAGBI/*Anaesthesia* Small Research Grants	Dr M Mackenzie	East Surrey Hospital	A simulator based randomised comparison of national guidelines for local anaesthetic toxicity versus modified versions	£11,790
	Dr H Reynolds	Bradford Royal Infirmary	Does repeating a scenario after debriefing in anaesthetic simulation training improve acquisition of non-technical skills?	£3,000 jointly funded with the SEA (UK)
	Dr D Smith	University of Southampton	Developing a clinical measurement of depth of anaesthesia using brain connectivity measures	£14,940
	Dr A Steven	Northumbria University	An evaluation of the implementation and impact of a mentoring programme for anaesthetists in the North East	£6,997
	Dr S Wright	Freeman Hospital, Newcastle upon Tyne	Introduction of real-time, mandatory recording of quality indicator data in anaesthesia recovery and regular feedback using statistical process control: the effect on clinician performance and engagement	£14,921
APAGBI/*BJA*/RCoA Research Grant	Dr M Lewis	Bristol Heart Institute	Novel strategies to protect the immature heart against reperfusion injury	£18,005

BJA/RCoA Project Grant	Prof T Hales	University of Dundee	Preclinical identification of local anaesthetics that target colon cancer cells	£63,462
	Dr S Lambden	University College London	The role of the nitric oxide regulatory pathway in critical illness	£9,000
	Prof A Rice	Imperial College London	The role of HIV gp120-driven macrophage-sensory neuronal interactions in the pathogenesis of HIV-associated polyneuropathy and neuropathic pain	£64,592
OAA Large Project Grant	Dr G Ackland	University College London	Elucidating the molecular mechanism underlying epidural related maternal fever	£59,627
OAA Small Project Grant	Dr S Malhotra	St Mary's Hospital, London	Is shivering following neuraxial blockade in obstetric patients related to changes in patient temperature? A prospective observational study	£10,827
RA-UK Project Grant	Dr S Munirama	University of Dundee	Development of a model of subperineural injection during ultrasound guided regional anaesthesia	£10,000
SEA (UK) Project Grant	Dr H Reynolds	Bradford Royal Infirmary	Does repeating a scenario after debriefing in anaesthetic simulation training improve acquisition of non-technical skills?	£3,000 jointly funded with the AAGBI
2013 Round 2				
AAGBI/*Anaesthesia* Research Grant	Dr R Evley	University of Nottingham	To determine general practitioners' views on 'good' postsurgical outcomes utilising mixed qualitative methodology	£14,613
	Dr D Harper	Scarborough Hospital	Pain relief after colorectal surgery: single-shot spinal combined with Painbuster® vs. Painbuster® alone. A double blind pilot randomised controlled trial	£9,408
	Dr J Jack	Sussex County Hospital	A study to determine the accuracy of zero-flux and ingestible thermometers in the perioperative setting	£2,869
	Dr B Clevenger and Dr R Kasivisvanathan	Royal Free NHS Foundation Trust	Short-term outcomes with intrathecal opioid and patient-controlled analgesia versus thoracic epidural analgesia for hepatic resection: a randomised controlled trial	£18,867
ACTA Project Grant	Dr M Hogan	Papworth Hospital, Cambridge	The efficacy of prophylactic nasal high flow oxygen compared with soft face mask oxygen therapy in improving early postoperative recovery in patients after lung resection surgery	£13,825
ARS Heath Family Project Grant	Prof H Galley	University of Aberdeen	Does pyrroloquinoline quinone (PQQ) have potential as a novel therapy to prevent oxidative stress and mitochondrial dysfunction under conditions of sepsis?	£12,407
DAS Project Grant	Dr I Moppett	University of Nottingham	Modelling airway management using system reliability assessment tools	£9,918
SEA (UK) Project Grant	Dr H Laycock	Imperial College London	Development and validation of an instrument to assess the quality of the pain education environment for anaesthetic trainees	£1,783

NIAA RESEARCH GRANT FIGURES

NIAA Grant Funding Awarded 2008–13

Year	Number applications received	Amount requested	Grant applications funded	Amount funded
2008 Round 1	37	£1,232,748	10	£437,983
2008 Round 2	20	£423,659	4	£115,047
2009 Round 1	18	£315,525	5	£56,295
2009 Round 2	25	£1,096,642	10	£294,706
2010 Round 1	31	£922,931	10	£290,063
2010 Round 2	40	£1,472,347	12	£382,778
2011 Round 1	40	£775,155	14	£179,067
2011 Round 2	24	£720,627	8	£288,855
2012 Round 1	36	£956,380	11	£296,875
2012 Round 2	26	£432,738	8	£114,167
2013 Round 1	39	£966,397	12	£287,161
2013 Round 2	21	£482,945	8	£83,690
	357	**£9,798,094**	**112**	**£2,826,687**

Geographic Distribution of NIAA Grants 2008–13

Year	England – London	England – Outside London	Scotland	Wales	Republic of Ireland	Rest of world
2008	5	6	2	1		
2009	7	4	3		1	
2010	6	13	2			1
2011	7	11	3		1	
2012	5	10	3	1		
2013	6	11	3			

JOHN SNOW ANAESTHESIA iBSC AWARD

AAGBI/*Anaesthesia* funded John Snow Anaesthesia iBSc		
2013		
Mr A Fowler	Royal London Hospital, Barts Health NHS	Investigating the underlying pathology of cardiovascular events in high risk surgical patients
Mr M Leung	University Hospital South Manchester	Neurophysiological correlates of consistent placebo analgesic responses
BJA/RCoA Funded John Snow Anaesthesia iBSc		
Mr A Date	Imperial College London	The effect of volatile anaesthetics on cancer cells
Mr S Sandher	Imperial College London	To determine whether the noble gases Helium, Neon, Argon and Krypton are neuroprotective in in vitro models of stroke and traumatic brain injury and to understand their mechanism of action
Mr R Brittain	Southampton General Hospital	To investigate whether there is a relationship between the number/type of microparticles produced during cardiac surgery, and the extent of postoperative bleeding
Mr I Slessor	University of Glasgow	Physiological impact of acute changes in cardiac position following lung resection surgery
Mr R Low	University of Liverpool	Pharmacogenomics of methadone response in heroin addicts

RCoA SMALL GRANT AWARDS

Year	Winning Applicant	Project Title	Amount Funded
2012			
	Dr S Panchatsharam and Dr M Sury	Comparison of measured versus predicted blood propofol concentration in children undergoing spinal surgery	£2,500
	Dr M Dickinson	An observership of anaesthesia for oesophageal and hepatic cancer surgery at Memorial Sloan-Kettering Cancer Centre, New York, USA	£1,500
	Surg Lt Cdr E Hulse	Pulmonary complications from organophosphate poisoning in a Gottingen minipig aspiration model	£1,000
	Dr M White	Evaluation of the implementation of the WHO Surgical Safety Checklist in Guinea on process and clinical outcome at 3 months and 12 months	£2,500
2013			
	Dr M G Al-Hashimi	Investigating immunemodulatory actions of Nociceptin/ Orphanin FQ (N/OFQ) system in peripheral human blood	£2,396
	Dr M Seretny	Gaining insight into the neural correlates underpinning emergence from propofol anaesthetic: analysis of data from a functional magnetic resonance (fMRI) and electroencephalography EEG study	£2,500

RCoA AWARDS

British Oxygen Company Professorship		
2011–2015	Prof M Grocott	
Macintosh Professorship		
2012	Dr T Cook	Third, fourth and fifth National Audit Projects
	Dr S Walker	Translational Research: Informing Paediatric Pain Management
2013	Dr C Peden	Improvement Science for Anaesthesia and Intensive Care
Maurice Hudson Prize		
2012	Dr T Husain	Strategies to prevent airway complications: a survey of adult intensive care units in Australia and New Zealand published in *British Journal of Anaesthesia* 108 (5):800-6 (2012)
2013	Dr J Yeung	Factors affecting team leadership skills and their relationship with quality of cardiopulmonary resuscitation published in *Critical Care Medicine* (2012), 40, No. 9
President's Award for Undergraduate Research		
2012 (First prize – clinical)	Ms S Barrowman	Anaesthetists as source of theatre acquired bacterial load
2012 (Runner up – clinical)	Mr A Garland	Adult dependency and illness severity survey: can inpatient surveys help plan critical care services?
2012 (First prize – non clinical)	Mr T McKitrick and Miss C Geldart	Identification of two mutations (F758W & F758Y) in the N-Methyl-D-Aspartate receptor glycine-binding site that selectively prevent competitive inhibition by xenon without affecting glycine binding
2012 (Runner up – non clinical)	Mr A Kapila	Does surgery accelerate the pathogeneses of Alzheimer's disease?
2013 (First prize – clinical)	Miss R Hawes	An evaluation of the influence of ASA classification on duration of anaesthetic pre-assessment consultation time
2013 (Runner up – clinical)	Miss R Day	Comparison of measured versus predicted blood-propofol concentration in children undergoing spinal surgery, preliminary analysis
2012 (First prize – non clinical)	Mr E Fisher	Investigation of indole-derivative melatonin-like compounds as novel treatments for sepsis
2012 (Runner up – non clinical)	Mr G McCreath	Mitochondrial sirtuin activation in endothelial cells under conditions of sepsis

ACRONYMS

AAGA	Accidental Awareness during General Anaesthesia
AAGBI	Association of Anaesthetists of Great Britain and Ireland
ACTA	Association of Cardiothoracic Anaesthetists
ADMACC	Academic Department of Military Anaesthesia and Critical Care
APAGBI	Association of Paediatric Anaesthetists of Great Britain and Ireland
ARS	Anaesthetic Research Society
ASAP	Anaesthesia Sprint Audit of Practice
BJA	British Journal of Anaesthesia
BOC	British Oxygen Company
BSOA	British Society of Orthopaedic Anaesthetists
CCRN	Comprehensive Clinical Research Networks
CLRN	Comprehensive Local Research Networks
CRG	Clinical Reference Group
CRN	Clinical Research Network
DAS	Difficult Airway Society
DMA&CC	Department of Military Anaesthesia and Critical Care
DSTL	Defence Science and Technology Laboratory
ELN	Emergency Laparotomy Network
HipPEN	Hip Fracture Perioperative Network
HSRC	Health Services Research Centre
NAP	National Audit Project
NASGBI	Neuroanaesthesia Society of Great Britain and Ireland
NETSCC	NIHR Evaluation, Trials and Studies Coordinating Centre
NHFD	National Hip Fracture Database
NICE	National Institute for Health and Care Excellence
NIHR	National Institute for Health Research
OAA	Obstetric Anaesthetists' Association
OOPE	Out of Programme Clinical Experience
OOPR	Out of Programme Research
PPI	Patient and Public Involvement
PSP	Priority Setting Partnership
QuARC	Quality Audit and Research Coordinator
RA UK	Regional Anaesthesia UK
RAFT	Research Anaesthesia Federation for Trainees
RCDM	Royal Centre for Defence Medicine
RCoA	Royal College of Anaesthetists
SEA UK	Society for Education in Anaesthesia, UK
SRG	Specialty Research Group
SNAP	Sprint National Anaesthesia Project
VASGBI	Vascular Anaesthesia Society of Great Britain and Ireland

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