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As the clock struck midnight on the 31st July to usher in the European Working Time Directive, my colleague was resident on-call as consultant obstetric anaesthestist. This had not been planned – my Trust is not at all supportive of the notion that consultants should be resident on-call, and nor are my colleagues (on the whole). It just happened to be the case that the trainee on-call required direct supervision, and no alternative solution could be arranged because of the limited numbers and hours of the other trainees on the same rota. I share the bemusement expressed by Rob Broomhead, who gives us a trainee’s view of the EWTD (page 29), at the failure to find proper solutions to a problem that has been looming since 1998.

It seems to be taken as read these days that trainees are now less experienced and capable when they gain a CCT than was the case, say, ten or fifteen years ago, and that this trend will continue as the EWTD bites. Logbook numbers have certainly declined on average since keeping a logbook became compulsory in the mid 1990s, though they vary widely from one trainee to another. However, the nature of training has also changed, and it is, I believe, much better than it was ‘in my day’. When I trained, there was much less clarity about the curriculum, and much less (no) educational supervision. Permit me one anecdote: at the only meeting I ever had with a College Tutor or educational supervisor in my eight years of UK training, my training record (which I was surprised to find did actually exist) was reviewed and it was pronounced that I had not done much specialist paediatrics. This was true. The same College Tutor was directly responsible for this – I had been allocated to stay on at a large DGH rather than to rotate to GOS when I should have done – thus my paediatric training had been sacrificed to expediency. As this one and only meeting took place a few weeks before my projected CCST date, and at a time when I already had a post overseas to go to, there was, as the college tutor blithely remarked, ‘not much to be done about it’.
Michael Charlesworth (a medical student with a background in chemistry) challenges our green credentials and beliefs (How Green is Your Gas?). He demonstrates that the choice of anaesthetic agents on environmental grounds is far from straightforward. Interestingly, I read this week that this also holds true for food; or at least for strawberries and tomatoes.

Apparenty, Spanish strawberries consumed in Britain have less overall environmental impact per tonne than home-grown strawberries, because the air-miles used by the Spanish strawberries are more than offset by the heating of greenhouses to grow British ones. DEFRA is planning to publish a comprehensive guide to food sustainability later this year; we could do with the same research data for anaesthesia-related drugs and equipment.

In this edition we publish Ivan Ezegas’s last post (as it were); he is slinging his syringe in order to enjoy retirement; if that is possible in Moldania. Ivan’s commentary on the state of the NHS as he found it during his visits has often made me laugh, if somewhat ruefully, and I will miss him. As a result of Ivan’s retirement, Anaesthesia News needs some new comic writers or cartoonists. If you are interested, please contact me.

It is easy enough to find things to laugh (or cry) about in the NHS, but the recent transatlantic spat regarding the state of the NHS, with profit-centred medical providers finding gullible Brits to tell the American people how awful socialised medicine is, caused me to reflect on this. In my professional lifetime (about 25 years) there have been massive improvements in the care provided (both in quantitative and qualitative terms) by the NHS. Professor Rosen’s article (page 9) describes one small but significant milestone on the road to improvement - the introduction of patient-controlled analgesia (PCA) into widespread use in the NHS. I am not a member of the twittering classes (yet; I suppose I may have to find out what twittering is sooner or later), so I will say it here instead: I think we can and should be proud of the NHS, and of our part in it. I refer those who find this difficult to believe (particularly readers based overseas) to Lord Darzi’s ‘Next Stage Review’ — whilst we may disagree with some of the proposals, it does make clear how good the service provided is.

The President reports on changes taking place within the AAGBI Council, and I would like to add my thanks on behalf of all members to the outgoing members of Council and the Executive for all the work they have done, and to welcome new members to Council. I think we should all be particularly grateful to David Bogod, for his excellent stewardship of our academic journal, and to David Whitaker partly for his sheer length of service but mainly for his unfailing pursuit of parity for anaesthetists. I wish them all success in their next ventures.

References

Val Bythell

SAS AUDIT AND RESEARCH PRIZE

The Association of Anaesthetists of Great Britain and Ireland (AAGBI) invites applications for the SAS Research and Audit Prize. This is exclusively for SAS doctors to encourage them to undertake research and audit. Entries will be judged by the Research Committee of the AAGBI. All SAS doctors who are members of the AAGBI are eligible to apply for the prize.

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Applicants should submit a summary of their audit or research of no more than 1000 words, 3 figures and 3 tables. It should be presented in the style of the journal Anaesthesia.

The winning entrant will have an opportunity to present their work at a national scientific meeting held by AAGBI. Other entrants may be asked to display a poster at the same meeting (as judged by the Research Committee of the AAGBI).

Please email entries along with full contact details of the author to secretariat@aagbi.org

If you have any additional enquiries, please contact 020 7631 8807.

CLOSING DATE FOR ENTRIES: FRIDAY 15 JANUARY 2010

Val Bythell
October represents the beginning of a new year for the Association (AAGBI). It is a time to welcome new colleagues and sadly to say goodbye to others. We welcome Drs Barry Nicholls, Felicity Plaat and Mansukh Popat to the Council. I am sure you will agree they are all well known in their own right and promise to be major contributors to the AAGBI. Sadly we say goodbye to Professor Alastair Chambers who has been Honorary Secretary and latterly a Vice President of the Association. Alastair has been a fervent supporter of the AAGBI and his contribution has been immense. He will be remembered for his no nonsense, common sense approach to problems and he will be missed by all. Professor David Rowbotham also finishes as Vice President. His main contribution undoubtedly was as Chairman of the Research Committee steering the AAGBI and Royal College through the establishment of the National Institute for Academic Anaesthesia. This has maximised scarce financial resources for research in our specialty and is now formally recognised by the UK Clinical Research Network. We thank him for this and his other contributions. We also thank Dr Nick Denny, former Chair of the Standards Committee for his contribution during his time on Council.

I would like to make special mention of our outgoing Immediate Past President Dr David Whitaker. David joined Council as a Consultant in 1997 having formerly been a Secretary of JAG (now GAT). During this time he has made a variety of contributions to the AAGBI and the specialty in general which are too numerous to mention here. He will be remembered mainly for his stance on parity, particularly for payment for anaesthetists carrying out NHS work contracted out to private providers and also for improved relative payments for anaesthetists doing private work. I wish him well in the future particularly in his new role on the Council of the Royal College of Anaesthetists.

Our journal ‘Anaesthesia’ continues as one of the AAGBI’s successes and I would like to pay tribute to Dr David Bogod whose term of office as a highly-regarded Editor-in-Chief ends. He remains with us as Vice President and Dr Steve Yentis takes over as Editor in Chief. Professor Robert Sneyd finishes an influential period as Chair of Events and becomes a Vice President. Professor Mike Wee finishes as Vice President but continues as Chair of the increasingly important Welfare Committee.

Since my last report the summer has been a fairly busy time. Some of the officers attended the European Society of Anaesthesiologists (ESA) meeting in Milan. A good meeting was held with the ESA; increasingly involved (as we are) in issues of patient safety. The AAGBI is to hold a session on patient safety at next year’s ESA meeting in Helsinki. Dr Les Gemmell (Hon Sec), Dr Ian Johnston (Hon Treasurer Elect) and myself attended the Canadian Society of Anaesthesiologists meeting in Vancouver with its associated meeting of the Common Issues Group (CIG). Many issues were discussed; some unique, some common to all. The Canadians were incredulous that the EWTD had been introduced without expansion of other grades, they would be able to run their service without trainees. The greatest threat to the US physician anaesthesiologists is the rise in the number of qualified CRNAs or nurse anaesthetists. Many of these have doctorates in nurse practice and introduce themselves to patients as ‘Doctor’ and ‘Anaesthesiologist’. An ex-CRNA has recently qualified as a physician anaesthesiologist and is running a campaign of awareness to demonstrate the limitations of CRNAs with the magnificent strap line ‘you do not know what you do not know’. Anaesthesia and Intensive Care are now effectively separate in Australia but interestingly all countries alluded to issues with benefit providers along the same lines as we have had with AXA PPP.

The GAT meeting in Cambridge was the usual enjoyable event. We sadly saw Dr Chris Meadows finish his term as GAT Chairman and I have no doubt we will hear and see more of him on the political scene.
as the years go by. I welcome Dr Felicity Howard as the new Chair of GAT. The Annual Congress in Liverpool was remarkable in that it had such a varied program. It is always difficult to cater for all, but with subjects as diverse as obesity and revalidation this was achieved.

The Anaphylaxis ‘glossy’ has been published over the summer with its laminate (intended for use in theatre). This is also linked to the Anaphylaxis website which is up and running.

We are moving through a review of all issues pertaining to IT within the organisation, led by Dr William Harrop-Griffiths (as part of his new role as Vice President).

So we move into the new year with a sense of renewal. Dr Iain Wilson is President Elect and Dr Andrew Hartle is Honorary Secretary Elect and I would like to congratulate them both. Iain finishes a very difficult period (as you can imagine) as Honorary Treasurer with the AAGBI in as healthy a state financially as it could possibly be in the circumstances and hands over the reins to Dr Ian Johnston; we wish him well during these difficult times!

DR RICHARD BIRKS
President

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Patient-Controlled Analgesia (PCA) electronically controlled, enables patients, within safeguards, to treat their pain promptly and effectively, and saves nursing time. PCA was first proposed in 1968; by 1972, some 300 patients had been treated by the pioneers. In the next 12 year period of development after which PCA was launched and became widely available, still only about 5,000 patients worldwide had used PCA. In current practice a minimum of 6 million patients each year use PCA. The wider introduction of PCA in 1984 therefore ranks as one of the most important advances in acute pain treatment in the past century. PCA was developed by anaesthetists, and is a tribute to that specialty’s innovative endeavours.

THE PIONEERS

The concept of PCA, with electronic controls, was evolved by Dr. Philip Sechzer (1914 – 2004), an anaesthesiologist in the USA. Shortly after, Professor J. S. Scott (1924 - 2006), Professor of Obstetrics and Gynaecology, Leeds, reported the use of a mechanical clamp to control an intravenous infusion of pethidine for labouring mothers.

Sechzer published his first paper in 1968. He related in 1990, in a retrospective review that the concept had occurred to him in 1966 while attending a conference on drug dependence at Baylor University, Houston, Texas. He theorised that allowing a patient to register when they were in pain by pressing a button, so controlling a dose, could be used to study dependence, placebo effect and the behavioural responses to pain. He moved to Maimonides Hospital, New York, where he developed that work. In 1971 he wrote his other paper on PCA, featuring his experiences with 118 patients. In that trial he used placebo as well as an active drug. Later Sechzer confirmed that his main interest was in experimenting with pain and not using PCA as a treatment modality. For that development he gave most credit to Professor Michael Keeri-Szanto.

Sechzer was guided by his experiences, as an anaesthetist, of using small doses of drugs intravenously and observing the responses, which led him to develop self-administered intermittent intravenous injections controlled by an electronic apparatus.

James Scott, had practical experience of the UK tradition of self-administration in obstetrics of nitrous oxide and air, (introduced by an anaesthetist Dr. R. J. Minnit) then later with trichloroethylene, and entonox, introduced by Dr. M. Tunstall. Scott had experience, too, while working with Professor T. Jeffcoate, of administering intravenous infusions of pethidine (up to 800mgs in 24 hours) during labour. Another group at St. Mary’s Hospital, London, (including Dr. G. Pinker), also administered large doses of intravenous pethidine. They used nalorphine as an antagonist to treat signs of overdose in the mother or baby.
replaced by naloxone. Scott used a hinge levered clamp, spring loaded, which was screwed down to regulate the maximum flow. He is the only researcher to have used a mechanical means for regulating the dose, and also the only non-anaesthetist to be involved in the evolution of PCA.

Michael Keeri-Szanto (1921 - 1984) Professor of Anaesthetics in London, Ontario, emigrated from Hungary to Canada after World War II. In 1972 he described an electronic apparatus for “Demand Analgesia” which he had used on 60 patients (1). He concluded that: “complete pain relief can be routinely achieved with demand analgesia,” but with conventional analgesia at least 20% still had severe pain.

He was the sole pioneer who continued to treat patients after 1972. By 1979 he reported that he had treated nearly 3,000 patients, including two who were addicted. He registered an US patent for an PCA apparatus (US Patent 4, 275, 727 1981). In 1982 Keeri-Szanto organised a sabbatical in the UK, partly in Cardiff, but unfortunately had to return early to Canada for family reasons. He died in 1984 before the international workshop on PCA.

Forrest, Smethurst (a senior registrar, now a retired UK consultant) and Kienitz, in 1970, described an apparatus the “Dropmaster”, which could control four drugs and reported its successful use in patients. The apparatus was intended for experimental use only.

THE DEVELOPERS

Cardiff Interest in PCA

In Cardiff we had investigated methoxyflurane as an inhaled obstetric analgesic. An anaesthetist administered, and recorded variable concentrations of methoxyflurane using objective measures (reaction to pain, sedation and restlessness) charting the responses of the mother, and varying the concentration to maintain the optimum state. From that data a fixed concentration was predicted and tested successfully. Experience with inhalation analgesia prepared us therefore for the concept of self-administered opioids, administered intravenously.

During that period we were trying to develop better obstetric analgesia and anaesthesia.

In 1960, whilst training at Western Reserve University, Cleveland, with Robert Hingson (who had introduced epidural anaesthesia into obstetric anaesthesia), one of the authors (MR) had gained experience with caudal and lumbar epidural analgesia. In 1964, MR started using epidural analgesia one day a week in a Cardiff obstetric unit.

In 1969 Dr. Andrew Doughty organised a meeting on epidural analgesia in Kingston, which led to the formation of the Obstetric Anaesthetists Association (OAA) giving a huge boost to the use of epidural analgesia in labour - a great step forward. There was a great potential for epidural analgesia but, there were difficulties in achieving widespread safe practice quickly, and therefore the need to explore PCA too.

The main analgesic used in the first stage of labour was pethidine. An MRC Project Grant was awarded in 1974 to MR to study the self administration of pethidine in labour. With Dr. Justin McCarthy, a Bio-Engineer, MR designed an apparatus for self administration using an available pump (McClenman DS201) which later became the basis for the Cardiff Palliator, and later still, the Graseby Palliator. For at least 5 years this was the only commercially available apparatus, and enabled many to experiment with, and become familiar with, PCA. In parallel, post-operative analgesia was studied which enabled different analgesic drugs and different routes of administrations to be compared.

By 1984 there was a modest literature (36 publications), and sufficient experience to stimulate wider clinical applications. MR organised an international symposium at Leeds Castle, Kent to clarify the points of agreement and review the new apparatus which were becoming available.

Present were anaesthetists from the UK (Dr. M. Harmer, Professors C. Hull, J. Norman, M. Rosen, G. Smith, M. Vickers) from France (Professors G. Barrier, J. Lassner) Germany (Professor K. Lehmann) Sweden (Drs. S. Sporstrom, A. Tamsen) and USA (Dr. R. Bennett, Professors E. Papper, P. White). Industrial representatives included Abbott, Bard, Cyprane, Graseby and Pharmacia.

It was soon agreed that PCA was successful. Some questions remained, such as the safety of background infusions, and the control systems. Generally, however, it was clear that PCA was a safe and effective system which should be made available for wider application.

It was agreed that Patient-Controlled Analgesia was the valid title for the new modality (Other titles were, On Demand Analgesia, Self Administered Analgesia, Patient Activated Intravenous Narcotic (PAIN)). At a subsequent public meeting at the Royal College of Surgeons in London, the audience by vote, also agreed with this choice of title.

The record of the Leeds Castle meeting was published in 1985. PCA was launched as a clinical reality, establishing its scope and safety.

That advance was further implemented in 1990 with the publication by the Boston group of Ferrante, Ostheimer and Covino, of invited essays. PCA was gradually growing into a widely used method of successfully treating pain relief.
Periodic reviews\textsuperscript{9,10} have summarised progress since then. However little has changed from the conclusions recorded at Leeds Castle. The ‘Cardiff Palliator’ did not have a system to lock up the drug syringe, and thus became obsolete.

We had not foreseen drug thieves!

\textbf{CURRENT USAGE}

It is difficult to find accurate statistics for PCA usage, mainly delivered by the I.V. route. An enquiry to the drug industry (Forrest, D, Abbott Laboratories) elicited an estimate of 2008 usage in the UK of 900,000. This approximates to 15,000 uses per million population.

In Cardiff hospitals (2006-7) about 5,000 patients left the main recovery room with I.V. PCA in place. PCA was also used, however, in non-surgical patients, in children and obstetric patients, who used different recovery rooms. The pharmacies recorded some 7,000 prepared syringes. About 1,000 of these were for repeat medications and others were used in the ICU for continuous infusion. Therefore a minimum estimate of about 5,500 patients used PCA a year, this is about 12,000 per million population, which is close to the industry estimate.

Data from Edinburgh and Swansea indicate a lower use, more in the order of 6,000 per million population.

The developed world (US, EU, Japan and others) has about 1 billion population. Therefore, yearly the world usage of PCA probably lies between 6 and 15 million. In the past 10 years therefore, at least 60 million patients will have used PCA. It is likely, however, that maximum invasive surgery and greater use of local anaesthesia will reduce PCA I.V. administrations.

\textbf{Safety}

Complications, including deaths, have been reported with an incidence of between 1 in 13,000 to 1 in 338,000, based upon 22 million usage\textsuperscript{10,11,12,13} resulting from human error or apparatus failure. In many cases a relative or friend has pressed the button instead of the patient. It is clear that although nursing time is saved with PCA nevertheless intermittent nurse monitoring (keeping an eye on the patient) is still essential for safety.

Most problems occur with respiratory depression. Whereas pulse oximetry or capnography can warn of problems it seems that they are often unavailable in the wards, for economic reasons. A respiratory monitor which recorded synchrony of tracheal notch and abdominal wall movements has been described in Cardiff but unfortunately did not prove sufficiently reliable, but, might warrant further research\textsuperscript{4}. The work at present to produce a cheaper oximeter for developing countries may prove valuable everywhere.

\textbf{SUMMARY}

PCA has made morphine; an old, but reliable analgesic, more accessible and more effective, relatively safely. It is 25 years since the Leeds Castle meeting. Since then PCA has proved of great benefit to millions of patients and is possibly the most important development in acute pain relief in the past century. This year is an anniversary of the completion of that development.

\textbf{Professor Michael Rosen}

\textbf{Mr. Andrew Kirby} (Research Assistant)

\textbf{ACKNOWLEDGEMENTS}

Special thanks are owed to Professors M. Harmer, M. Vickers and Dr. J. M. Evans, as well as to the many Cardiff consultants, research fellows and trainees, who contributed to the development of PCA.

We also thank Professor Ian Power, Edinburgh, and Dr. Rod Morgan, Swansea, for data and advice. I am grateful to my Research Assistant, Andrew Kirby, for sustained and accurate data collection and referencing.

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The strength of a study depends on its design. Rather than classify the different types of study and get bogged down in statistics, I’m going to approach it from a practical point of view.

The idea
Some ideas arise from clinical cases (e.g. ‘is my anaesthetic technique better than yours?’), while others come from reading or discussing published papers, conferences, or just out of the blue. Sometimes a small-scale project like a local audit becomes much more interesting than expected, and can be expanded into a full paper. Many ideas fall by the wayside because of the practicalities (see below), and it’s always worth testing the idea to see whether it has a good chance of running, before investing too much time and energy. Sometimes an idea stands up to all the challenges, only to fall at the ‘PubMed hurdle’ – someone has done it before (not that this is a fatal flaw; most studies are worth repeating. In fact, an easy way to think of a project is to repeat someone else’s).

The question
It may be surprisingly difficult to narrow down a general idea to a specific question or questions that might be answerable by a study. For example, ‘is my anaesthetic technique better than yours?’ could raise questions about individual drugs, combinations of drugs, practical procedures and even individual anaesthetists. Even if one were to decide upon ‘is drug A better than drug B?’, the matter of what ‘better’ means must also be defined (e.g. less pain, faster recover, shorter hospital stay, lower cost, etc). For most outcomes there are also different measurements from which to choose – e.g. ‘less pain’ might be measured as lower pain scores, less morphine requested, or a longer time before requests. Defining the question is crucial since it determines the type of data collected and therefore sets the scene for the entire project.

The design
By ‘design’ I mean what is actually done during the study. For example, is any intervention happening (e.g. giving a drug) or is it simply observational, with measurements being recorded but nothing ‘done’ to the participants? Is data collection prospective or retrospective? The latter is weaker since the data were collected without the study in mind, so one can be less certain about their accuracy or completeness. An important consideration is the choice of appropriate controls, for example drug A versus drug B, where drug B is the standard treatment (thus control) and drug A the newer (experimental) one. But even here, unless there is good evidence that drug B is effective, a finding that drugs A and B have similar effects could mean either that they’re equally effective or that they are equally ineffective.

The practicalities
Many a good idea has to be abandoned because the study is just impractical in that setting. For example, anything involving extensive data collection by other parties (e.g. ward nurses, midwives) is likely to fail because such people are busy and furthermore have no interest (in the ‘ownership’ sense) in the study. Studies of rare outcomes require huge sample sizes
and are probably not worth the effort on a local level. Some measurements are just too difficult to obtain. I always tell those embarking on a project that there are three golden rules of research: (i) everything takes three (not two) times longer than you think it will; (ii) you cannot rely on other people to do anything for you; and (iii) every study has easy bits but at least one ‘painful’ bit that will drive you mad – this may be collecting the data, taking the samples, doing the follow-ups, etc. You have to be realistic about being able to complete the study before starting, since giving up halfway through is a waste of everyone’s time.

**The numbers**

This isn’t the place for an account of statistical methods but it’s worth considering a few basic questions. The first is ‘how many participants?’; and for a comparison study, in order to answer it you need to decide: (i) what you’re expecting to see in your control group; and (ii) what difference is worth looking for in the experimental group. This, and subsequent questions like how to present or compare the data, really do require the input of someone who has done it before – and not necessarily a statistician. So time spent discussing the statistics is not only useful – it’s vital. Sometimes the complexity of the statistics or the sample size required is such that a study has to be abandoned at this stage because the practicalities don’t stack up.

**The regulations**

These are increasingly seen (by investigators) as barriers put in the way of honest folk whose only wish is to improve the world, but history is littered with dreadful abuses of research and publication ethics, as well as plenty of bad science. The most useful advice, as before, is to seek useful advice from someone who has done it before. In general, studies require ethical approval, hospital R&D approval, directorate/department approval, and possibly MHRA approval, depending on the type of study. Funding requirements add another layer of paperwork.

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**Dr Steve Yentis**

**Editor-in-Chief, Anaesthesia**

Most anaesthetists in training will be involved in research at some stage and for many of us it will be the first time we have been directly involved at the planning stages of a project. Having recently initiated a research project myself, I have found one of the most difficult aspects of the process to be the bewildering maze of paperwork and form-filling involved in gaining ethics approval. So, in an attempt to save time for others, here are some tips on gaining ethics approval for your research project. It is by no means comprehensive - I have simply tried to give some general advice that would have saved me a lot of time!

As a general note, you will find that much of the generic paperwork that is required is geared towards large scale pharmaceutical research projects. This is slightly irritating if, like me, you are conducting small scale local research. The only advice here is to try not to let your frustration get the better of you and miss the part of the paperwork that actually applies to your project.

It is hard to put an exact time scale on the ethics approval process as every project is different. However, a reasonable figure might be to allow a minimum of 4 months from initial idea to securing ethical committee approval.

1. First make sure your proposed project is research and not audit. The National Research and Ethics Guidance (NRES) website provides service if you are not sure.

2. Next, and before you do anything else, get in touch with your hospitals Research and Development (R&D) department and let them know about your research idea. It does not matter if you only have a rough idea of what you want to do; they will be able to provide expert guidance even at this early stage which will save you a lot of time later on.

3. Write a protocol for your project. You will find this much easier if you write your protocol using an established pro-forma, which should be available from your hospitals R&D department. The bit many people struggle with when writing a protocol is statistics. If you are not an expert then you will need to take advice. Most ethics committees will want to see that you have taken some advice from a statistician if possible. Larger hospitals may have a statistician in the R&D department. If not, try the mathematics department of your local University, they often run ‘stats clinics’ for researchers.

4. Your protocol will now need to be submitted to your hospitals R&D department. They will conduct a scientific review and make recommendations for improvements. Keep hold of their recommendations and your written responses to the recommendations - you will need to submit this documentation to the ethics committee later on.

5. You now need to get approval for your study. There are various national bodies from which you will need to obtain approval, depending on the nature of your study. However, all projects will have to be approved by an ethics committee. The good news is that you will not have to submit information to all these different bodies separately - it is all done via the newly set up Integrated Research Application System (IRAS).²

6. The IRAS is slightly confusing at first so here are some hints and tips:
   i. To get started you will need to create an account and then ‘create a new project’.
   ii. You will now be directed to fill in the IRAS project filter. This asks you a series of screening questions and then decides which bodies will have to approve your project based on the information given.
Research Ethics Approval
A Simple Guide

iii. Whenever you log in to IRAS and click on the project you have registered you will be directed to a screen that contains links to a number of different forms (on the left-hand side of the page). These are the forms that IRAS has decided that you need to fill in and will vary depending on the nature of your project. The thing that will be consistent is that the first ‘form’ in the list will be the ‘Integrated data set for all project forms’. This will guide you through all the questions that need to be filled in. The ‘Integrated data set for all project forms’ then automatically populates the correct fields across all the other forms. Given that much of the information required is duplicated across forms this is time saving. It is still worth going through all the forms, as I found there were some data-fields that had not been auto-populated as expected. As with all these on-line systems, save your data regularly otherwise large tracts of information will lost if the internet connection is interrupted.

iv. Once the forms are filled in you can submit them electronically. Note that before you can submit the forms you will need a Research Ethics Committee (REC) reference number to enter onto the forms. This is only allocated to you once you have booked a date for ethics committee review (see below). Note that each form you have filled in will need to be electronically submitted individually and once you have done so a submission code will automatically appear at the foot of each page. Note that submitting the forms locks them such that they can’t be altered but does not actually send them to the ethics committee. You will need to print off hard copies of the forms, sign them (and get them signed by a representative from the R&D department at your hospital) and send them to the ethics committee in the post.

v. There are certain paperwork protocols that REC’s will criticise if not adhered to:
- all paperwork submitted e.g. research protocol, consent forms etc. must have a footer stating the date, project title (or acronym) and version number which must be uniform across all documents. This does not apply to the forms you will have printed off from the IRAS site.
- all paperwork must have page numbers.

vi. With regards to patient information sheets and patient consent forms, the REC will expect you to have designed these around the templates laid out in ‘Information Sheets and Consent Forms - Guidance for Researchers and Reviewers’. This document is available on the NRES website. It is fine to simply cut and paste these templates if that suits your project.

vii. If you receive an unfavorable ethical opinion from the REC they will write to you outlining the issues they wish to see addressed. Once you have responded in writing these issues can normally be discussed at a REC sub-committee meeting i.e. you do not have to start the entire process again.

8. Once you have ethics approval you now have to go back to the R&D department at your hospital and provide them with copies of the ethical review. You cannot start your project until you have REC approval and Trust level approval from the R&D department.

9. When you have full approval and you have started your project don’t forget that you still have to inform the REC of any major changes to your project, provide a yearly report and also inform them when the project is finished.

10. In addition to all the above you may need to apply for an International Standard Randomised Controlled Trial Number (ISRCTN). This relates to any studies that include some form of randomisation and is not necessary for REC and R&D approval but will be required if you are intending to publish your results. There is a financial cost attached to this and applications can be made at www.controlled-trials.com.

I hope some of this proves useful to future seekers of ethics approval. Good luck!

References:
1. www.nres.npsa.nhs.uk/applications/after-ethical-review/
2. www.mresearchproject.org.uk/
3. www.nres.npsa.nhs.uk/applications/after-ethical-review/

Dr Ben Gupta
SpR Anaesthetics
Torbay Hospital, South Devon Healthcare Trust
Correspondence: drbengupta@gmail.com
**The School of Anaesthesia**  
The James Cook University Hospital  
Marton Road, Middlesbrough TS4 3BW  
01642 854601  

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**CME DAY**  
**Saturday 7 November 2009**  
Churchill House, 35 Red Lion Square, London, WC1R 4SG

The Continuing Medical Education Day is organised jointly by the AAGBI and the RCoA. All anaesthetists are eligible to attend and trainees are particularly encouraged to apply. This meeting is approved for 5 CPED points.  

CME Day will comprise of 18 lectures, allowing participants to chose a total of six different lectures to attend.  

**Topics will include:**  
* What makes Patient Different - genomic variability of anaesthesia  
* Paediatric Emergencies for Non Paediatric Anaesthetists  
* What is difficult in the Airway?  
* Neuromuscular Blockade and Reversal  
* Managing Admission and Discharge to ICU  
* Anaesthesia for the Aged  
* Anaesthesia for Maxillofacial Trauma, including Sepsis  
* Avoiding Medicolegal Problems in Obstetrics

Registration Fee £220 (£165 for registered trainees)  

For further information please contact the RCoA courses and meetings department  
Tel: 020 7092 1675 Email:events@rcoa.ac.uk or visit www.rcoa.ac.uk

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Another year has passed; competencies have been gained, appraisals attended, exams passed and CCT’s awarded but what about day-to-day life as an Anaesthetic trainee? Are we getting a better or worse deal? Are we any further forward than we were 7 years ago.....

The seventh 2009 GAT Annual Training Survey was conducted in July, during the GAT Annual Scientific Meeting in Cambridge. There have been dramatic changes in recent years, related not only to MMC but also the reduction in hours due to the introduction of the European Working Time Regulation (EWTR). We believe that this yearly review of anaesthetic training is more crucial than ever and that it provides a vital insight into the current condition of anaesthetic training.

The survey evolves each year and we have incorporated some new ‘topical’ questions this year. Importantly, it allows GAT to be able to follow trends in trainee conditions by keeping a core selection of questions which ensure we recognise any significant changes.

Demographics

The survey was completed by a total of 175 anaesthetists this year. These constituted 70 CTs and ST1-2’s, 28 ST3-4’s, 8 ST5-7 and 58 SpR 3-5. There was also 8 FY1/2, 1 clinical fellow, 2 SAS doctors, 1 consultant and 1 ACCS (Acute Care Common Stem) trainee. 56.6% of trainees were pre-fellowship and 63.4% post-fellowship.

Pay/ banding

Trainees are paid according to a pay banding system which takes into account the number of hours a doctor works, the anti-social nature of these hours and the type of working pattern imposed. The overall salary is determined by a base salary with an additional salary according to the associated pay band. For the previous few GAT surveys trainees have been asked to specify their level of training and the banding of their current posts. This survey was filled in July and we are aware that many rotas may still have been evolving, with the final date for complying with the European Working Time Regulation in August. In July 40% of trainees were on a Band 1A compliant rota, 22% on a Band 2B rota, 21% of trainees on a Band 2A and 13% on Band 1B (Table 1). The remaining were either in military posts or less-than-full-time training (50-80% of full-time) and surprisingly 4 were still on Band 3.

Unsurprisingly there has been a large move towards band 1B rotas in comparison with 2007 and 2008, but compared to last year there has actually been a rise in 2A rotas. This will undoubtedly change from August in many departments with a fall in pay in association with the introduction of the EWTR.

Many trainees were unsure of the number of ‘trainees on their current rota’ and the number ranged from 2-12, with an average

<table>
<thead>
<tr>
<th>Number of Trainees</th>
<th>1B</th>
<th>2B</th>
<th>1A</th>
<th>2A</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY1/2</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>ST/CT 1-2</td>
<td>65</td>
<td>11</td>
<td>15</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>ST3-4</td>
<td>27</td>
<td>1</td>
<td>7</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>ST5-7</td>
<td>8</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>SpR 3-5</td>
<td>47</td>
<td>7</td>
<td>6</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total 2009:</strong></td>
<td>154</td>
<td>13.6%</td>
<td>22.0%</td>
<td>40.2%</td>
<td>21.4%</td>
</tr>
<tr>
<td><strong>Total 2008:</strong></td>
<td>195</td>
<td>1% (2)</td>
<td>71.2% (129)</td>
<td>25.6% (50)</td>
<td>5.6% (11)</td>
</tr>
<tr>
<td><strong>Total 2007:</strong></td>
<td>211</td>
<td>4%</td>
<td>36%</td>
<td>19%</td>
<td>38%</td>
</tr>
</tbody>
</table>

TABLE 1: Banding level in current post, broken down by training year of respondents
of 7. When questioned about the change in rota numbers from August, even fewer were aware. This could reflect that even at this late stage many departments are struggling with ways in which to implement the 48hr week by August, leaving trainees unaware of what rota lies ahead. It certainly illustrates the uncertainty in many trainees’ minds despite many changing post imminently.

**Working during ‘off days’**

Trainees were asked about whether they felt the need to work outside their rota or come in on their day off for training purposes, we are concerned to find that 46% of respondents already did. Some stated that with the introduction of a 48 hour week from August they were concerned they would be required to also. **By decreasing trainees hours are we developing a culture where trainees are expected to work for free?** Overall this highlights one major flaw in the EWTR reduction in hours - will it really improve work life balance? It is our (the trainees) responsibility to ensure we are ‘adequately trained’ despite the serious reduction in hours. Unless departments are able to adapt it will surely be training that misses out as they desperately try to cover their service commitments.

And when asked ‘Would you choose to opt out of the 48 hour restriction if given the choice?’ 35.3% said they would opt out and 64.7% said they wouldn’t.

Finally regarding training we asked ‘We need to compensate for the reduction in working hours by increasing the duration of training’ 38.6% of anaesthetic trainees agreed with this statement. Of the 61.4% who disagreed, a number stated that if they were earlier on in their training they might feel differently.

**Training**

Trainees were asked how many half day training lists they had received in their last 5 weeks of training. We are aware that different numbers of accompanied lists are required at different stages of training, and also that the definition of a ‘training list’ varies according to seniority. The RCoA states that 3 lists a week is the minimum number (or 30% of daytime hours), therefore it can be presumed that there should be many more in the first few years of training. Table 3 illustrates the average number of training lists over a 5 week period according to grade.

| Table 2: The Number of Training Lists per 5 weeks compared to the Level of Experience of Trainee |
|-----------------------------------------------|-----------------------------------------------|
| ST1-2 | ST3-4 | ST5-7 | SpR3-5 |
| Total | Number of training lists in 5 weeks 2009 | |
| 0-5 | 6-10 | 11-15 | 16-20 | 21-25 | 25+ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40%  | 23% | 24%  | 14% | 8% | 14% | 8% | 2% | 1% | 7% | 4% | 58 |
| 30%  | 8%  | 19%  | 5%  | 22% | 6%  | 15% | 4%  | 11% | 3% | 4% | 1% | 27 |
| 43%  | 3%  | 0%   | 29% | 2% | 29% | 2% | 0%  | 0%  | 7 |
| 26%  | 13% | 35%  | 17% | 8% | 4%  | 18% | 9%  | 6%  | 3% | 6% | 3% | 49 |

Of concern, a large proportion of trainees stated they had received 0-5 training lists over the 5 weeks, this would equate to one or less per week.

In contrast to recent years 40% of ST 1/ 2’s received one or less teaching lists per week, in 2008 it was 0%, in 2007 53% and 2006 44% - so despite the improvements last year there has been a significant deterioration in numbers again. 63% ST 1-2 had 2 or less lists per week and only 22% had more than the recommended minimum of 3. 59% of ST5-7/ SpR 3-5 had 2 or less lists per week and 70% had 3 or less per week which is an improvement from 2007 (89%) and 2008 (94%).

Due to the changes in training grades post MMC the table below concentrates on ST trainees only and compares results from 2008 with those from 2009.

With training days likely to be lost with the EWTR these figures may get worse and we will continue to monitor the situation.

**Competencies**

Many trainees are concerned about being able to achieve their competencies within limited training hours, especially with the introduction of a 48 hour working week. Therefore we asked ‘Would you find it helpful to have a target number of logbook cases per subspecialty?’ We are led to believe that training is competence based rather than on time or case numbers. 34.1% felt that this would be useful but many of these were keen to enforce the idea that it should be a target only.

**Rest Facilities**

Since the introduction of the GAT Annual Training Survey it has focused on trainee working conditions and GAT are adamantly opposed to the removal of on-call facilities. Guidance suggests that rest facilities are extremely important for patient safety, fatigue is shown to increase mistakes1 and despite misconceptions trainees do not adjust to working nights. ‘Napping’ has been shown to improve concentration and thus decrease mistakes.2 Trainees were asked whether they have a room with a bed for their private use; 31.5% sometimes did, 50.3% always did and 18.2% never do. Of those who have oncall rooms 5% of trainees must compete for on call rooms facilities, 9.4% must share their facilities e.g. they are not private and 13.2% of trainees must share and compete for their room. Trainees may consider it inappropriate to expect trainees to share such facilities with those of the opposite sex.

As shift work increases more journeys are undertaken by ‘tired’ doctors. Recently the importance of rest facilities post on-call has been highlighted with a number of tragic accidents of healthcare professionals whilst driving home post-night shift. Rooms should be provided for resting post nightshift and this should be free of charge. When questioned 51.6% of trainees stated that these facilities are not available in their trust. 48.4% said that they were available but of these 22.5% were required to pay for such facilities. GAT is concerned that this lack of facilities will lead to ongoing risk to not only those doctors but others on the road.

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**Table 3: The Number of Training Lists for ST trainees per 5 weeks compared to the Level of Experience of Trainee for 2009 vs. 2008**

<table>
<thead>
<tr>
<th>Year</th>
<th>No of Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-5</td>
</tr>
<tr>
<td>2009</td>
<td>40%</td>
</tr>
<tr>
<td>2008</td>
<td>30%</td>
</tr>
<tr>
<td>2009</td>
<td>45%</td>
</tr>
<tr>
<td>2008</td>
<td>4%</td>
</tr>
</tbody>
</table>
Study leave

Trainee study leave is under attack! During the last few years, study leave budgets have been decimated and for a period of time completely withdrawn. Trainees have informed us that not only has the budget been cut but also what they can use it for has been restricted—some have not been allowed to use it for either exam courses or resuscitation courses. When questioned about their budget the majority of trainees were unsure—is this a deliberate policy by trusts? The amount suggested varied between £200 and £1200, but many were not sure if this was correct. The average amount stated was £638.50. More concerning was the report from an individual that their individual budget had been withdrawn completely from April 2009.

We now have concern that study leave time is also being eroded. Trainees are entitled to 30 days study leave a year in post-Foundation year posts. Generally pre-fellowship 15 days a year are spent internally at fellowship teaching and 15 externally. Post fellowship all 30 days can potentially be taken externally if no regional teaching is provided. 14.5% said their study leave time had been eroded. With the introduction of the 48 hour week this may continue and we will fight against this further erosion of training in lieu of service.

The future

We asked what trainees they expect when they’ve completed their training...

Only 75.8% felt ‘confident that their current training scheme would ‘prepare them adequately for a consultant position’; a number of SpR’s stated that this was only because they were on the ‘old training scheme’. 40.9% said that they would ‘consider taking a fellow grade or a non-consultant position post CCT’. For many this was justified by saying that they would only consider it if it was a temporary position or subspecialty.

Finally we asked ‘As a consultant would you be prepared to be resident on call’ 52.8% agreed they would and 47.2% disagreed. Comments included despite disagreeing this may be inevitable or that it would depend on the frequency of night shifts.

We can only wait and see what the future of anaesthetic training holds post the introduction on the EWTD....

Many thanks to those who completed the survey and the AAGBI events team for all their help.

Liz Shewry
Vice-Chair, GAT Committee

References

2. Fatigue and Anaesthetists, AAGBI London 2004
3. Royal College of Physicians, Working the night shift: preparation, survival and recovery. www.rcplondon.ac.uk/pubs/brochures/pub_print_WNS.htm
4. AAGBI, Fatigue and Anaesthetists. www.aagbi.org/guidelines.html

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Closing date: 15th January 2010
Communication is a word which is used a lot in today’s medical society yet it still makes many doctors sigh. Perhaps if we all took a step back and thought about the topic of communication, not as a medical ‘buzz word’ but in simple everyday terms we would all be a little more receptive.

All too often we forget how much communication or talking takes place in our normal working day. Frequently we only remember this when the communication fails to take place or is inadequate, resulting in a complaint or a critical incident. Simple things we say or do not say can have a huge effect on our patients, their perception of us and their experience. This can be taken further; it is not just what we say but the way we say (and explain) things that can have an effect. We forget that simple things which we do hundreds of times a year as part of every anaesthetic (such as preoxygenation with a mask) can be startling and frightening experiences especially if things are done in a hurry with no explanation. A few simple words of explanation can turn thoughts of ‘what is this thing that has just appeared from nowhere doing on my face, I can’t breathe, I’m going to choke, is this the gas that sends me to sleep?’ to ‘this is all part of the normal routine here, it’s just some fresh air that won’t send me to sleep.’ These simple explanations not only clarify what we are doing but are also a way of gaining our patients’ trust and confidence.

Equally, it is very easy to create a bad impression or damage the patient’s confidence in us and our professional abilities. With ever-increasing workloads and ease of communication it is not unusual for a mobile phone to ring whilst a patient is awake in the anaesthetic room. As a patient who is about to undergo a frightening and often unknown experience they want to know we will give them our full and undivided attention whilst they are asleep. Answering a call mid induction does not give this impression. We are aware of a recent complaint from a patient who witnessed their anaesthetist answering what they felt to be an unnecessary call in the anaesthetic room. They commented as part of their complaint that it led them to believe the anaesthetist’s attention had drifted from them to the call and therefore left them feeling vulnerable and unsafe.

No one is perfect and we should never expect ourselves to be. We often make mistakes or things do not go perfectly to plan and we should acknowledge this to our patients. This recognition serves the purpose of both an explanation and an apology. Occasionally, even the most
experienced and slick anaesthetic consultant will miss a vein. These things happen. How many of us routinely apologise to the patient in this situation? We may find ourselves getting frustrated and look for someone or something to blame in such a situation. However if you were to walk past someone in the street and accidentally bump into them you would automatically apologise for potentially hurting them.

One of the first things most anaesthetists do each morning is go to the operating theatre where we will often find the nurses setting up operating sets for the day. It would be easy to simply drop our bags and run, particularly since we all feel under a huge time pressure in the morning to see all the patients for that days list. However it only takes a minute to pop our head around the door and say good morning. There is no doubt in my mind that doing simple things like this is an effective way to have the theatre staff send for the first patient on time! Small things like this make our teams much happier and work more efficiently. Team briefing and debriefing has started in many trusts as a way of introducing and including everyone involved in a given theatre list. Whilst it may add a small amount of time to our day it is an important time which can be used to communicate changes, potential problems or issues. Theatre teams can change on a daily basis and there are now many visitors to a theatre on a given day, such as students or nurses and doctors from other areas. I am sure we have all had experience of being somewhere unfamiliar with strange people. Time passes very slowly and just a simple smile or hello can help ease the overwhelming sense of awkwardness! This is one of the reasons so many medical students are fond of anaesthetists and find them one of the friendliest specialities; they are often the only ones who take the time to talk to them in theatre. We should be very proud of this reputation and do everything we can to promote it. At the heart of the briefing and debriefing process is the desire to increase the safety for our patients and help prevent mistakes. All of these seem to be simple things but can easily be overlooked until the crucial minute. Briefing, like checklists is simply a way of increasing our communication within the theatre team. Like all things new there is often some opposition to it but again by simply remembering the purpose of it and embracing the change and letting it become part of our normal routine it can easily be adopted.

Claire Todd
Anaesthesia ST2
Royal Devon and Exeter Foundation Trust

Help for Doctors with difficulties
The AAGBI supports the Doctors for Doctors scheme run by the BMA which provides 24 hour access to help (www.bma.org.uk/doctorsfordoctors). To access this scheme call 0845 920 0169 and ask for contact details for a doctor-advisor*. A number of these advisors are anaesthetists, and if you wish, you can speak to a colleague in the specialty.

If for any reason this does not address your problem, call the AAGBI during office hours on 0207 631 1630 or email secretariat@aagbi.org and you will be put in contact with an appropriate advisor.

*The doctor advisor scheme is not a 24 hour service
How green is your gas?

It may be trivial to propose that we should all consider how the way we live and work impacts on our environment. The negative consequence of volatile anaesthetic agents has been well documented in the literature. The global warming potentials of various gases have been determined relative to carbon dioxide. Global warming potentials are calculated for 1 kg of a substance in the gaseous phase over a time period relative to 1 kg of carbon dioxide. The global warming potentials of isoflurane, desflurane and sevoflurane are 1100, 1900 and 1600 respectively. Although the gross release of chlorofluorocarbons and hydrofluorocarbons in the United Kingdom has recently decreased, these gases remain a significant source of pollution.

The environmental impact of propofol is not well documented in the literature. Many anaesthetists now regularly employ target controlled infusions of propofol/remifentanil in total intravenous anaesthetic (TIVA) for induction and maintenance of anaesthesia. Its use is now more acceptable for a wider range of procedures than before; reports of smooth recovery and a swift return to fitness lend support to this technique.

It is possible that a ‘green paradox’ could exist when comparing these two methods of anaesthesia. This can be described as occurring when ‘policies of lowering carbon demand may aggravate rather than alleviate climate change’. Perhaps a pertinent example of this can be obtained from the car industry. There is a demand for new technologies in this trade; many believe that hybrid cars are a green alternative. They are greener in use but the materials involved generate environmental problems in manufacturing and disposal.

It is not clear whether this is a consideration of the anaesthetic community when choosing a technique for different procedures and patients. It is not my aim to suggest that this should be the case. Perhaps, as we move forward into the future of anaesthesia, these considerations will become significant. Pharmaceutical companies may play an important role in this change, after all, green sells.

I prepared a short questionnaire for anaesthetists at Rotherham General Hospital to complete offering a short clinical scenario where both techniques could be realistically employed. The results of this show that 59% (10) vs 41% (7) believe TIVA would be more environmentally friendly for a short procedure lasting around 45 minutes. In reality, the actual truth of the question I pose is, at present, not attainable. This is for a variety of reasons. Firstly, no data exists regarding the amount of waste products, for example carbon dioxide, that are produced during the manufacture of propofol. Even if this data exists, it would not be released by the manufacturer. It is possible that the notion ‘green sells’ prevents manufacturers from producing a quantitative estimate towards this end. A company could easily commit professional suicide by undertaking work of this nature.

There is no data concerning how the use and disposal of propofol contributes to environmental pollution. What happens to the breakdown products of propofol when they are passed out through the urine and into sewers? Is transportation pollution of these agents the most salient factor to consider? Propofol is manufactured in Germany and therefore this contribution cannot be ignored. How much agent do we waste at the end of every procedure? Do we have to consider the manufacture, use and disposal of extra infusion pumps, plastic syringes and TIVA lines? How many miles must the maintenance worker travel to service and/or fix gas vapourisers? How much gas actually escapes into the environment considering modern day efficiencies of anaesthetic machines and scavenging devices? Does this change when we use high or low flows? What role does nitrous oxide have to play in modern anaesthesia and pollution?

I have discovered that it is possible to perform various calculations in order to estimate some answers to the above questions. The gross mass of a range of agents, used in the anaesthetic department at Rotherham General Hospital during the last financial year, have been calculated. These are displayed below in ‘Table 1’.

<table>
<thead>
<tr>
<th>Agent</th>
<th>Mass used in Rotherham (kg year-1)</th>
<th>Global warming potential</th>
<th>[Mass used] x [Global warming potential]</th>
<th>Estimated total mass used in UK and Ireland (tonnes year-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrous Oxide</td>
<td>2952</td>
<td>300</td>
<td>885,600</td>
<td>1476</td>
</tr>
<tr>
<td>Sevoflurane</td>
<td>305</td>
<td>1600</td>
<td>488,000</td>
<td>153</td>
</tr>
<tr>
<td>Isoflurane</td>
<td>524</td>
<td>1100</td>
<td>576,400</td>
<td>262</td>
</tr>
<tr>
<td>Desflurane</td>
<td>89</td>
<td>1900</td>
<td>169,100</td>
<td>45</td>
</tr>
</tbody>
</table>

Table 1 – Mass of anaesthetic agent used during financial year 08/09 at Rotherham General Hospital and estimated total mass used for UK and Ireland. [Mass used] x [Global warming potential] aims to give a rough feel for the overall environmental impact.
During the financial year 2008/09, there were around 11,000 general anaesthetics given at Rotherham General Hospital. During the same period, the quoted figure for the number of general anaesthetics given per year in the UK and Ireland was roughly 5.5 million. This allows for an estimate to be made in (Table 1) for total national anaesthetic pollution per annum. It is immediately noticeable that a relatively large amount of nitrous oxide is released into the atmosphere per annum as compared to the volatile gases. Nitrous oxide has a lower global warming potential; it's large scale use, however, more than compensates for this and suggests that it is the most damaging to the environment. Isoflurane and sevoflurane have comparable mass effects. Desflurane is the least damaging in terms of atmospheric mass because it is used less frequently.

The upper atmosphere chemical processes of ozone depletion are intricate. One can immediately disregard sevoflurane and desflurane as they have an ozone depletion potential of zero. Isoflurane, due to the presence of a chlorine substitution, has an ozone depletion potential of 0.03. Nitrous oxide remains stable up to the troposphere and can then either aid ozone regeneration or play a part in its destruction. The chemistry behind these processes is complex and the information available for nitrous oxide, vague.

Can we choose between different anaesthetic vapours on environmental grounds? Perhaps this proposal seems unreasonable today, however, it may be a realistic question that the anaesthetists of tomorrow will have to ask themselves. We are all aware of how the minimum alveolar concentration (MAC) relates to the relative potency of an individual volatile gas. I have devised a scheme for the calculation of an ‘environmental factor’ that relates the global warming potential and the minimum alveolar concentration of volatile agents. This is displayed below in ‘Table 2’.

With the environmental factor of desflurane eight times that of isoflurane, one can postulate that this could be of significant importance, should we wish to take on board these considerations. Similar work can be performed in order to calculate the amount of propofol (1g in 50 ml) and remifentanil used by the same department during the same period. This is displayed in Table 3.

At the stage, things start to become more difficult. For example, although only a small amount of remifentanil is used per year, it is produced via a seven step synthesis involving many waste products and significant inefficiencies. How much does this contribute to environmental harm? Perhaps due to the smaller masses involved, we can make the assumption that the use and disposal aspects are negligible. I do not consider these mass figures to be a reflection of national usage and therefore will not make a further calculation to estimate this. The one step synthesis of propofol from phenol is relatively straightforward. As already mentioned, the exact details of this large scale manufacture are unknown; the lipid medium cannot be negligible in this respect. The vast majority of nitrous oxide release is from agricultural and industrial processing.

Volatile halogenated hydrocarbons have received abundant negative coverage through their use in early refrigeration devices and in industry. I believe this to be responsible for our extensive knowledge of these substances. No such evidence exists for substituted phenols or synthetic opioids. The glucuronide of propofol and other phenolic metabolites must be excreted in the urine and end up in the atmosphere at some stage.

Perhaps the reason that it seems logical when equating volatile hydrofluorocarbons towards being less environmentally friendly, when used to maintain anaesthesia, is because there is documented and accepted evidence regarding the release of these agents into the atmosphere. I propose that when comparing the environmental impact of these two techniques, the solution is non-trivial. Whilst this is not a consideration for anaesthesia currently, one will conceivably try to arrive at these answers in the future.

Michael Charlesworth
Sheffield Medical School
University of Sheffield

References
3. Professional Standards Directorate, Royal College of Anaesthetists, Private correspondence, 21st July 2009

Table 3 – The mass of propofol and remifentanil used for TIVA at Rotherham General Hospital during the financial year 2008/09

<table>
<thead>
<tr>
<th>Agent</th>
<th>Mass used (kg year(^{-1}))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propofol</td>
<td>1.183</td>
</tr>
<tr>
<td>Remifentanil</td>
<td>0.00064</td>
</tr>
</tbody>
</table>

Table 2 – A scheme to show how the ‘environmental factor’ of a gas can be calculated.
The AAGBI was a founder member of the WFSA and its members continue to play a major role in WFSA activities. The current Honorary Secretary is Dr David Wilkinson, a past treasurer of the AAGBI. Dr Iain Wilson, President-elect of AAGBI, is Chair of the Publications Committee. Both David and Iain are members of the Executive Committee. Dr Paul Howell, President of the Obstetric Anaesthetics’ Association, is Chair of the Obstetric Committee. In addition, the WFSA and AAGBI work closely together on many educational projects. Both organizations have similar goals - to improve the standard of anesthesia worldwide. The WFSA office is located in the Association headquarters in Portland Place so, if you are visiting, please feel free to drop in and say hello to Mrs Ruth Hooper, our office manager, who would be delighted to meet you.

It is just over one year since the last world congress in Cape Town and time to review what has been achieved in that time.

Communication:
A major effort has been undertaken to improve communication with member societies. We have a new and much better web site (www.anaesthesiologists.org), thanks to Dr Peter Kempthorne of New Zealand, our webmaster. With help from colleagues throughout the world, most items are translated into French, Spanish and Chinese. Reports and items of interest are updated frequently. Important links to other groups are maintained. In particular, it is very easy to access our educational publications. If you have ideas and suggestions for the website, please let us know.

Instead of producing our own newsletter, the WFSA now sends out regular updates like this one, for publication in society newsletters throughout the world. This has proved to be very effective. Translation, where necessary, is done by local society members. Some societies place the bulletin on their website.

We have also improved communication within the Executive committee with regular minutes from the management group and an internal newsletter called Exco News and Views.

Education:
Dr Jannicke Mellin-Olsen of Norway, Chair of the Education Committee, will be writing a newsletter article in the coming months to bring everyone up to date on committee activities. She has continued the work with training centres and two more should open later this year. The second International School for Instructors in Anesthesiology (ISIA) will begin in October. The ‘spin-off’ from the first school has been fantastic with each set of graduates developing courses and workshops in their own countries.

Publications:
Dr Iain Wilson, Chair of Publications, will also write a Newsletter update later this year. The activity of this committee continues to grow and Update in Anaesthesia goes from strength to strength. The weekly, peer-reviewed ‘Tutorial of the Week’ is very popular and easily accessed through our website. Plans are in hand to produce a textbook of anesthesia suitable for use in less-well resourced environments.

Safety and Quality:
The last newsletter described the activities of this committee led by Prof. Alan Merry. The focus on providing pulse oximeters, wherever anesthesia is given, continues. Together with our partners in the World Health Organization, we will be commencing pilot projects in October.

Scientific Committee:
Professor Philippe Scherpereel has been busy getting this committee started. His first project was to mentor a group in St Petersburg, Russia, to develop their own malignant hyperthermia laboratory. He has also begun a programme of WFSA Symposia at major regional congresses.

Professional Wellbeing:
Dr Gastao Duval Neto of Brazil is leading a working group looking at issues related to Professional Wellbeing. These are assuming even greater importance than before due to the stressful environments in which we work. This group will be bringing forth suggestions as their work progresses.

Other:
Under this heading we can mention a whole variety of activities.
A survey was completed of all those who presented at the World Congress in Cape Town. This is the first time that contributors have been asked for their opinions. As a result we will be implementing some changes at the next world congress in Buenos Aires in 2012.

With financial assistance from Baxter, we have organized a scholarship programme for young African anesthesia providers to attend the 4th All Africa Anesthesia Congress in Nairobi, Kenya.

WFSA and the European Society of Anesthesiology (ESA) hold regular meetings at the ESA Congress. Cooperation and coordination continue to grow in all of our activities. We now have many common projects.

We have made contact with many other world organizations, such as our sister world society in obstetrics and gynecology, FIGO, with the object of finding out what we can do to work together to improve maternal health. The Chair of our obstetric committee, Dr Paul Howell, will be presenting at their world congress later this year so we hope this will lead to major cooperation between the two societies.

We continue to work with WHO on a variety of issues as well as pulse oximetry, including essential care at the district hospital, requirements for a department of anesthesia and publications.

WFSA has presented a report on its activities at the Working Group on the Global Burden of Surgical Disease where it was well received. We have embarked on several cooperative activities with this group which also includes WHO representatives, surgeons and public health experts.

So overall it has been a busy and productive year. As always we are grateful to Mrs Ruth Hooper in our London office who keeps everything running smoothly. We love to hear from our members so please feel free to contact any of the officers or Mrs Hooper with suggestions, comments or new ideas.

Angela Enright

2010

AAGBI support for higher award applicants

Time to act!

The AAGBI is recognised by the Advisory Committee for Clinical Excellence Awards (ACCEA) as one of the professional organisations that can nominate anaesthetists, intensivists and pain physicians for national Clinical Excellence Awards (Bronze, Silver, Gold and Platinum levels), and can also support applications for higher awards in Scotland and Northern Ireland. The AAGBI has established an objective assessment and ranking process in accordance with strict ACCEA guidelines. The AAGBI will convene a group that will assess and rank the submissions for each award level. The group will include senior national award holders, local award holders and lay representation. The ranked list of nominations will be formally submitted to the ACCEA or equivalent body for applicants from Scotland or Northern Ireland. Any anaesthetist wishing support from the AAGBI should follow the instructions and timetables below.

England and Wales

ACCEA - Clinical Excellence Awards

The 2010 National Clinical Excellence Awards round for England and Wales will close this year at 5.00 pm on Friday 11th December 2009. If you would like your application to be considered for support by the AAGBI, please email your completed and carefully checked application form to president@aagbi.org by midnight Friday 16th October 2009. Please note that the application and nomination process is conducted in line with regulations described in the ACCEA website (http://www.advisorybodies.doh.gov.uk/accea) - we recommend that you read the relevant guides published on the website before submitting an application form.

Scotland

SACDA - Scottish Advisory Committee on Distinction Awards

The deadline dates for the 2010 SACDA round are 11th December 2009 for CVs on line and 29th January 2010 for citations. If you would like your application to be considered for support by the Association in accordance with the relevant guidelines as published on the SACDA website, please email your completed and carefully checked application form to president@aagbi.org by Friday 18th December 2009.

Northern Ireland

Northern Ireland Clinical Excellence Committee (NICEAC) Higher Awards Scheme

The timetable on the website www.dhsspsni.gov.uk gave a deadline for CV application forms of 3rd July 2009. Following this closing date the NICEAC secretariat will themselves seek citations from the relevant Royal Colleges or Specialty Associations and the AAGBI will respond to any such requests by the NICEAC secretariat by the closing date of 9th October 2009.

General notes

Please be aware that your employing hospital or regional committee may have earlier deadline dates for the submission of your application form – we cannot emphasise too strongly the need to read and follow application instructions closely. Further details about the schemes have been published in previous issues of Anaesthesia News, particularly August and September 2004, July 2009 and a PowerPoint presentation, which has been updated for 2010, is available from the members’ section of the AAGBI website (www.aagbi.org). For those seeking guidance for future years, the AAGBI will continue to run ACCEA workshops the next being at WSM London 2010 (20th -22nd January 2010) and Annual Congress Harrogate (22nd – 24th September 2009).
Dear Editor

I write in support of Alan Seymour’s letter concerning “reverification” (Anaesthesia News, June 2009). Although I am not yet retired, this is a matter that has also concerned me for some time.

As I see it, when I have retired, and if I am neither revalidated nor licensed to practice, then the GMC no longer regards me as a competent doctor, and effectively, no different from an ordinary member of the public. In that case, what level of assistance should I offer to someone who collapses, for example, other than the most basic aid such as a member of the public might provide? I would probably still possess some useful skills in resuscitation, but if I am no longer licensed, could I/should I use them? The moral argument in favour of so doing may be compelling, but nowadays, morality is not enough – what is the legal position?

Extending the argument more widely, if the GMC (and the public) expects retired – and unlicensed – doctors to use their residual skills and knowledge appropriately in unusual or emergency situations, then perhaps more consideration should be given to recognition of that same skill and knowledge in other, less urgent, circumstances – for example, in retaining limited prescribing rights.

Ian Fletcher
Consultant Anaesthetist
Newcastle upon Tyne Hospitals NHS Trust

Dear Editor

It’s difficult to criticise initiatives which are designed to improve patient safety but I was bemused by an early paragraph in the article on checklists by Dr Walker and Dr Wilson. They state, “Our hospital practice has become increasingly pressurised. Patients arrive on the day of surgery, lists change order at the last minute as beds and equipment are located, and lists and teams move location to ensure maximum theatre efficiency. The luxury of working consistently with the same team with the easy familiarity and comfort of your collected wisdom and practices, is becoming less common”.

Whilst we are all familiar with the sentiments expressed we should ask ourselves if this new pressure cooker work style which is designed primarily to achieve targets has actually made the system less safe for patients. I suspect it has.

This leads to the somewhat unedifying conclusion that rather than being a natural progression on the traditional path of patient safety the checklist serves merely as the last minute handle on the ejector seat.

Dr Harry McFarlane
Aberdeen Royal Infirmary

Dear Editor

Over recent months Anaesthesia News has published some interesting debate regarding the future roles of consultants. As a post fellowship trainee I understand that change is inevitable and our future roles may be very different from those of today’s consultants.

However, I feel that our specialty needs to be careful not to follow the example shown by General Practice, where a 2 tier system of partners and salaried doctors has developed1. This system leads to low morale amongst the salaried doctors, and vast differences in salaries, despite undertaking the same clinical duties. This situation is then perpetrated when economic pressure is applied, with partners protecting their salaries by employing more salaried doctors rather than replacing current partners. If this is allowed to continue then soon all GPs will be salaried.

In anaesthesia change is inevitable, but we must be careful before creating a cheaper form of consultant labour….it may just take over.

Dr Ben Chandler
Speciality Registrar, Mersey Deanery.

Dear Editor,

I am a post fellowship anaesthetic specialist registrar in the Yorkshire and the Humber Deanery. I have a few thoughts below for your consideration:

Clinical excellence awards

As an anaesthetic trainee with a rapidly approaching CCT date I read with interest the Clinical Excellence Awards and Anaesthesia in July 2009 Anaesthesia News. Our relatively poor performance in Employer-based Awards and National Clinical Excellence Awards does not surprise me, whatever the reasons may be. From my younger anaesthesia years I realised what a publically low profile speciality I have decided to pursue, despite often being one of the numerically bigger departments in any given hospital. I have lost count of the number of times I have corrected someone stating that anaesthetists are qualified doctors and not a member of the nursing profession, and yes I did complete Medical School. Although this lack of lay recognition persists, it does come with its benefits. As a hospital speciality we have one of the lowest incidence of claims and as a result a relatively low medical indemnity premium. I enjoy being a member of a speciality with a low public profile but at the same time having a respected opinion often sought by our colleagues in other specialities. I do not do my work for recognition, however, positive feedback is reassuring that you are doing things right.

Recently I browsed a commemorative article written by Patrick Moore in the ‘Sky at Night’ magazine celebrating the story of an Englishman named Thomas Harriot who made the first telescopic observation of the moon 400 years ago in 1609. Although Thomas Harriot did not pursue recognition and published very little, Galileo on the other hand readily shared his discoveries. Thus despite Thomas Harriot mapping the moon’s surface in more detail and six months prior to Galileo, it is Galileo’s name that is remembered in history and taught to our children. I wonder how many unsung names the medical profession has borne. Quite a few I imagine.

With modern medicine, the European Working Time Directive and its shifts, revalidation, talk of sub consultant grades, and resident on call consultants Medicine is at risk of becoming just another job and no longer the vocation status it deserves. No wonder more and more of us want recognition for our achievements. We need to continually prove our worth to the powers that be and if awards tick this box then count me in!

Michelle Denton MBChB FRCA
SpR Anaesthesia Yorkshire and the Humber Deanery

Time to lose???

Edward Bick St5 Anaesthesia and
Alex D’agapeyeff Consultant Intensivist
Gloucestershire Royal Hospital

SEND YOUR LETTERS TO:
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I am a 4th year Specialist Registrar working in North London and member of the GAT committee. I read the article entitled "consultants doing 1st on-call as part of the solution to EWTD" with both curiosity and significant vested interest. The standard of medical training within the United Kingdom has long been recognised for consistently producing excellent doctors. Although opinions are undoubtedly polarised as to how we continue to maintain these standards in the face of changing economic climate and European Working Time restriction, consultants and trainee doctors alike want to reach this uniform endpoint.

As of August 1st 2009 the European Working Time Directive applied in full to trainee doctors. Earlier suggestion and legal opposition by certain specialities has largely come to nothing, and barring discrete instances where derogation has been applied for and granted, the maximum working week is going to be limited to 48 hours.

What impact will this have? The honest answer is that until it actually happens, no-one really knows for sure. How are we to assess training? Are DOPS, mini-CEX, ARCPs robust enough tools? Are post graduate exams sufficiently sensitive? Do we wait for a resultant increase in patient morbidity and mortality to give us the answer? As well as looking for solutions, the medical profession must be certain that there is a problem; other than subjective opinions, I am yet to see any objective evidence of a reduced level of trainee standard. I concede that it is possible that there will be a direct correlation between hours worked and eventual trainee “level” but that is by no means certain.

The distinction between service commitment and training in anaesthesia is repeatedly debated, difficult to define and often maligned. Drs Griffiths and Ferguson have highlighted this dilemma; There is much to learn from a consultant led, one-to-one teaching list; discrete skills, technical advice, evidence based knowledge, gems of personal experience. As Dr Ferguson has discussed there are less tangible learning opportunities to be had whilst on-call that are no less important in the progress towards consultant grade. This on-call period was traditionally called service time; clearly not entirely accurate. When you are with a senior colleague in theatre, however many times you are given absolute control of the patient, ultimately you will function as the co-pilot, a trapeze artist with a safety harness. There is no substitute for making and learning from your own mistakes. PMETB, in the updated standards for training, stresses that at the forefront of all trainee’s minds should be patient safety; one should argue that learning with a degree of trial and error is unacceptable but if in the longer term small mistakes make for better consultants is it still so unacceptable? No-one will suggest that patient harm is ever permissible but at some point the trainee is going to have to learn to manage lists, patients, staff and managers without the assistance of a big-brother consultant colleague. If they are never allowed to fly solo when will this happen?

If we accept that, not withstanding problems of definition, because of the EWTD restriction we need more training, there is more than one solution.
Lengthen training

The current system allocates seven years specialist training to anaesthetists, much the same as the old SHO/SpR system. It is true that as an SHO my logbook case numbers were far in excess of my current SpR numbers (even taking into account specialist cases and ITU responsibility). It should also be reasonable to extrapolate that to current trainees on the new ST system to predict that their overall numbers over seven years will be much reduced to those of a CCT/CCST holder from the SpR scheme. One solution would be to keep the balance between service and training as it is and simply extend it by say a year. The objections to this would come from those who recognise that our length of training already exceeds that seen in most of Central Europe.

Reinstate a post CCT/Senior registrar equivalent grade

This remains controversial, although there have been a handful of suspicious looking adverts in the BMJ careers publication pointing towards such a role. One school of thought will see these posts as a boon- they potentially create a finishing school for consultants, a period when the organisational skills so well described by Dr Ferguson can be learnt. Training for pre-CCT trainees can be more structured, more supervised to ensure that more obvious aptitudes can be taught. Logbook numbers for trainees will rise to previously seen levels and consultants will be able to remain non-resident on call, the consultant grade remaining a uniform playing field with no internal resident and non-resident leagues.

For every advocate there is however a critic; such a post would have to be time limited with a guarantee of progression at a defined point to avoid a no-man's land position with neither responsibility for training (consultant) nor requirement to be trained (trainee). In some eyes this would appear to devalue the CCT, a qualification that no longer represented a training status sufficient to take up a consultant role.

Junior Consultant

In terms of role these could function as the aforementioned post CCT Fellow/Senior Registrar. The difficulty with this position is that it will introduce a tiered consultant grade.

Dr Griffiths talks of a conveyor belt system allowing promotion to the non-on call tier through time. This is surely unacceptable. A consultant anaesthetist is hopefully not a generic beast. We have aspirations and skill sets that direct us towards different branches of anaesthesia, which is why anaesthesia remains an attractive career option for so many medical graduates. Imagine the scenario when the consultant retiring is a cardiac anaesthetist but none of the 10 lower tier on-call anaesthetists are. Do you promote a non-specialist anaesthetist into the specialist role or do you cherry pick a recently qualified post CCT anaesthetist to jump the queue, go straight into the premier league. The other possibility of having 10 different subspeciality “apprentice” on-call consultants is even more absurd, imagine the workforce planning!

So if there is no conveyor belt, when do you become a real consultant? Dr Ferguson identified the problems seen with disruption to natural circadian rhythm seen in shift workers. There is also a significant evidence base proving reduced life expectancy in those who work nights. Do we really want to be working night shifts indefinitely? Do we really want our stressful work lives to impinge further on our health than it undoubtedly already does?

The junior consultant grade may appear attractive because it gives the impression of senior anaesthetic involvement at all times. A close look however should reveal problems that make the two-tier system one to be avoided. A consultant needs SPAs to effectively teach and manage educational and clinical governance matters crucial for the development of anaesthesia as a medical speciality.

Conclusion

There is nothing new in these thoughts. As a medical profession we have behaved very much like the proverbial ostrich with his head buried deep in the sand. The EWTD was incorporated into United Kingdom law on the 1st October 1998, almost 11 years ago. The potential impact should have been thought about and contingency plans made before the 11th hour, months away from a deadline that legally enforces change. There is no simple answer and there are pros and cons to every proposed solution to a problem we as yet don’t fully know the extent of. What is certain is that we need to closely monitor our training and react accordingly. This cannot be at the expense of a whole generation of doctors. We almost created a lost tribe of doctors with the advent of MMC and MTAS, we cannot do the same with an under-par training programme. Evolution has long been recognised as providing a unifying explanation for human progression, the medical profession may just have to follow suit.

Dr Robert Broomhead

References

1. Dr Richard Griffiths and Dr Kathleen Ferguson. Anaesthesia News Debate- “Consultants doing 1st on-call is part of the solution to EWTD”. Anaesthesia News, No 262 May 2009; pages 24-29
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I fear you have not missed my updates. No news is not good news - things have happened to E.I. Ezegas III, Proletariat Anaesthesia Provider 2nd Class, formerly known as Dr. Ivan Ezegas, FMCA, locum Consultant Anaesthetist.

I was living the Moldanian Dream; luxury flights on low-cost airlines, passing hours of bliss in your premiere mass empowerment airline lounges like Stansted and Luton; yes - standing in line with fine citizens waiting for the health ray and body massage.

Then I made a mistake and told Mrs Ezegas in an email to Moldania about ‘Turn Around Teams’ at BrushField Hospital, how they had taken away all the toilet paper and only the disabled changing room worked, how they fired the medical secretaries then all the case notes piled up, discharge letters un-typed, so they hired agency secretaries. These turned out to be the same people as before but charging higher rates, plus agency fees. Millions were wasted but before Blame Management could act, the turn around team had turned around and was gone to turn someone else around.

That was my story. How did they track me down? Normally Ivan leaves no trace – jet in, pass gas, jet out. Did I tick the wrong box in my criminal record search? Was my BCG from the wrong batch or my appraiser a DoH operative in deep cover? Had they found out I was over 55 and doing on-calls wearing a white coat?

Never mind; they said I was invalid. I had to be re-validated. I was brought before a tribunal at a secret location in London, headquarters of the dreaded Gestapo Medicus Commissariat (GMC). The Comrade Controller of Fitness to Practice, a huge man with hairy hands, shone a light in my face (passed by Health and Safety) and asked questions. Why had I missed three tests for psychological acceptance of cultural diversity? Was I a closet Anaesthesia Tsar? That’s not good talk, comrades. Tsars get shot. For that intercepted email, comrades, they gave me 25 years and transportation.

Former Minister of Modernisation Joseph Milburnovic is here too. He got 25 years, a victim of his own system (fraudulent documents, they say). Sure, that is some comfort: now they are having their turn. We are expecting Blairovic any day.

So I fear this is last that you will hear from Ivan Ezegas. There is no escape. I wish you Safe Validation. Send water and food parcels via the editor.

Ivan

PS One of the guards took this photo. That’s me on the left, FMM Milburnovic centre