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a new name in anaesthesia

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President’s statement

In the early 1920s there were heated discussions concerning the necessity to have women doctors and the dangers of ‘mixed education’. Dr C H Pring, in a letter to The Times on 9 March 1922 felt that: ‘The objection is that when young women consort with young men under conditions where ordinary delicacy and modesty are necessarily absent, the normal standard of conduct is lowered. No matter how choice the demeanour and character of the female neophyte, after a few months … she becomes coarse, immodest and vulgar … all sweetness and refinement is repudiated; death itself is made the subject of jest’. Fortunately, time has demonstrated such misgivings to be groundless. This is just as well since for the second successive year more female doctors completed their training in anaesthesia and were entered on the Specialist Register than any other specialty. Furthermore, unlike some political bodies, this has been achieved without recourse to women only shortlists: they are there through choice and merit.

Promises, promises, promises: votes, votes, votes

I am writing this in the run-up to the General Election as the major players slog it out in the press and media. By the time you read it, the result will be yesterday’s news so there is no possibility of me influencing your vote. Mr Blair was handbagged by a cancer patient’s relative at my own hospital as the campaign got underway. Whilst feeling sorry for him, (after all, it was not his fault that there was a complaint), it did give the public and politicians a glimpse into the mixture of disappointment and vitriol that secretarial, nursing and medical staff have to deal with on a daily basis.

Those of you educated in England and Wales who are of a similar age to me will probably remember a compulsory paper we had to take with our ‘A Levels’ called ‘Use of English’. This was introduced following pressure from the arts lobby to prevent those of us leaving school with science subjects from being unable to read or write. One of my set books was called ‘Straight and Crooked Thinking’. This was a practical book for everyone who has to discuss controversial topics and analyse arguments. It demonstrated how extraneous factors distort decision making and how the use of emotional words and fallacies in arguments can mislead an unwary audience. It should be compulsory reading for anybody who tunes in to the Parliamentary Channel. The author, R H Thouless, listed 38 dishonest tricks commonly used (possibly unconsciously) in debate and argument. In last weekend’s election coverage in the newspapers and television I was able to identify at least 20.

Perhaps the two most important for medicine are misplaced emotional connotations and what he called predigested thinking. Referring to some hospitals as ‘ghettos’, talking about 5% needing a ‘red (failing) traffic light’ or criticising pathology services as ‘grotesque’ falls into the first category. Those commenting are usually short on substance and long on opinion. Predigested thinking is the process which in today’s terminology would result in the generation of a soundbite. Most true statements about complicated matters of fact cannot be adequately expressed in a few words yet that is the language of elections and headlines. The great advantages of the soundbite are its easy repetition and clear goal. They have been used for centuries to demonise enemy populations during a war and to raise recruits. ‘Your country needs you’ says the first world war poster: it does not ask how your talents could be put to best use. The problem is that soundbites exclude logical derivation, and, as such, can be a form of *reductio ad absurdum*. Consequently, when some soundbites are juxtaposed, conflict results and this identifies their innately unsound nature. Is it really possible for the same health service to be encouraging a ‘no-blame culture’ whilst at the same time intending to ‘name and shame’ those who fail?

Back to basics

There is no doubt that like it or not, the medical Royal Colleges will continue to come in for criticism in the months and years ahead. Some of this will probably be deserved and some will undoubtedly be deliberately engineered by those who, perhaps mistakenly, see us as reactionary and ‘anti-progress’. That is one reason why the Council has changed the ordinances and tried its best to position the College in the most relevant way for modern medicine. The College Charter, granted by Her Majesty The Queen in 1992, gave the College four principle objectives. These are, in summary:

1. **To** educate medical practitioners to maintain the highest possible standards of professional competence for the protection and benefit of the public.
2. **To** further instruction and training in anaesthesia and related subjects in the UK and overseas.
3. **To** educate the general public in all matters relating to anaesthesia.
4. **To** advance, promote and carry on study and research and to disseminate the results.

Crucially, the responsibility for these laudable aims rests with nobody else: it is our job to see that they are fulfilled. Everything
the College does have to flow from these basic statements: if it is outwith them (e.g. terms and conditions of service) we have no statutory right of input. It is my belief that if we meet our duties, the College will remain secure. In meeting them, we might on occasions come into conflict with colleagues, Trusts, Postgraduate Deans, politicians and the like, but if we have acted logically from the directives of the Charter, it is almost certainly the other party who is exercising an error of judgement.

Very importantly, the Charter clearly spells out our commitment to the public through education, training and standards. Few of the public know that we have been given this mandate: if more of them did, then perhaps we would be more relevant to them. This is clearly an area of activity that we need to work on in the future. Lay people do not like to see standards lowered, and have recently demonstrated their ability to say so in the media in no uncertain terms. In the future we may need their help to ensure that morbidity and mortality do not rise from their present low levels as our specialty does its best to respond to central initiatives and to give value for money. It is a pity that in an environment of scarce resources the majority of those responsible for planning and purchasing care are distant from the workplace and the clinical consequences of their decisions. Portacabins situated in rural GP practices are probably not the best places to give anaesthesia: neither is it sensible to move a specialised surgical service without consideration to the anaesthesia and intensive care to support it.

More College documents

Many College Fellows and Members will be pleased to see the updated version of Guidance on the Provision of Paediatric Anaesthetic Services reproduced later in this Bulletin. We have had many telephone calls over the past year asking for guidance on this topic. The provision and distribution of paediatric surgeons is just as great a problem as paediatric anaesthetists and there seems little doubt that to meet the proposed standards will not always be either easy or immediately possible. In setting down these recommendations Council was cognisant of their implications and is trusting to the good will and common sense of departments to make the best arrangements locally to progress over time towards the ideal.

Together with the Royal College of Ophthalmologists (RCOphth) our College has also produced recommendations on ‘Guidelines for Local Anaesthesia for Intraocular Surgery’ and the summary of this document is on pages 359–360. Although it will affect only a minority of anaesthetists, this slim volume is a very significant step. Through an evidence based approach it recommends fundamental changes in clinical practice and the development of the anaesthetic team in the care of patients undergoing cataract surgery. I would formally like to thank the RCOphth for their collaboration in developing the document and in their commitment to supporting standards of patient care.

Another recent publication, not of the College but published jointly by the Association of Cardiothoracic Anaesthetists, the Society of Perfusionists of Great Britain and Ireland and the Society of Cardiothoracic Surgeons of Great Britain and Ireland is a booklet on Recommendations for Standards of Monitoring and Alarms during Cardiopulmonary Bypass. The anaesthetists on the working party, Kathy Sherry, John Knesshaw and David Whitaker are to be congratulated on the result which will provide a welcome stimulus for national uniformity of practice. Despite the technical nature of the exercise I was very pleased to see that communication and the continuous presence of trained staff had not been forgotten as key requirements for safety.

Crunch time (again)

The five volume medicinal herbal published by Dioscorides of Cilicia in the first century became a basic source of unchallenged knowledge for 15 centuries. He must have been a publisher’s dream. Subsequently, therapeutic fashions in medicine developed which lasted for various periods of time. One of the most successful was purging of the digestive tract. In Elizabethan England, Shakespeare asked (Macbeth 5.3):

What rhubarb, senna or what purgative drug, Would scour these English hence?

As a recipient and survivor of the technique until my grandfather died in 1963, it is reassuring to know that it had stood the test of time, despite the absence of double blind clinical trials.

Now, however, the pace of medical knowledge combined with the availability of information (unfortunately often unedited) on the net and the pressure from various lobbies and the press require us not only to be reasonably up to date but also to be able to demonstrate that we are. If as a medical profession we do not come to an agreement over how to do this then it is my belief that self-regulation will be lost and, with it, probably a part of our corporate self respect. In the 1820s, to make ends meet, doctors had to organise strikes against some friendly societies guilty of fee fixing. Similarly, in the 1830s doctors had to tender for work to the local authority Guardians and the lowest tender usually won. Anybody who questions the value of professionally led self-regulation obtained through the Medical Reform Act of 1858 should first read the social history of this period. This summer is the last chance for three big players in medical politics, the Academy of Medical Royal Colleges, the General Medical Council and the British Medical Association to come to an agreement over how to move forward. Compromise is clearly necessary or a solution will be imposed by the Government. So far, I am sorry to say, statesmanship has not always been present in excess. Nobody can be blamed
for this except the medical profession itself. The College will, however, be doing whatever it can to try to steer opinion to enable self-regulation to be preserved. This is, I believe, especially important for a speciality such as ours that is usually introduced to patients indirectly through other medical specialists.

And sadly
I have to announce with regret that the Chief Executive, Wendy Cogger, has decided after three and a half valuable year’s service to the College, to take early retirement. Both President and Council wish her well in the future. On a personal note, I am particularly grateful for her skill in drafting the changes to the ordinances and in ensuring their expeditious passage through the necessary consultation process.

Finally
Stop press! We have just received a document from the Department of Health which describes the hospital setting in which general anaesthesia for dentistry can be carried out. It is too late to include it in the Bulletin in full but can be found on the Department of Health website www.doh.gov.uk/dental/consciousguidance2.htm. It can also be accessed via the College website www.rcoa.ac.uk.

Peter Hutton email president@rcoa.ac.uk

BJA Concise – A step too far
Professor G Smith, Chairman of the Board, British Journal of Anaesthesia

The BJA Concise was not conceived without prolonged discussions at the Board of the British Journal of Anaesthesia (BJA). The arguments in favour of moving from conception to delivery depended on simultaneous availability of the full BJA on the Internet. The advantages of the Concise were believed to be economy in usage and distribution of paper, financial savings to the Journal by a reduction in printing and postage charges, (which became available for funding the production of the Royal College of Anaesthetists Bulletin and BJA: CEPD Reviews), and indeed encouragement to our readers to use and augment their familiarity with the electronic mode of communication.

Unfortunately, however, this view has not been shared by a large number of our readers and it is evident that the BJA Concise has proved to be deeply unpopular; many of the reasons put forward by our readers are that it is not possible to access full articles on the BJA on the train or at odd times during the day, that the Internet is not convenient for a quick transient check of some contents, that it discourages readers from accessing full articles, and that it allows satisfaction with summaries only (which is detrimental particularly to trainees). What is abundantly clear, to our surprise, is that internet access is not available readily to a large number of our readers and the view of the BJA Board was obviously coloured initially by the fact that being predominantly academic in constitution, members have easy and readily available internet access in University institutions.

We do not believe that we have made an error in principle. However, in pushing College subscribers towards a situation in which access to the full Journal was available only via the internet, we have clearly progressed too rapidly. Nonetheless, there is no doubt that at some stage in the future there will be a progressive move away from full paper copy of medical Journals to internet version only. It was our belief that the BJA Concise would act as a transitional stage in this process. It is clear from our readers’ response, however, that this step has been taken too soon. We must therefore admit this error and as our remit is to provide not only the best possible service to potential authors, but also to satisfy the demands of our readers, we have taken the decision to discontinue the BJA Concise for the foreseeable future and revert back to the full paper copy of the Journal.

Thus, from July 2001 onwards, College subscribers will receive the full version of the BJA together with the Bulletin and BJA: CEPD Reviews, and all subscribers will continue to obtain free internet access to the full BJA. We apologise to our readers who have found the BJA unsatisfactory for the last five months, but I have no doubt that at some indefinable stage in the future the arguments in favour of a concise version of the BJA will be resurrected.

Important notice
College Fellows who took out an additional subscription of £48 pa with Oxford University Press in order to receive a full copy of the BJA, will automatically receive a full refund from them.
Guest Editorial

Is there any light at the end of the tunnel?

Anaesthetists are not immune to the air of gloom, doom and despondency that hangs over the medical profession at the moment. Events have conspired to leave us exposed to political attack that is very demoralising to individuals who put enormous, largely unselfish effort into helping others. Many of the causes of doctors’ unhappiness have been enumerated in a recent editorial in the BMJ.¹ In anaesthesia we are victims of our own success. Through our efforts to achieve high standards we have made anaesthesia so safe that the public has forgotten about the dangers and this has led to unrealistic expectations.

The problems

Not so long ago when things went wrong, doctors would be thanked for doing their best and personal tragedy was accepted as being part of life. Now the public has been encouraged by press, lawyers and politicians to find someone to blame. Politicians have raised public expectations of the health service and medicine to unrealistic levels and if these are not achieved compensation is demanded. Legal aid has fuelled this compensation culture and has created a ridiculous situation where the taxpayer is funding a system that is undermining their NHS. Increasingly doctors are being charged with manslaughter after making genuine mistakes. Systems can be developed to reduce the chance or the consequences of errors but, to err is human and it is generally accepted that human error cannot be completely eliminated.² In a ‘no-blame’ culture genuine mistakes should not be punished but should be reported as critical incidents from which others may learn. Careful analysis of critical incidents may lead to the development of systems to reduce these errors.

Avoidance of suspension before retirement has become a major priority for many doctors. The President, in his Statement in Bulletin 7, May 2001, highlighted the devastating effect suspension can have on individuals and their families. This low morale causes stress related illness and an increase in the number of early retirements at a time when we are heading towards shortage specialty status again. Judging by a recent interview on the radio, government believes that doctors and nurses are used to such treatment and are unaffected by it. Nothing could be further from the truth. It is a major factor contributing to low morale amongst doctors and nurses at present. There is a place for suspension if there are genuine worries that patient safety may be at risk but to suspend someone who reports a critical incident which has not caused a patient any harm is at best over-reaction and could be construed as victimisation. Medical directors and trust management have a duty to behave fairly and responsibly.

As the President points out a no-blame culture cannot exist if suspension is always the knee-jerk reaction.

The New Deal has undoubtedly put extra pressure on anaesthetic departments and failure to make progress with negotiations on a new consultant contract has compounded the problems for consultants. The realisation that the New Deal will have staffing consequences is likely to hit home some time after the General Election, probably when the production of trained anaesthetists reaches a low point in 2002 and 2003 due to the impact of the change to a five year SpR training programme. The politicians still seem to think that the lazy consultants can take up the slack despite clear evidence that most consultants work significantly more than their contracted hours.

Tight budgetary control has lead to inadequate investment in equipment and this can be a contributory factor in critical incidents. It has long been recognised that there are factors outside doctors’ control that contribute to poor performance. An enormous investment in new equipment is required to eliminate this problem nationally. Importing trained doctors is a solution proposed by government but has major problems as previously highlighted by the President. This is another example of a quick fix that is storing up problems for the future. It is generally accepted that we are moving towards a consultant-based service but the imported doctors will not be qualified for consultant posts. If these doctors are employed as staff grades they will become disgruntled like many currently in such posts. The medical staffing problem, like the nursing staffing problem, is very deep-seated and a cause for grave concern.

The consultant contract must be changed to reflect major changes in consultants’ working patterns. The present contract does not take account of out of hours work and only allows sessional time for on-call. This format reflected the usual working patterns at the time the contract was negotiated when consultants tended to give advice over the telephone and were rarely called in to the hospital to work out of hours. Most consultants are used to putting in the hours necessary through goodwill, but the goodwill is not reciprocated by the government, and many patients, and is fast running out. Consultants have been able to supplement their income by doing private practice that has given them an income compatible with their training and responsibilities. It makes no sense to deprive new consultants of the opportunity to supplement the mediocre salary paid by the NHS. It certainly will not increase the amount of work they do for the NHS. On the contrary, they are more likely to work rigidly to contract. There must be reasonable payment to consultants for out of hours work and extra commitments should be recognised by paid sessional time. It is to be hoped that the government does not force the profession into some form of industrial action by dragging its feet over meaningful contract negotiations.
There are fears about clinical governance, revalidation and the impact of NICE and CHI. There is a continuing need to raise standards and these initiatives should be applauded but, as usual, the financial implications have not been addressed. Anyone who has been involved in BMA disciplinary proceedings or GMC performance procedures knows how much time is involved. No other professionals work for nothing so doctors should not be expected to do so. Managers do not understand the logistics of anaesthesia and have unreasonable expectations partly because of the enormous pressures put on them to achieve unrealistic targets. Many surgeons show a similar lack of understanding when they are put under pressure to reduce waiting lists and blame the anaesthetic service for all their problems.

The management of postgraduate medical education has been significantly changed recently. The postgraduate deans no longer have control of a separate budget for postgraduate education. The budget is devolved to confederations with chief executives who control the budget for all NHS educational activities and determine how much of this is distributed to the postgraduate deans. The chief executives are managers and are unlikely to be medically qualified. This development is worrying and needs to be carefully monitored.

So how do we move forward?
The profession must give clear information to the general public. The politicians have shown us that this is not the place for talented amateurs. We need the help of professionals. The specialty and the profession need the services of public relations experts. With their help we can show the public that doctors have driven the improvements in standards since the inception of the health service and that governments have generally made their task more difficult. It is necessary to make the government understand the pressures on the NHS and the staff working in it. The best way to do this is to gain the support of the general public in the way the junior doctors did on the issue of long working hours. In particular we need to emphasise the need to avoid over reaction when things go wrong. Conscientious doctors involved in serious critical incidents require support not blame. They are caring individuals who will be suffering all kinds of mental torment. They will be feeling guilty even if they did nothing wrong and this guilt will be almost unbearable if they have made an error. We need to institute critical incident reporting in a true no-blame culture. This will allow us to define the local incidence of problems, address the problems and re-audit them.

It is essential that we move away from crisis management and the world of expediency and quick fixes. All the political parties are guilty of exploiting the problems of the NHS for political gain. The NHS plunges from one crisis to another and government ministers usually react, about once every five years, by a radical reorganisation of the NHS. Funding has always been a problem for the NHS. It is the government’s duty to get the best value from the taxpayers’ money but consistently governments fail to do so. In the 1980s the Resource Management Initiative was launched on five pilot hospital sites throughout the UK. It was introduced in an attempt to find out how much individual treatment episodes cost and to develop a software package for introduction throughout the NHS to track procedure costs. This initiative was just bearing fruit when Margaret Thatcher decided that radical change to the NHS was required and the Resource Management Initiative sank without trace. With this an opportunity to demonstrate the real cost of the NHS and to compare the efficiency of healthcare providers was lost. How many million pounds have since been wasted on different patient administration systems?

A health service board?
Surely the time has come to listen to those who propose the formation of a Health Service Board that is answerable to government but has the power to take the action necessary for the long term benefit of the NHS? Gordon Brown gave control of interest rates to the Governor of the Bank of England. All would be forgiven if Alan Milburn did the same for the NHS. It may take time for this to show benefits but there would be a reasonable chance that changes would benefit the service and not be for political expediency. It would then be possible to explore new ways of funding healthcare and determine what should be provided free of charge. It may prove necessary to charge for some non-essential procedures to ensure that adequate funding is directed towards essential treatments. Who will be the Steady Eddie for the NHS? It will not be an easy job.

So, is there light at the end of the tunnel?
Yes, but the tunnel is very long and full of obstacles. As a specialty we are well placed to meet the challenges but there is much hard work ahead. The negative media coverage may eventually benefit doctors provided that it leads to a better public understanding of the limitations of medicine. At the end of the day the health service needs its doctors and the profession will be much stronger for being able to demonstrate its high standards of practice.

Dr E Moss
Leeds General Infirmary

Reference

Abbreviations
BMA (British Medical Association), BMJ (British Medical Journal), CHI (Commission for Health Improvement), GMC (General Medical Council), NHS (National Health Service), NICE (National Institute for Clinical Excellence), SpR (Specialist Registrar), UK (United Kingdom), USA (United States of America)
Why National Anaesthesia Day?

November 9 2001 is the date of National Anaesthesia Day this year, and already many departments have committed themselves to taking part. Why has the Royal College supported this initiative, and why do I think that this is an important activity for departments to engage in?

Now more than ever, professions within medicine need to be represented effectively. Strong support from the public will underpin much of the representation that is made locally, as well as any national discussions.

There are four critical interlocking reasons why we as anaesthetists need to be concerned with the perception and profile of our profession:

**Change within the NHS**

Changes within the NHS have already begun to take shape, beginning with audit and clinical governance, management structure and the development of external agencies to monitor performance. At every level perception is important. The general public is involved at an increasing level and support, knowledge and an appreciation of our specialty is important.

**To enhance our profession**

Professional groups within medicine have spent much time and effort building up an image which is then highly prized. The effect of this is reflected in the appearance of doctors depicted in art. In the eighteenth century, surgeons were often depicted as large and br owy men with the implication that their toll was honest but that of the tradesman. Moving ahead 100 years and the image portrayed by the Victorian doctor was that of the man of learning and of science, and surgeons would be depicted with books and scientific instruments, not with scalpels or in other blood stained scenes. This was no accident, as the profession was seeking mass support, and was waging a campaign for the opinion of the public at large. Fast forwarding to the present day, anaesthesia is a specialty often unknown to the general public. Our public relations campaign has not had 200 years of fine-tuning. However, with the immediate access of the new and modern media much of what we do can be brought to the attention of the public. National Anaesthesia Day supports the improved perception that develops through exposure to the media.

**To improve academic investment, research and development**

It is no accident that the heart and cancer charities are successful and lead investment in clinical and scientific developments in that field. They rely on a high level of public awareness about the specialties that they serve. Thus, cardiologists do not explain what it is that they do, or are greeted by surprise when they discuss aspects of their work with the media. Indeed, the media have been well briefed over the years about aspects of medicine relating to cardiology such as the dangers of cigarette smoking or the importance of weight loss. This contrasts with investment within anaesthesia, with no central charity and far less support. Central to this is the explanation of the importance of the profession to the general public, and the support that the public can provide. In the end it is up to us all to widen our appeal and tell the public about our work within modern medicine. I believe the public would be amazed to learn that anaesthetists in my institution have taken over the responsibility of teaching clinical skills concerning the examination of the cardio-respiratory system. When the decision-making bodies sit and fund medical schools, anaesthesia is not at the top of the funding ladder, despite being central to teaching and training. We have yet to effectively communicate that crucially important research needs support within the UK, and the public can be our greatest advocate.

**Education of the general public**

Informing the general public is one of the statutory duties of the College. This is not an easy task, and many novel initiatives have been attempted. However, by the nature of the beast, only a few can attend educational events in London.

Most practicing anaesthetists know that understanding about anaesthesia is poor, and the comments inquiring whether we will be with the patient during anaesthesia underline this. Greater and greater emphasis is placed on education of the general public, and National Anaesthesia Day plays a part in this process.

An educated general public is a powerful advocate for the profession. At the national level this is seen by the effect of patients supporting the work of various specialties. If you are famous and have liver disease, it is possible that your support for the specialty will be solicited. Some patients strongly advocate support, and find their way into media features and the like. Others more subtly act to re-enforce the importance of the specialty. At the local level, a massive amount is done for all branches of medicine. We are at the beginning of this process within our own profession. National Anaesthesia Day will try to support this within anaesthesia.

The general public can only help us if we explain clearly and carefully what we are about. The responsibility for this lies in our hands, and much work is done at the moment through the Association, through local departments and through the College. By persisting, our message will be effective, and that is why we need your support this year.

John Goldstone
Chairman, National Anaesthesia Day Working Group
email j.goldstone@ucl.ac.uk
Non-consultant career grades

Dr J P Curran, Chairman, NCCG Committee

Over what those of you who contacted us say matters most, the committee is beavering away. One of us ‘leads’ on each topic. Chris Heneghan is dealing with the new category of Associate Membership. Charlie Cooper is grappling with training opportunities, using his contacts through the Postgraduate Dean network, while Kate Bullen is working on the issues of NCCGs as trainers. Steve Chay’s efforts to build up a ‘correspondents’ list’ will become even more important soon (email 106205.2722@compuserve.com). If you do not have access to e-mail, write to him via the College.

The Autumn NCCG Meeting: some NCCGs (how I dislike the title!) said that ‘core topics’ would help to get funding, and others that NCCGs should take a more active part in the meeting, including reporting what has been achieved locally. To add to these ideas, the NCCG Committee has laid on itself the obligation to give an account of what we have tried to do. An outline of the meeting is on this page.

Finally, following the theme of the importance of NCCGs’ own local activity, the rest of our column space is devoted to one way of getting things done at local level. I will leave you to read it, and draw your own conclusions from what Drs Fernando and George have to say.

NCCG news from a DGH

Dr P Fernando, Chairman and Dr R George, Deputy Chairman, NCCG anaesthetists, Queen Elizabeth Hospital, King’s Lynn, Norfolk

At last year’s autumn NCCG meeting at the College, we found many of the discussions highly relevant, although there are perhaps understandably more questions than answers at the present time. In particular, we were encouraged to attempt to improve communication within our own department. We devised a strategy, which has at least shown early signs of promise. Readers may be interested to share our experiences.

We are a medium sized DGH serving a rural community. The anaesthetic department now has 13 consultants, two associate specialists and six staff grades. There are also nine trainees.

During recent expansion in numbers, lines of communication became haphazard and this became the over-riding point of dissatisfaction, which we resolved to address. Our NCCG group meetings had become infrequent and poorly focused. We instituted an ‘upgrade’ so that the meetings now have clearly advertised times venues and agendas. A nominated consultant who is responsible for the NCCG anaesthetists’ issues attends these regular monthly meetings. Likewise, the Chairman of the NCCG Group attends the monthly departmental consultant meeting. The departmental meeting has a standing agenda item, which addresses issues arising from the NCCG meeting, and conversely, the NCCG meeting receives a regular report from the Chairman, summarising the monthly departmental consultant meeting. Literature relating to the NCCG issues is collated in a file and is now available in the department.

Admittedly, we are in the early stages of this exercise. Nevertheless, there is already a perception that the three elements of structured meetings, nominated representatives and a centralised literature base has improved the speed and quality of communication.

We remain optimistic that the long time promise of NCCG office space will soon become a reality – another bone of contention.

NCCG – Autumn College Meeting

18 October 2001 [code: C63]
The Royal College of Anaesthetists, WC1

09.15 Registration and Coffee

Morning session
Progress in the College: The President, followed by the NCCG Committee giving an account of itself
More coffee
How to get something out of ‘appraisal’
Core Topics
Lunch

Afternoon session
Core Topics
Progress by NCCGs around the country
Open session
16.15 Finish and tea

This meeting is approved for 5 CEPD points
Registration fee: £150
The Royal College of Anaesthetists

Safety Notice on
Prevention of hypoxic gas mixtures

The use of Nitrous Oxide

There has been recent publicity concerning the death of a child from the administration of 100% nitrous oxide. It is therefore timely that the College clarifies its position on some aspects of the safe administration of gas mixtures. These are as follows:

1  All anaesthesia machines must be checked before use. If appropriate for the machine, the algorithm published by the AAGBI is recommended.

2  Where an anaesthetic machine is being used it is mandatory for trainees to work with equipment that has a tested oxygen analyser in the common gas outflow or breathing system. The oxygen analyser must possess a low concentration alarm which is active.

3  The College very strongly recommends the use of equipment which incorporates an anti-hypoxia linkage between the oxygen and nitrous oxide flow controls. Departments should continue to phase out anaesthetic machines which do not have this safety feature. After 31 December 2002, trainees must not administer nitrous oxide from anaesthetic machines that do not have an anti-hypoxia linkage.

These points will be specifically covered in College visits.
Guidance on the provision of paediatric anaesthetic services

When considering the provision of paediatric anaesthetic services, the Royal College of Anaesthetists recommends that the following areas should be addressed. The goal is to ensure a comprehensive, quality service dedicated to the care of patients and to the education and development of staff. The provision of adequate funding to provide the services described should be considered.

Summary
- Anaesthesia for children requires specially trained medical and nursing staff and special facilities.
- Parents (or carers) should be involved in all aspects of the care and decisions regarding the care of their children.
- The service should be led at all times by consultants who anaesthetise children regularly.
- Adequate assistance to the anaesthetist by staff with paediatric training and skills must be available.
- Paediatric anaesthetic equipment must be available where children are treated and staff must receive regular retraining in paediatric life support.
- There should be a properly staffed and funded acute pain service covering the needs of children.

1 Introduction
1.1 Anaesthesia for children demands appropriately trained staff and appropriate facilities, and should not be undertaken where these are not available. Appropriate training should include regular paediatric resuscitation training.

1.2 Treatment in a specialist paediatric unit will be required for neonates (less than 44 weeks gestational age), children with significant co-morbidity (which will usually include infants with a significant history of prematurity who are considerably beyond 44 weeks gestational age), and children with complex surgical conditions including major trauma. Some District Hospitals may have specialist paediatric units within them. There is no absolute lower age limit for treatment in a district general hospital as management of common surgical problems in healthy children should be within the competence of designated consultant surgeons and anaesthetists in district general hospitals. However, younger children, especially those undergoing emergency surgery, may present problems with which some anaesthetists are not familiar. If there is doubt about training, skills, facilities, or ongoing experience, the child should be referred to a specialist paediatric unit.

1.3 There should be an audit of all children transferred and this should be monitored by the paediatric committee (see 5.6 below).

1.4 A child centred approach to anaesthesia and surgery is recommended, with as far as possible:
- Segregation, either geographic or temporal, between adult and child facilities, both in wards and day surgery units.
- Provision for parents to accompany children, both into anaesthetic rooms and into recovery areas. There may be exceptions to this, for example anticipated difficulty in tracheal intubation or rapid sequence induction.
- Consent being obtained from the child, where appropriate, in addition to parents/guardian.

2 Clinical services
2.1 All parents should receive full written preoperative information together with a contact telephone number should they have further questions.

2.2 All patients should be assessed by an anaesthetist and both parents and patients given the opportunity to ask questions.

2.3 Parents (and others ‘in loco parentis’) should be involved in the care process. This includes physical and psychological preparation of the patient for surgery, presence at induction of anaesthesia, and recovery and postoperative care.

2.4 Where special techniques (e.g. epidurals, other regional blocks (including caudals), and invasive monitoring), or blood transfusion are used there should generally be written evidence that these have been discussed with the child (when appropriate) and parents.

2.5 Children should be nursed on a ward where at least two registered children’s nurses are on duty for every shift that the child is present.

2.6 Paediatric High Dependency and Intensive Care services should be available as appropriate for the type of surgery performed.
2.7 Transfer of critically ill children to specialist care services is normally undertaken by the paediatric emergency transfer team from the appropriate PICU. When this is not feasible (e.g. because of urgency), arrangements should comply with the following:

- There should be a designated consultant with responsibility for transfers.
- Functional mobile equipment and relevant guidelines should be available.
- All patients should be accompanied by a doctor with at least two years experience and ability to perform tracheal intubation, with a trained assistant (ICU nurse or operating department assistant or experienced ICU technician).

2.8 Pain scoring should be undertaken in all children who have undergone a painful surgical procedure.

2.9 A member of the APS should visit all paediatric surgical wards every day, and all children having major surgery should be visited daily by the APS.

3 Education and staff development

3.1 Children who undergo anaesthesia must be managed by staff who have received appropriate training in paediatric anaesthesia and resuscitation. Staff must receive regular retraining in paediatric life support.

3.2 Consultants with a substantial commitment to paediatric anaesthesia, including full-time paediatric anaesthetists, are usually appointed to posts in specialist paediatric units. They therefore should have obtained at least one year or equivalent of full-time specialist training in paediatric anaesthesia in a specialist paediatric unit. This will be started in years 3-5 of the SpR training programme.

3.3 Some consultants at District General Hospitals are appointed to posts with a designated sub-speciality interest in paediatric anaesthesia. In many instances, they are nominated as the lead consultant for paediatric anaesthesia within the hospital. Typically, they undertake at least one paediatric list or equivalent per week and are responsible for organising and overseeing anaesthetic services for children, including pain management and resuscitation. It is recommended that these individuals should have obtained at least six months or equivalent of full-time specialist training in paediatric anaesthesia in a specialist paediatric unit.

3.4 Whilst virtually all career grade anaesthetists, as trainees, have received some formal training in paediatric anaesthesia, several years may have elapsed since this was obtained. All anaesthetists must recognise and work within the limits of their professional competence.

3.5 There must be arrangements to enable all consultant and career grade staff who provide anaesthesia or anaesthetic cover for children to participate in Continuing Medical Education which relates to paediatric anaesthesia and resuscitation.

3.6 It is important to recognise that there are anaesthetists working in District General Hospitals (particularly in the remote parts of the UK) who do not have a regular paediatric commitment. Nevertheless they may, in the absence of a separate paediatric roster, have to provide out-of-hours cover for emergency surgery in children. Anaesthesia cover may also be required for those critically ill children who, on presentation, require resuscitation and initiation of intensive care before the arrival of a retrieval team and eventual transfer to a PICU. It is important that these consultants continue to obtain training in paediatric resuscitation and are able to maintain these skills. In addition they should be able to undertake regular supernumerary attachments to paediatric lists, or secondment to specialist centres, in order to update and maintain their paediatric knowledge and skills.

3.7 Where appropriate, Trusts should consider joint appointments with regional paediatric hospitals to allow designated consultants from district general hospitals a regular paediatric commitment within a dedicated hospital environment in order to maintain and develop their skills.

3.8 There should be departmental audit and morbidity meetings relating to paediatric anaesthesia, and this should incorporate input from parents/guardians and patients.

4 Staffing

4.1 All children should be anaesthetised by a consultant or other career-grade anaesthetist who has regular relevant paediatric practice, or a trainee supervised by someone in the preceding categories. Supervision will vary according to the ability and experience of the trainee and the nature of the case. For example, an SHO with less than six months experience requires direct supervision in theatre or in the theatre suite, whilst an experienced SpR who has undergone a recent period of paediatric anaesthetic higher specialist training might be supervised by a consultant outside the hospital theatre suite.
5 Organisation and administration

5.1 Paediatric anaesthetic equipment and disposable items should be available in theatres and recovery areas where children are treated. Paediatric trained ward and theatre staff are required.

5.2 Theatre design and temperature control, appearance and working practices should reflect the emotional and physical needs of children. In particular, a system should be in place to allow the presence of parents at induction of anaesthesia and immediately after recovery.

5.3 Overnight accommodation for parents should be provided when overnight admission of children occurs.

5.4 Recovery areas for children should be separate or screened from those used by adults.

5.5 Where possible, children should be concentrated on designated paediatric lists.

5.6 There should be a committee of paediatrician, anaesthetist, surgeon, pharmacist and registered children's nurse involved in the care of children to establish guidelines for the extent of surgery possible in any particular hospital with regard to such matters as the age and condition of patients, extent of surgery, staffing and local environmental constraints. This committee should be responsible for the overall management, improvement, integration and audit of services for children.

5.7 Arrangements should be made with the specialist paediatric unit for the transfer of the sick infant or child.

5.8 Arrangements should also be made with the specialist paediatric unit for ongoing regular links for CME/CEPD and refresher training.

Summary of main reports relating to anaesthetic and surgical services for children 1990–2000

(1990) National confidential enquiry into perioperative deaths 1989

Source
Royal College of Surgeons of England and Royal College of Anaesthetists.

Aim
Nationwide audit of deaths in children 0-10 years of age within 30-days of surgery.

Key recommendations
- Surgeons and anaesthetists should not undertake occasional paediatric practice.
- Consultant with responsibility for children must keep up-to-date and be competent in the management of children.


Source
Department of Health, HMSO, London.

Aim
To help purchasers to identify standards and to assist providers in achieving these standards in the delivery of services for children.

Key recommendations
- Children should be managed within a Children’s Department or a Children’s Hospital.
- Every child admitted to a hospital children’s department should be supervised by a children’s physician or surgeon. Where a child is admitted to another department, a named paediatric consultant should be responsible for advising on the care and treatment of this child.
- In other specialities regularly involved in the case of children (e.g. anaesthetics, general surgery, ENT, ophthalmology, radiology and pathology) there should be consultants, trained and experienced in the treatment of children, available to participate in and advise on their treatment.
- Children’s wards and departments should be staffed by a minimum of two registered Sick Children’s Nurses, or equivalent, 24-hours a day.
- Parents should be enabled to comfort their children during induction of anaesthesia and to be present during post-operative recovery.

(1991) Just for the day – children admitted to hospital for day treatment

Source
Caring for Children in the Health Services, London.

Aim
To provide standards for children admitted to hospital for the day.

Key recommendations
- Admission to be planned in an integrated way to include pre-admission, day of admission and post-admission periods.
- The child to be neither admitted nor treated alongside adults.
- Medical, nursing and all staff to have received specific training and to be skilled in working with children and their families.
- Specific written information to be provided to ensure parents understand their responsibilities throughout the episode.
(1993) *Children first – A study of hospital services*

**Source**
Audit Commission, HMSO, London

**Aim**
To examine the provision of care for children in hospital.

**Key recommendations**
- Clinicians, managers and other staff do not give sufficient attention to the needs of children and their families.
- The principles of caring for children in hospital include: child and family centred care, specifically skilled staff, separate facilities, effective treatments appropriate treatments and strategic commissioning.


**Source**
British Paediatric Association/Royal College of Paediatrics and Child Health

**Aim**
To identify which children requiring surgery would benefit as a result of transfer to a specialist children’s surgical unit and to define what is necessary to provide a ‘competent surgical service in a district hospital.’

**Key recommendations**
- Hospitals which offer a surgical service for children should have a designated surgeon and anaesthetist responsible for the services for children and these should also meet the criteria set out in the document ‘The Welfare of Children in Hospital’.
- Consultant general surgeons and anaesthetists in district hospitals should be capable dealing with common surgical problems arising in most children over five years of age.
- If no consultant surgeon or anaesthetist with adequate training and experience is available, arrangements should be made to transfer children to another hospital with the necessary staff and facilities.
- Children aged 0-3 years who require emergency surgery should be transferred from a district hospital to a specialist surgical unit unless consultant surgical and anaesthetic staff experienced in emergency surgery for infants and young children are available in the district hospital.

(1996) *Children's surgical services: Report of an ad hoc multi-disciplinary children's surgical liaison group*

**Source**
Royal College of Paediatrics and Child Health.

**Aim**
To examine and consider ways of implementing of relevant recommendations relating to surgery in children.

**Key recommendations**
- Hospitals should identify all surgeons currently operating on children.
- Surgeons treating children should be suitably trained and have sufficient paediatric workload to sustain expertise.
- Inpatient surgical care should only be provided in hospitals with a 24-hours paediatric medical presence.

(1997) *Paediatric intensive care: A framework for the future*

**Source**
National Co-ordinating Group on Pediatric Intensive Care/NHS Executive

**Aim**
To define standards which should apply in all hospitals providing paediatric intensive care and to describe a framework for the provision of a unified paediatric intensive care service in each area of the hospital.

**Key recommendations**
- Establishment of Lead Centres to provide most of the paediatric intensive care required in each area of the country.
- Hospitals which provide paediatric intensive care to comply with standards relating to training and experience of medical and nursing staff, provision of consultants with approved training in paediatric intensive care medicine, access to specialist paediatric and support services on-site, and an appropriate environment for managing critically ill children.
- Establishment of a retrieval service, based on each lead centre, staffed and available on 24-hour basis to transfer children requiring intensive care.
(1998) Provision of general surgical services of children

**Source**
The Senate of Surgery of Great Britain and Ireland, London

**Aim**
To define standards of training and maintenance of competence for general surgeons treating children.

**Key recommendations**
- Creation of a new category of sub-specialist general surgeon, the general paediatric surgeon who will have received six months training in paediatric surgery in an SAC accredited specialist paediatric surgical unit.
- Designated surgeons will require adequate workload to maintain competence: hospitals should identify designated posts for paediatric surgery.

(2000) Children's surgery: A first class service

**Source**
The Paediatric Forum of the Royal College of Surgeons of England.

**Aim**
To define national standards for management of children requiring surgery and to outline training requirements for surgeons involved in care of children.

**Key recommendations**
- In-patient surgery should only be undertaken in hospitals with comprehensive paediatric facilities and by appropriately trained surgeons with a designated paediatric subspecialty commitment and workload.
- The Clinical Management Structure of every district general hospital should include a group representing surgeons, anaesthetists, paediatricians and children’s nurses responsible for overseeing and integrating services for children.
- Occasional paediatric practice is unacceptable, unless confronted with a life-threatening emergency or minor problem.

**Working group**
The above guidance was developed by a multi-disciplinary working group, to which the Royal College of Anaesthetists is very grateful. The members were as follows:

Professor G Smith, Royal College of Anaesthetists *(Chairman)*
Dr D Arthur, Association of Paediatric Anaesthetists
Dr A Dearmum, Royal College of Nursing

Miss L Kapila, British Association of Paediatric Surgeons and the Royal College of Surgeons of England
Ms D Keeton, Royal College of Nursing
Dr N Bennett, Intercollegiate Committee for Training in Paediatric Intensive Care Medicine
Dr A Long, Royal College of Paediatrics and Child Health
Professor D J Hatch, Great Ormond Street Hospital, London
Dr J A Lack, Royal College of Anaesthetists
Dr C P H Heneghan, Royal College of Anaesthetists
Mrs A Seymour, Royal College of Anaesthetists Patient Liaison Group

**Further reading**

**Abbreviations**
APS (Acute Pain Service), CEPD (Continuing Education and Professional Development), CME (Continuing Medical Education), ENT (Ear, Nose and Throat), HMSO (Her Majesty’s Stationery Office), ICU (Intensive Care Unit), PICU (Paediatric Intensive Care Unit), SHO (Senior House Officer), SpR (Specialist Registrar)
Local anaesthesia for intraocular surgery

The following is a summary of the new edition of the ‘Guidelines for Local Anaesthesia for Intraocular Surgery’ which will be published in July 2001. Copies will be sent to all Regional Advisers, College Tutors and members of the Ophthalmic Anaesthetists’ Association. Others wanting a copy will find it on the College website www.rcoa.ac.uk, or can request a copy from Mrs Mandie Kelly in the President’s Office on email mkelly@rcoa.ac.uk.

Summary

Recently there have been major advances in every aspect of the management of the ophthalmic surgical patient. These include the shift to day care, increased focus on the patient, and the involvement of the entire ophthalmic team in all components of the process. A working party of the Royal College of Anaesthetists and the Royal College of Ophthalmologists was therefore convened to update the 1993 ‘Guidelines on Anaesthesia in Ophthalmic Surgery’.

The purpose of these updated guidelines is to provide information for all members of the ophthalmic team in order to promote safe and effective local anaesthesia.

General comments

- Day care ophthalmic surgery under local anaesthesia (LA) is now preferred by patients and staff and is associated with the least disruption to the patient’s normal activity.
- Multiprofessional teamwork is fundamental to day care surgery. Appropriately trained nurses are increasingly performing tasks that were previously undertaken by medical staff, especially in relation to preoperative assessment and preparation.

- These guidelines may require to be fine-tuned to meet local requirements, but the following general aspects remain pertinent:

  Record keeping must be comprehensive, clear and unambiguous to comply with clinical audit and governance.

  The results of preoperative assessment should be recorded on a checklist which is completed before the patient enters the operating theatre area.

  Every Trust undertaking ophthalmic surgery should identify one anaesthetist with overall responsibility for the anaesthetic services to the eye department.

  Good communication between members of the anaesthetic-surgical team is essential.

  All intraocular surgery performed should be carried out in a facility which is appropriately equipped and staffed.

Preoperative assessment

- The preoperative assessment should be conducted according to locally designed protocols which should include routes of communication about abnormalities or concerns.

- Preoperative assessment should normally be undertaken by specialist nurses with medical input as required.

- For the patient with no history of significant systemic disease and no abnormal findings on examination at the nurse-led assessment, no special investigations are indicated. Any patient requiring special tests may also need an opinion from a doctor.

- The patient should be provided with appropriate information, thereby reducing anxiety to a minimum.

- The preoperative assessment visit should take place within three months of the surgery.

Day of surgery

- Final simple preoperative checks must be made on the day of surgery. Recent changes in the patient’s condition or therapy that might affect the surgical event must be identified.

- The LA must be administered by an appropriately trained anaesthetist, ophthalmologist or nurse.
Nurses may administer topical or subconjunctival anaesthesia. In a few centres, nurses have been trained to administer sub-Tenon’s blocks, but the administration by these professionals of peribulbar or retrobulbar injections is not recommended.

Intravenous sedation should only be administered under the supervision of an anaesthetist, whose sole responsibility is to that list.

Local staffing availability will dictate whether an anaesthetist can be provided for all ophthalmic lists. An anaesthetist is not essential when topical, subconjunctival or sub-Tenon's techniques without sedation are used.

When peribulbar or retrobulbar techniques are used an anaesthetist should be available in the hospital.

- No LA technique is totally free from the risk of serious systemic adverse events, although they may not be always a consequence of the technique itself, but of other patient factors:

From prior to the administration of the LA to the end of the operation, continuous monitoring of ventilation and circulation by clinical observation and pulse oximetry is essential.

A suitably trained individual must have responsibility for monitoring the patient throughout anaesthesia and surgery.

All theatre personnel should participate in regular Basic Life Support (BLS) training, and there should always be at least one person present who has Advanced Life Support (ALS) training or equivalent.

**Discharge and aftercare**

- All patients, and especially those who are frail and elderly, are advised to have a friend or relative to accompany them to surgery and at discharge.
- Discharge criteria must be established for each unit.
- Written instructions should be given to the patient about what to do and who to contact in the event of problems or concern.

**Training**

High quality care requires that all personnel dealing with ophthalmic surgery under LA have specific training.

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**The Royal College of Anaesthetists**

**Appointment of FRCA Examiners 2002**

The College invites applications from Fellows in good standing who would like to become FRCA examiners commencing on 1 September 2002. Examiners will normally be recruited to the Primary examination in the first instance, although applicants are invited to indicate an interest in the Final examination on the application form.

The precise number of vacancies is not known at the time of going to press but we envisage approximately ten. The College welcomes applications from women and members of ethnic minorities.

**Selection Criteria**

Applicants shall be expected to meet the following basic criteria:

- Would normally be a Fellow by Examination, but a Fellow *ad eundem*, or a Fellow by Election will also be considered.
- A Fellow *ad eundem* or a Fellow by Election, who has attempted and failed to pass the Final (or Part 3) FRCA Examination, shall be eligible provided that all the other criteria for appointment have been met.
- On the closing date for applications shall have been a consultant anaesthetist, or have held a comparable appointment, for a minimum of seven years.
- Shall currently be active in clinical practice and in the education of trainees.
- On 1 September 2002 shall have sufficient time to complete a full examinership term before reaching normal retirement age.
- Shall have visited a recent Primary or Final FRCA examination.

Application forms and information for applicants may be obtained from the website www.rcoa.ac.uk, or from:

Mrs E Lazari, Training and Examinations Directorate, The Royal College of Anaesthetists, 48/49 Russell Square, London WC1B 4JY  tel 020 7908 7319  email elazari@rcoa.ac.uk.

The closing date for receipt of completed application forms is Wednesday, 31 October 2001.
Effect of perioperative fluid therapy on outcome following major surgery
A review of the evidence
Dr J Kinsella, Glasgow Royal Infirmary and Dr J Harten, Western Infirmary, Glasgow

Introduction
It has been stated in previous articles that evidence based medicine is the conscientious, explicit and judicious use of the current best evidence in making decisions about the care of individual patients. In the perioperative period, fluid administration is routine practice and may improve cardiovascular physiology, end-organ function and possibly outcome. In this article, we will review whether there is evidence to suggest that outcome, in terms of mortality, following major surgery can be influenced by the use of additional fluids to optimise cardiovascular filling. We have excluded trauma and haemorrhage from this review because of the conflict between the goal of increasing circulating volume to improve tissue oxygenation and the possible detrimental effects of resuscitation on the risk of haemorrhage.

Clinical question
Is there evidence that fluid optimisation alone influences mortality after major surgery?

<table>
<thead>
<tr>
<th>Patient group</th>
<th>Major or high-risk surgery</th>
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<tr>
<td>Intervention</td>
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<tr>
<td>Comparison</td>
<td>Standard fluid therapy</td>
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<tr>
<td>Outcome</td>
<td>Mortality or other significant markers of outcome</td>
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Methods
In order to identify the relevant evidence from the literature, we considered the following issues.

1 Searches of Medline, Embase and Cochrane databases from January 1966 to May 2001 using the terms ‘perioperative/operative’ and ‘intravenous fluids’ or ‘fluid therapy’ or ‘resuscitation’ or ‘optimisation/preoptimisation’ or ‘oxygen delivery’ and ‘mortality/morbidity’ were performed to identify the relevant literature.

2 The evidence would be evaluated only if obtained from randomised human studies performed in clinically relevant situations i.e. the perioperative period.

3 Studies would include the administration of fluids to optimise cardiovascular performance or to reach specified cardiovascular goals compared with routine fluid administration.

4 In the absence of suitable literature on fluid administration alone we included reports describing the use of fluids in combination with inotropes.

5 The outcome of interest would be mortality. If no papers could be identified then papers referring to serious morbidity or suggesting improved recovery from surgery would be considered.

6 Studies of transfusion for haemorrhage were excluded for two reasons. Firstly, the uncertainty of a target haemoglobin and secondly, the dilemma inherent in improving cardiovascular function by administering fluids/blood and as a consequence increasing the risk of further bleeding. Patients within critical care were excluded because of the advanced and presumably irreversible nature of the inflammatory response in this patient group. They have been studied extensively over a number of years and controversy still exists regarding the relative importance of cardiac index, oxygen delivery, inotropes, fluids and the method of monitoring.

Optimisation with fluids to reduce mortality
We could not identify any trial that was adequately powered to test the influence of pure fluid administration on postoperative mortality.

Conclusion
Evidence that optimisation of fluid therapy, in the absence of inotropes, reduces mortality is not available.

Optimisation with fluids and inotropes/dilator to reduce mortality
In 1985 Schultz\(^2\) randomised a total of 70 patients undergoing emergency repair of fractured neck of femur to preoperative optimisation using a pulmonary artery catheter or to
conventional therapy. The postoperative mortality was reduced from 29% in the control group to 2.9% in the treatment group. This study is difficult to interpret because the details of the therapy used are not given. In addition, the groups were not treated equally, in that the control group had a considerably longer waiting time before surgery. In a well publicised study of high-risk surgical patients Shoemaker and colleagues used fluids, inotropes and vasodilators to achieve supranormal goals of cardiac output (>4.5 L.min⁻¹.m⁻²) oxygen delivery (>600 ml.min⁻¹) and oxygen consumption (>170 ml.min⁻¹). They reported a mortality of 33% in the control group compared with 4% in the protocol group. There was also significantly reduced length of hospital stay and complication rate in the protocol group. Criticisms of this paper include the randomisation procedure, blinding and case mix differences between the two groups. Boyd and colleagues demonstrated a reduction of mortality from 22.2 to 5.7% in high-risk surgical patients whose oxygen delivery had been increased to above 600 ml.min⁻¹ using fluids and dopexamine in the perioperative period. The complication rate per patient was halved in the treatment group. Wilson and colleagues published a trial in which high-risk patients undergoing major elective procedures were randomised into two protocol groups, both of which were admitted to the intensive care unit in order to have preoperative optimisation with fluids and dopexamine or adrenaline. In addition, there was a control group that received standard perioperative care, either in the intensive therapy unit or a ward. This control group had a mortality of 17% in comparison to a protocol group receiving adrenaline or dopexamine, in which there was an overall mortality of 3%. No difference in mortality was found between the dopexamine and adrenaline groups. The number of complications was 30%, 50% and 61% in the patients who were in the dopexamine, adrenaline and control group respectively. Few details were provided to explain the high mortality in the control group. Takala published a multicentre trial involving 412 patients in 13 countries undergoing mainly elective abdominal surgery who where randomised to receive dopexamine at 0.5μg.kg⁻¹.min⁻¹, 2μg.kg⁻¹.min⁻¹ or placebo. Dopexamine had no significant effect on mortality at 28 days (13%, 7% and 15% in placebo, low and high dose dopexamine respectively). However, in subgroup analysis of patients undergoing emergency surgery the mortality in the control group was 29% compared with 0% and 11% in the 0.5μg.kg⁻¹.min⁻¹ and 2μg.kg⁻¹.min⁻¹ dopexamine groups. Complication rates were similar apart from an increased rate of dysrhythmias in the 2μg.kg⁻¹.min⁻¹ group. Lobo compared an oxygen delivery of 520–600 ml.min⁻¹ with supranormal target of greater than 600 ml.min⁻¹ in high-risk surgical patients over 60 years. Therapy in both groups consisted of volume expansion, dobutamine and dopamine. The study was interrupted because of a significant difference in the 60-day mortality of 50% in the control and 15.7% in the protocol group. In addition, the rate of clinical and infectious complications was greater in the control group.

**Conclusion**

These studies did not investigate the effects of fluids alone. When combined with inotropes, improved outcome of both mortality and morbidity can be identified. This may be due to fluids, inotropes, monitoring, other aspects of care, or case selection. The reduction in mortality in the studies with high mortality rates in the control group is dramatic and optimisation appears to be effective in these patients. It is impossible to say if the effects of fluids and inotropes are synergistic or if the beneficial effect of one intervention counteracts the adverse effects of the other.

**Optimisation with fluids alone to influence morbidity or other significant marker of outcome.**

We reviewed papers that where investigating other markers of outcome but were not powered for mortality.

Mythen and colleagues published a report studying the effect of volume expansion with hydroxyethyl starch in 60 patients undergoing elective cardiac surgery. Non-invasive oesophageal Doppler monitoring was used to assess stroke volume and gastric tonometry to determine mucosal perfusion. The protocol group spent a reduced mean number of days in hospital and intensive care and had fewer complications. Sinclair and colleagues used intraoperative fluid optimisation to increase stroke volume guided by oesophageal Doppler monitoring in patients presenting for repair of fractured neck of femur. The treatment group had a faster recovery with shorter times to being declared medically fit for discharge (median ten compared with 15 days) and a 39% reduction in hospital stay.

**Conclusion**

In these studies, using non-invasive monitoring of fluid optimisation without inotropes, recovery was faster and complications were reduced. This suggests that fluid alone does have a beneficial effect on outcome.
Optimisation with fluids and inotropes/vasodilators to influence morbidity or other significant marker of outcome

In addition to the papers that we reviewed for mortality we were able to identify five other studies which were either too small or had a low baseline mortality and were therefore not sufficiently powered to evaluate the effect of treatment on mortality. Ueno and colleagues\(^\text{12}\) evaluated the response to therapy aimed at achieving supranormal cardiac transport variables in patients with liver cirrhosis who had undergone partial heptectomy using fluids and dobutamine. Postoperative liver failure and hyperbilirubinemia was reduced in the treatment group. A number of studies have been published in the field of vascular surgery. Berlau and colleagues\(^\text{13}\) reported a randomised controlled trial involving 89 patients undergoing limb-salvage arterial surgery. Patients in the protocol group were treated with fluids and inotropes guided by pulmonary artery catheter. They had significantly less intraoperative adverse effects, less postoperative cardiac morbidity and less early graft thrombosis than the control group that was managed with standard therapy. Valentine and colleagues\(^\text{14}\) studied 120 patients undergoing elective aortic surgery. They showed no significant difference in postoperative complications or mortality following treatment with fluids, inotropes and vasodilators compared to standard therapy. Bender and colleagues\(^\text{15}\) studied patients undergoing elective vascular surgery as did Ziegler\(^\text{16}\) who was aiming to maintain the mixed venous oxygen saturation above 65% in the protocol group. There were no significant differences in perioperative complications or mortality in these studies. However, inadequate power and a small difference of oxygen delivery between the control and protocol group may explain this.

Polonen and colleagues\(^\text{17}\) administered fluids and dobutamine guided by lactate concentration and mixed venous oxygen saturation in elective cardiac surgery. They showed a significantly reduced hospital stay (median six compared with seven days) and a lower morbidity (1.1% compared with 6.1%) in the protocol group.

Conclusion

Administration of fluids and inotropes in these studies looking at complications, but not mortality, produces conflicting evidence. This may be due to study design and the results need to be considered together with the papers powered for mortality which did show beneficial effects on complication rates.

Summary

We cannot identify any papers that investigate the effect of fluid optimisation, without the use of inotropes, on mortality. Fluid optimisation reduced complication rates and improved recovery times in the two published studies we identified. We are unable to conclude whether the beneficial effects of fluids and inotropes in the other studies were due to fluids, inotropes or the combination of the two. The current evidence does not support the hypothesis that fluid optimisation, without inotropes, can reduce mortality as this has not been investigated.

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<td>El Major</td>
<td>DO &gt; 600 mL min -1 m -2</td>
<td>DO &gt; 520 to 600 mL/min m -2</td>
<td>8 (2 to inf) NNH 6 to inf</td>
</tr>
</tbody>
</table>

Table 1: Randomised controlled trials testing the effect of perioperative optimisation on 30-day mortality. (El = elective, Em = emergency, # NOF = fractured neck of femur, PAC = pulmonary artery catheter, NNT = number needed to treat to save one life, NNH = number needed to harm to loose one life, inf = infinity, CI = confidence interval, * 60-day mortality)
## Table 2
Randomised controlled trials testing the effect of perioperative fluid optimisation on morbidity or other significant marker of outcome. (E = elective, E = emergency, # = fracture of neck of femur, PAC = pulmonary artery catheter, ODM = oesophageal doppler monitor; pH = gastric intramucosal pH, NNT = number needed to treat to reduce treatment incidence of endpoint by 1, NNH = number needed to harm to increase incidence of endpoint by 1, inf = infinity, CI = confidence interval, HB = hyperbilirubinemia, LF = liver failure)

<table>
<thead>
<tr>
<th>Author</th>
<th>Surgery</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Primary endpoint</th>
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<th>95% CI</th>
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<td>Berlin 1991</td>
<td>Vascular</td>
<td>PAC fluids/HR</td>
<td>CVP Standard</td>
<td>Postoperative Complication</td>
<td>6</td>
<td>3 to inf NNT 30 to inf</td>
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<td>Mythen 1995</td>
<td>Cardiac</td>
<td>3DM fluids</td>
<td>Standard</td>
<td>pH</td>
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<td>1 to 3</td>
</tr>
<tr>
<td>Sinclair 1997</td>
<td>Cardiac</td>
<td>3DM fluids</td>
<td>Standard</td>
<td>Hospital Stay</td>
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<td></td>
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<tr>
<td>Bender 1997</td>
<td>Vascular</td>
<td>PAC fluids/Dobutamine</td>
<td>CVP Standard</td>
<td>Postoperative Complication</td>
<td>200</td>
<td>7 to inf NNT 10 to inf</td>
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<tr>
<td>Ziegler 1997</td>
<td>Vascular</td>
<td>Svo&lt;95% Flows/Dobutamine</td>
<td>Vasoconstrictor</td>
<td>PAC Standard</td>
<td>50</td>
<td>4 to inf NNT 5 to inf</td>
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<tr>
<td>Ueno 1999</td>
<td>Liver</td>
<td>PAC fluids/Dobutamine</td>
<td>CVP Standard</td>
<td># or if</td>
<td>4</td>
<td>2 to 14</td>
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<tr>
<td>Valentine 1998</td>
<td>Aortic</td>
<td>PAC fluids/Dopamine</td>
<td>Vasoconstrictor</td>
<td>Standard</td>
<td>-13</td>
<td>15 to inf NNT 4 to inf</td>
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<tr>
<td>Polonen 2000</td>
<td>Cardiac</td>
<td>Svo&lt;70% lactate &lt;2 mmoj/L Flows/Dobutamine</td>
<td>PAC Standard</td>
<td>Hospital Stay</td>
<td>N/A</td>
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## References


Diuretics
Dr J O’Brien, Cork University Hospital and Professor G Shorten, University College, Cork, Ireland

The commonly used diuretic drugs are natriuretics. These agents increase the volume of water excreted by increasing the amount of sodium excreted by the kidney. They are administered primarily to decrease edema; less commonly, their non-diuretic effects are used for other clinical indications.

The osmotic diuretics
Mannitol (and urea)

Mechanism of action
Osmotic diuretics are relatively biologically inert molecules which are filtered at the glomerulus and not reabsorbed by the nephron. Their administration increases the osmolality of the tubular fluid, decreasing water reabsorption, thereby decreasing the sodium concentration of the fluid and hence sodium reabsorption. Following intravenous administration, plasma osmolality is increased, causing water to move from the intracellular to the extracellular compartment. Mannitol and urea have been administered clinically as osmotic diuretics. Under pathological conditions other physiological substances such as glucose can cause an osmotic diuresis.

Pharmacokinetics
Mannitol is an alcohol, effective as a diuretic only after intravenous administration. It is administered in a dose of 0.25-1.0 g kg⁻¹ as a 20% (0.2 g ml⁻¹) or a 10% (0.1 g ml⁻¹) solution. It is effective within twenty minutes of administration and its effect persists for about two hours.

Clinical uses
Short-term mannitol administration is used to decrease ICP by decreasing brain bulk and CSF production; these effects are synergistic with loop diuretics. It can cause an initial transient increase in ICP by increasing cerebral blood volume and by producing cerebral edema in areas where the blood brain barrier has been disrupted. Longer-term administration is rendered ineffective by increased cerebral intracellular osmolality. Mannitol administration effectively decreases intraocular pressure. Mannitol is administered as prophylaxis against acute renal failure during and after cardiac and major vascular surgery, crush injuries, haemolytic transfusion reactions and surgery in jaundiced patients, presumably by flushing debris from the nephron, lowering the tubular concentration of toxins, decreasing cell swelling or exerting an antioxidant effect. Clinical data supporting these practices are sparse.

Adverse effects
Administration of mannitol initially expands the extracellular (and intravascular) compartment and may precipitate cerebral or pulmonary edema. Prolonged administration can result in hypovolaemia and plasma hyperosmolality. Urea, formerly used as an osmotic diuretic, is reabsorbed from the nephron, crosses the blood-brain barrier leading to a rebound increase in ICP. It can also predispose to venous thrombosis, and tissue necrosis if extravasated, these being less likely with mannitol. Urea administration is also associated with haemolysis, platelet dysfunction and the misinterpretation of blood urea assays.

Carbonic anhydrase inhibitors
Acetazolamide

Mechanism of action
Acetazolamide is a weak natriuretic which non-competitively inhibits carbonic anhydrase in the proximal convoluted tubule, preventing the reabsorption of bicarbonate and the excretion of hydrogen ions. The paucity of hydrogen ions in the tubular fluid for exchange with sodium ions prevents the reabsorption of filtered sodium. Hence an alkaline diuresis rich in sodium and bicarbonate results in an hyperchloremic (normal ion gap) metabolic acidaemia.

Pharmacokinetics
Acetazolamide is administered orally or intravenously in doses of 250 mg to 1 g daily. Its duration of effect is approximately twelve hours. Respiratory compensation for the metabolic acidosis induces tolerance.

Clinical uses
Acetazolamide is administered perioperatively and in the treatment of glaucoma to decrease intraocular pressure by inhibiting aqueous humour production. It is also used to treat severe metabolic alkaloses, familial periodic paralysis, to alkalinize the urine, to inhibit seizure activity, and to stimulate ventilation in the treatment of altitude sickness and some forms of chronic ventilatory failure.
Adverse effects
Side effects of acetazolamide include a hyperchloraemic, metabolic acidosis and nephrolithiasis. It can also deplete the bicarbonate necessary to buffer carbon dioxide in patients with chronic obstructive airways disease.

Loop diuretics
Frusemide, bumetanide and ethacrynic acid
Mechanisms of action
The loop or high ceiling diuretics are potent, short acting natriuretics which inhibit sodium reabsorption in the medullary portion of ascending limb of the loop of Henlé by blocking the sodium-potassium-chloride (Na+ K+ 2Cl-) cotransporter. This leads to the excretion of 30% of the filtered sodium, as the sodium concentration in the distal nephron is increased; moreover, the sodium concentration in the renal medullary interstitium and peritubular capillaries is decreased, impairing the concentrating ability of the countercurrent multiplier mechanism. The co-dependent reabsorption of calcium and magnesium are inhibited. Potassium and hydrogen ion exchange for sodium in the distal convoluted tubule is increased. Loop diuretics also increase and redistribute renal blood flow and have a systemic venodilatory effect.

Pharmacokinetics
Loop diuretics are acidic compounds (pKa 3.5–3.8) administered orally or intravenously, either as a bolus or by continuous infusion. Frusemide (furosemide in US texts) has an oral bioavailability varying from 10 to 100%; the others are more completely and predictably absorbed orally. They are 95% protein bound and have an elimination half-life of only one to two hours. Frusemide is 50% excreted unchanged and 50% metabolized in the kidney, bumetanide is metabolized in the liver and, ethacrynic acid in both the liver and the kidneys. The loop diuretics reach their site of action by active transport by the probenecid-sensitive mechanism in the proximal convoluted tubule. This system is impaired in the presence of renal failure, necessitating large increases in dosage. Large doses are also required in the nephrotic syndrome to attain adequate tubular concentrations of free drug. Acute tolerance to the diuretic effects of frusemide has been reported. Chronic tolerance may develop as a result of hypertrophy of the distal nephron, increasing sodium reabsorption which can be counteracted by increasing the dose, the recumbent posture or coadministration of a thiazide.

Clinical uses
Loop diuretics are administered to mobilize and excrete edema fluid in the treatment of heart failure, renal failure, the nephrotic syndrome and as an adjunct to spironolactone therapy in hepatic cirrhosis. They may be utilized in the treatment of acute water intoxication states such as the TURP syndrome. They are used, alone or in combination with mannitol, to decrease ICP by decreasing CSF production. Although not as effective as mannitol in this setting, its effects are not dependent on an intact blood brain barrier. Its calciuric properties are useful in the treatment of hypercalcaemia and it may have a role in the differential diagnosis of oliguria and in the treatment of acute renal failure.

Adverse effects
Loop diuretics can cause fluid and electrolyte imbalance, and organ-specific, drug-related and allergic effects. They can cause intravascular volume depletion with cardiovascular compromise. They can produce hyponatraemia or (in the presence of a restricted fluid intake) hypernatraemia, hypokalaemia, hypomagnesaemia and a hyperchloraemic metabolic alkalosis. They can cause interstitial nephritis and deafness (commonly with ethacrynic acid). They potentiate the effects of nondepolarizing neuromuscular blocking agents, and of the aminoglycoside and cephalosporin antibiotics. The renal toxicity of NSAIDs is increased and the clearance of lithium decreased. Allergic reactions occur, most commonly, in patients with cross-sensitivity to sulpha-type drugs although this is least likely with ethacrynic acid as it does not contain that moiety. Rare side effects include hyperglycaemia, hyperuricaemia and hepatic necrosis.

Thiazides
Mechanism of action
The thiazides are moderate natriuretics which inhibit sodium and chloride reabsorption in the cortical portion of ascending limb of the loop of Henlé and the distal convoluted tubule by blocking the sodium-chloride transporter. Potassium and hydrogen ion exchange for sodium in the distal convoluted tubule is increased. This leads to the excretion of 10% of the filtered sodium and an increase in excreted potassium and hydrogen ions. They also have a vasodilatory effect during chronic usage, possibly caused by an increase in vascular compliance due to a decrease in interstitial fluid or in smooth muscle intracellular calcium.
**Pharmacokinetics**

The thiazides are acidic drugs, related to the sulphonamides, are highly protein bound and vary in their metabolism, some being extensively metabolized, while others being excreted almost entirely unchanged. The principal difference between the clinically available thiazides lies in their duration of action. The thiazides, like the loop diuretics, reach their site of action by active transport by the probenecid-sensitive mechanism in the proximal convoluted tubule. Thiazide diuretics are generally ineffective when the glomerular filtration rate decreases below 15 ml min\(^{-1}\).

**Clinical uses**

Thiazide diuretics are used in the treatment of mild to moderate hypertension, where they are more effective than loop diuretics, and in mild heart failure, where they are less effective. They are also used in the therapy of hypercalcaemia and of diabetes insipidus, a unique situation in which they decrease rather than increase the urine output.

**Adverse effects**

Thiazides can produce orthostatic hypotension, hyponatraemia (or in the presence of a restricted fluid intake, hypernatraemia), hypokalaemia, hypomagnesaemia, hypocalcaemia, hyperuricaemia and a hypochloraeic metabolic alkalosis. They cause an increase in serum glucose and lipids. Thiazides can cause skeletal muscle weakness, ileus, rashes, impotence, hepatic dysfunction, polyuric renal failure and precipitate gout. They can potentiate non-depolarizing neuromuscular blockade, exacerbate NSAID-induced nephrotoxicity and, by causing hypokalaemia, digitalis toxicity. Allergic reactions to these sulpha-related drugs have also been reported.

**Aldosterone antagonists**

**Spironolactone and potassium canrenoate**

**Mechanism of action**

Spironolactone and potassium canrenoate are weak natriuretics. They are steroids, which are metabolized to canrenone which acts as a competitive antagonist of aldosterone, functioning only in its presence. Spironolactone inhibits the aldosterone-mediated reabsorption of sodium and chloride in the distal convoluted tubule and cortical collecting duct and inhibits the excretion of potassium, magnesium and hydrogen ions.

**Pharmacokinetics**

Spironolactone is available only as an oral preparation; potassium canrenoate is formulated for intravenous use. Spironolactone is 70% orally absorbed but is subject to a substantial first pass metabolism. It is highly plasma protein bound and is extensively metabolized to the active canrenone.

**Clinical uses**

Spironolactone is administered for the treatment of the hypertension of Conn’s syndrome (primary hyperaldosteronism) and conditions associated with secondary hyperaldosteronism, and the oedema and transudates of hepatic and cardiac failure. They are often administered in combination with other natriuretics in an attempt to augment natriuresis without causing hypokalaemia. One recent study showed a marked decrease in morbidity and mortality in patients with severe heart failure who were treated with the combination of spironolactone and an ACE inhibitor.

**Adverse effects**

Spironolactone can cause hyperkalaemia in patients with renal failure and diabetes mellitus, in those taking potassium supplements, ACE inhibitors or cyclosporin, and in the elderly.

**Other potassium sparing diuretics**

**Amiloride and triamterene**

**Mechanism of action**

Amiloride and triamterene are weak natriuretics, which inhibit sodium reabsorption in the collecting duct. They decrease cellular permeability to sodium, thereby causing a natriuresis accompanied by increased chloride and bicarbonate loss and retention of potassium and hydrogen ions.

**Pharmacokinetics**

These drugs are well absorbed orally and are about 50% protein bound. Triamterene is extensively metabolized and has a half life of two hours while amiloride is not metabolized and has a half life of nine hours.

**Clinical uses**

The potassium sparing diuretics are used principally in combination with other natriuretics to increase the mobilization of the oedema and transudates of heart failure, cirrhosis and the nephrotic syndrome and mild hypertension, while offsetting hypokalaemia. Nebulized amiloride has been administered to patients with cystic fibrosis to decrease sputum viscosity.
Adverse effects
Electrolyte disturbances, particularly hyponatraemia (in combination with other diuretics) and hyperkalaemia (in combination with other drugs) are the most prominent side effects of potassium sparing diuretics. Nephrolithiasis can also occur.

Other drugs causing diuresis
Xanthines and mercury salts were used as diuretics in the early part of the last century. Dopamine and the selective DA1 agonist, fenoldopam possess a natriuretic effect independent of their cardiovascular effects. Certain pathological conditions and drugs such as methoxyflurane, enflurane and lithium, by decreasing the expression of aquaporins in the distal nephron decrease water reabsorption, so producing a true diuresis (nephrogenic diabetes insipidus), rather than a natriuresis.

The main adverse effects of diuretics and their effects on urine composition are given in Tables 1 and 2.

Table 1 Adverse effects of diuretics

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<td>minimal</td>
<td>-</td>
<td>-</td>
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Further reading


Abbreviations
ACE (Angiotensin-Converting Enzyme), CSF (Cerebrospinal Fluid), ICP (Intracranial Pressure), NSAIDs (Non-Steroidal Anti-Inflammatory Drugs), TURP (Trans-Urethral Resection of the Prostate)

Table 2 Diuretics and relative urine composition

<table>
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<tr>
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<th>Volume (ml/min)</th>
<th>pH</th>
<th>Na+ (mM/L)</th>
<th>K+ (mM/L)</th>
<th>Cl- (mM/L)</th>
<th>HCO3 (mM/L)</th>
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<td>80</td>
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<td>7.2</td>
<td>130</td>
<td>10</td>
<td>120</td>
<td>15</td>
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A patient who changed my practice
In memorandum
Dr A N Other, Retired Consultant Anaesthetist

‘Hanging offences’ a generous and engaging piece by the President of the College, Professor Peter Hutton, will make many friends. He supports a ‘no blame’ culture, he is disdainful of the rush to suspend errant doctors, and he believes that many clinical mistakes stem from ‘systems failure’. Professor Hutton appreciates more than most just how easily a systems failure can erupt like the mythical Kraken from the murky depths of a distant sea. Published reports of critical anaesthetic incidents are seldom written – as I think they should be written – from an historical perspective. As an example, you will see below a series of three contemporaneous memoranda prepared for my CEO. Had the first two been taken as seriously as they were designed to be, the third – a report of a critical incident – may have proved unnecessary. The memos, I confess, are not precisely as they were written. I have changed the format to make them suitable for publication and viciously pruned the text in a search for brevity, clarity (and medico-legal traps). To avoid a charge of special pleading I have added [in square brackets] or subtracted nothing of substance – it is too easy to be wise after the event. I have omitted names to protect the innocent.

Memorandum 1
Waiting List Initiatives
July 1998

1 Thank you for holding discussions last week with Dr F and myself about the Trust’s putative Waiting List Initiative. Although we did not discuss the rationale, this department has formed the opinion that any ‘Initiative’ will distort medical priorities. Patients should receive care according to need and not according to political imperatives.

2 The fourth operating theatre, you told us – closed for some months, with nursing and ancillary staff let go, and beds lost – was likely to re-open soon for elective surgery. This department agreed to co-operate in the best interests of patients. In those interests, this department would hope to see an improvement in hospital staffing, bed management, and infrastructure (including the long-promised HDU). We would also hope to see a capital budget to replace worn out equipment; and organisational changes for the better in how surgeons target and carry out their work. Pleas to surgeons from the Medical Director (a surgeon) have been in vain.

3 As to emergency surgery: the ten consultant anaesthetist sessions ‘lost’, in your own words, as a result of theatre and bed closures were subsumed in this department’s institution of five ‘NCEPOD emergency’ sessions (one such session daily); and by the addition of two trauma sessions and three teaching sessions (qua Calman). Should the Waiting List Initiative lead to the loss of emergency and trauma sessions, then clinicians may be encouraged to operate on emergencies into the early hours. That would both subvert the principles of NCEPOD and the Trust’s policy on Risk Management, without necessarily hitting Initiative targets.

Memorandum 2
Operating Theatre Problems
December 1998

Thank you for your letter about the Trust’s difficulties in main theatres, one of which appears to be the department of anaesthetics. You mention five irritants:

- We appear to be under using the planned time available.
- There are complaints about too many unplanned over-runs of the theatre lists.
- Theatre nursing staff feel undervalued; several staff have left in the past two months.
- Concerns have been expressed about patient safety.
- Some of these problems are not new.

1 Not one of these problems is new. Immediately on my appointment as Lead Clinician in Anaesthesia (September 1997), I discussed them in detail with the Head of Personnel.

2 Historically the perennial moan in this district has been about under-funding. Despite vague promises from the Region during commissioning, the deficit was not made good even after the DGH opened in 1986. We were foolish to put our trust in princes. [Dare I mention the leaking roofs in theatres and anaesthetics which give the impression of a dilapidated potting shed? ‘Roof, squire? Don’t worry; last you 20 years,’ observed the honorary architect to the Sultan of Kuwait. It lasted seven.] When the DGH opened it was not possible to convince all the nursing and ancillary staff that the Nucleus hospital was more than a jumped-up cottage industry. The problem was compounded: it was also the Region’s pejorative view.
The pressures on surgeons to undertake operations became unbearable.

The surgeons themselves were part of the problem (and knew it).

As to anaesthesia, this department is concerned about the safety of patients. The environment is becoming hazardous [mainly because we have no money (it is diverted by Area to Primary Care) and partly because the CEO is under intolerable pressure to hit financial targets and yet protect what money we do have]. The department of anaesthesia is also worried about:

- The late admission of surgical patients for operation (due to lack of beds).
- Poor in-service nurse training combined with an inadequate budget for external nurse training. As predicted, Project 2000 was shown to be a disaster.
- Lack of leadership.

Ready access to the CEO in order to discuss these issues has proved to be difficult. He has no time to make daily or even weekly rounds of all clinical and service areas. [He is snowed under with paperwork]. His openly declared policy is not to reply in person to any letter he receives from consultants. [He delegates. An appointment to see him takes time; he is unavoidably embroiled in Area’s ‘rationalisation’ of acute services].

In setting up the Theatre Users Committee, the consultant body faced its operating theatre problems as long ago as 1976. The Chairman of Theatre Users, we realised too late, should have been the CEO. The Committee is confrontational and stressful. Just how stressful was revealed two years ago when its then Chairman, an anaesthetist, brought a meeting to an abrupt close on his transfer to the coronary care unit with a heart attack. Only the CEO can knock heads together, and approve, ratify, implement and finance its decisions, in the knowledge that the operating theatres can make or break a hospital.

Little was achieved by Theatre Users which in the early nineties encountered yet another re-organisation of the NHS. Members were cynical about the internal market; they were just not cynical enough. They had hoped the Trust would become a freewheeling entrepreneurial business insulated from Treasury. How could we have been so naive? This dreadful error was compounded by the introduction of the Waiting List Initiatives, which distorted clinical imperatives in favour of political ones (memo July 1998). You can hardly blame consultants for becoming demoralised and sceptical, a scepticism deepened by the PFI. Not one single PFI hospital has opened.

To cap it all we now have a new Health Authority with an inherited debt of about £17m and a recurrent annual revenue deficit of £9m. Under pressure from the Region to balance the budget, the Authority eagerly planned a controversial ‘rationalisation’ of its acute services ([mergers and closures and such]). Of necessity, the CEO is deeply involved; so involved that in all honesty he has small time to run a DGH. Hospital staff are frustrated and frightened for the future. Morale is as low as I have known it. That, I believe, is the root cause of our present problems in the operating theatres. Sadly, this department has the power to do no more than watch and wait.

Memorandum 3

Critical anaesthetic incident

January 1999

Sequence of events

1 Mrs K, an ex-anaesthetic nurse whom I knew well, was admitted to a surgical ward under the care of Mr X, a general surgeon, at about 07.30 on 29 December 1998. Accompanied by her husband, she was seen by the anaesthetic SHO at 08.15 and by the consultant, myself, at 08.45.

That was not the way it was intended. Mr X had rightly arranged for Mrs K to be warded the evening before surgery (28 December 1998). I visited the ward that evening with the object of prescribing a night sedative and pre-operative medication – the ‘pre-med’. Mrs K had not been admitted. There were no beds.

2 She was admitted finally on the morning of the operation itself. The department’s well-known strictures on late admission were ignored on this occasion as on others. To be fair, had Mrs K not been admitted on 29 December 1998, the operation would have been postponed until Mr X returned from annual leave.

3 On the morning’s typed operating list Mrs K was scheduled to be the third of four patients. The second patient had been cancelled so Mrs K should have taken her place. Unknown to me, the order had been altered the evening before (in handwriting) so Mrs K became the first patient. (The list had not been re-typed). The first I knew of this was when I heard her unmistakable voice.
I checked the drugs drawn up by my SHO. This was a change of practice since I invariably draw up my own drugs. One 2ml syringe caught my eye. It bore a handwritten label which, at a glance, appeared to read ‘saline’. In fact it read ‘sux’, meaning suxamethonium, a rapidly acting muscle relaxant. The white label was handwritten because the anaesthetic room had run out of printed labels for suxamethonium (which are fluorescent yellow) and the SHO had not thought to ask for one.

An intravenous cannula was introduced into the back of the patient’s left hand. There was one narrow and tortuous vein; a small (pink) Venflon was inserted to about half its length. To ensure the tip of the cannula was truly within the lumen of the vein, I injected a small volume of what I thought to be saline. The patient appeared to have an epileptic fit (she had had two intracranial operations for a brain tumour earlier in the year). On impulse, I looked again at the handwritten label: I was aghast. Intravenous induction of general anaesthesia was then accomplished immediately and as rapidly as possible.

I had inadvertently paralysed the patient with suxamethonium which I’d mistaken for saline – whilst she was still awake. It was a catastrophe.

In the Recovery Ward after surgery about 40-minutes later the patient was fully awake and weeping. She recalled being paralysed, unable to breathe and unable to speak. I apologised and tried to comfort her. I explained to the husband what had happened and why, and apologised to him. He became angry and was unable to accept the apology.

I filled in an Incident Form, called the Medical Defence Union, and dictated an ironic reminder to all anaesthetic staff about the correct labelling of syringes. In my own state of distress it would have been dangerous to continue anaesthetising. I left the hospital and went home.

That evening I received a telephone call at home from the CEO requiring my urgent presence. At the meeting I agreed to stop giving anaesthetics for five days. [The CEO was wary of the notion that doctors are human and make mistakes]. I visited Mrs K and gained permission to telephone her GP. The GP made arrangements to visit Mrs K on her return home that afternoon, to prescribe sedation and to follow up any sequelae related to awareness.

Comment: This critical incident in which a patient came to psychological harm was the fault of the operating anaesthetist (myself) who had misread a handwritten label on a syringe. It was also a ‘systems failure’. There was a cascade of minor incidents not serious in themselves but contributory. They were:

- Failure to admit the patient the evening before surgery in accordance with departmental policy. [This was unforgivable. Here was a woman who had recently had two brain operations which left her with hemiplegia and the almost certainty of a grand mal attack. She lost the value of both night sedation and pre-med].
- Change in order of the official (typed) operating list corrected in handwriting, contrary to theatre Standing Orders. The corrected list was not re-typed.
- Failure to warn the operating anaesthetist of the changed order in the operating list contrary to Standing Orders.
- A change of clinical practice by the operating anaesthetist.
- A handwritten syringe label was substituted for a printed label, contrary to departmental policy.
- The anaesthetic room had not been kept stocked with the appropriate printed labels, and an SHO did not ask for one.
- AND the anaesthetist had mistaken a suxamethonium syringe for a saline syringe.

The aftermath

I am glad to say the patient recovered. She and her husband were invited to meet the CEO, the Medical Director and myself when they were shown the offending syringe purloined by a nurse for ‘safety’. ‘But it’s not yellow!’ exclaimed Mrs K. The pair forgave me and we resumed our former friendship, but Mrs K rightly wished to pursue a claim for compensation. The claim was settled out of court by the hospital’s CNST in the sum of £1,500.

This patient changed my clinical practice: I left it. My particular brand of softly, softly diplomacy, I fear, was surplus to requirements. So from now on – no more Mr Nice Guy.

Reference


Abbreviations

CEO (Chief Executive Officer), CNST (Clinical Negligence Scheme for Trusts), DGH (District General Hospital), GP (General Practitioner), HDU (High Dependency Unit), NCEPOD (National Confidential Enquiry into Perioperative Deaths), PFI (Public Finance Initiative), SHO (Senior House Officer)
**Auditing audit**

A review of the audits reported by the anaesthesia department, Dudley

Dr Patricia M Scriven, Russells Hall Hospital, Dudley, West Midlands

This audit was carried out to determine whether previous audits had analysed the quality of care, and to see if the audits had changed practice leading to improved standards.

Audit can be defined as the ‘systematic and critical analysis of the quality of medical care’ (de Lacey Hospital Update June 92, page 458). The audit cycle starts with selecting a suitable audit project and setting a standard which should be the highest achievable. This can be determined by reading the available literature and consulting colleagues about current best practice. Not infrequently no set standards will have been set previously and the auditors may need to define these standards before they start their own audit. The audit should measure one’s own practice and compare this with the set standard. As a result of the audit, changes may need to be made to improve current practice. New standards can be set and the audit cycle repeated as a re-audit. Audits can be categorised into those involving structure, process and outcome (see Table 1).

Information from the anaesthetic department audit records and minutes of audit meetings between January 1998 and March 2001 were analysed. When the information was incomplete individual presentations were scrutinised. The anaesthesia department in Dudley consists of 15 consultants, eight Trust anaesthetists, four specialist registrars and 11 senior house officers, totalling almost 40 whole time anaesthetists. There were 27 audit meetings during this period, and 29 audits or similar topics were identified, i.e. just over one per meeting.

For the purpose of this audit, the set standards were that all audits (100%) should have mentioned their own set standard, and compared their own standard to the set standard. In ideal circumstances all (100%) audits should follow the audit cycle and so alter clinical practice and lead to improved standards. All (100%) should demonstrate improved practice on re-audit. Although the first two set standards should be achievable, the latter may not, as there may have been insufficient time for the changes to be implemented and for re-audit. The set standards were mentioned in 17 of 29 audits (59%). The measured standard of practice was compared to the set standard in 17 of 29 audits (59%). A change in practice to improve standards was proposed in 21 of 29 audits (72%). Sometimes these recommendations were suggested even when the audit had not been compared to a set standard. A re-audit was suggested in ten of 29 audits (34%) and completed in five of these ten (17%).

In six of 17 audits (21%) the standard of practice recorded was equal to or better than the set standard and therefore change in practice and re-audit was not deemed necessary in the short term. Of these six audits, two (6%) demonstrated improved standards on re-audit (see Table 2). These particular audits were valued because they demonstrated improved standards.

Looking at these audits systematically, they could be divided into those involving structure (7), process (17), and outcome (5) as listed in Table 3.

**Critical incidents**

The Royal College of Anaesthetists ‘recipe’ guide for audits recommends that there should be a critical incident reporting scheme with the following set standards. All (100%) completed forms should comply with a minimum data set (as on the College forms). All (100%) completed forms should be discussed at a review meeting, with an expected reporting rate of one in 15 anaesthetics (6-7%), and all (100%) critical incidents should have had suitable and timely local corrective action taken.

Critical incidents in the department were discussed regularly. During the period of this review, the confidential reporting system was replaced by a more open adverse incident reporting scheme necessitating recording the staff involved in each incident. The number of critical incidents reported during the review period decreased from 61 in 1998 to 17 in 2000.

**Table 2 Audits demonstrating high standards**

| Structure | The availability and organisation of the resources (e.g. staff and equipment) required for the delivery of a service. |
| Process | The way the patient is received and managed by the service from the time of referral until the time of discharge. |
| Outcome | The results of clinical intervention. |

**Table 1 Audit category**

- **Anaesthetic pollution monitoring** (within safety limits).
- **Pre-use checking** of anaesthetic equipment (ODPs better than anaesthetists). **Re-audit**.
- **Day case general surgery** – post-op N&V lower than in literature. **Re-audit**
- **Junior doctors hours** within task force criteria.
- **Intensive care audit** – Trust mortality figures lower than average.
- **Antiemetics** in gynaecology day case laparoscopy – nausea and vomiting close to levels reported in literature.
Table 3 Systematic analysis of audits

<table>
<thead>
<tr>
<th>Audits of structure (7)</th>
<th>Audits of process (7)</th>
<th>Audits of outcome (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of fresh frozen plasma</td>
<td>Intra-operative shock and intra-and post-op temperature</td>
<td>Intrapopulane cardiac- pulmonary resuscitation (CPR)</td>
</tr>
<tr>
<td>Penrose suction or spinal epidural kits</td>
<td>Pre-operative fasting restriced x 2</td>
<td>NCEPOD report</td>
</tr>
<tr>
<td>Reievesing patients’ needs</td>
<td>Mortality and statistics x 4</td>
<td>Effective rates of different antihistamines in gynaecology day case</td>
</tr>
<tr>
<td>Anaesthetic policy and monitoring</td>
<td>Blood transfusion guidelines</td>
<td>Cardiology’s forestry rest action</td>
</tr>
<tr>
<td>Checking anaesthetic equipment pre-op x 2</td>
<td>Pain relief after caesarean section</td>
<td>Audit of intensive care - APACHE scoring</td>
</tr>
<tr>
<td>Junior doctors - tools of work</td>
<td>Patient temperature checks following effective major joint surgery - Review it.</td>
<td>Post-operative pain relief after cystectomy</td>
</tr>
<tr>
<td></td>
<td>Ti-convex pop hyalins for epidural tails</td>
<td>Post-operative analgesia for joint replacements</td>
</tr>
<tr>
<td></td>
<td>Rep in raiee audit</td>
<td>Day case general surgery -review-it</td>
</tr>
<tr>
<td></td>
<td>Smooth usage of Enthaane (A&amp;O)</td>
<td>NIV post-hypotony</td>
</tr>
</tbody>
</table>

Other items discussed

Audit meetings included a regular equipment hazard warning review, presentations about drugs and equipment, and guidelines about patient management. Joint meetings were occasionally held with other departments. As audit meetings were one of the few occasions when all the members of the department were together, time was devoted to other issues such as a clinical governance roadmap, fire drills, medicolegal issues and handling complaints.

Future audit meetings

As a result of this audit, the following changes have been recommended in the expectation that they will improve standards. A guideline for audit (see Appendix) has been produced providing basic information and where to find further information. Supervisors will ensure all future audits will have set standards, practice measured and compared to this, changes recommended and then re-audited. All future presentations will follow the guidelines and members of the department in the audience will ensure that presentations include clear statements about set standards, how these are defined, and how the audit cycle was followed. Finally, it is proposed that there should be a re-audit of audit.

Conclusion

In conclusion, audit was performed regularly, but not all audits set standards and followed the audit cycle. Without the assurance of complete confidentiality, anaesthetists are unwilling to report all critical incidents, thus losing the educational benefits of these. Audit meetings have been used to include activities important to the employing Trust (fire drills, clinical governance). The impact of audit on improving patient care may be hampered by clinicians being unclear about the concept of audit, and the inability to change and improve factors outside their control.

Abbreviations

APACHE (Acute Physiological and Chronic Health Evaluation), NCEPOD (National Confidential Enquiry into Perioperative Deaths), N&V (Nausea and Vomiting)
Appendix

Guidelines for developing an audit project

Audit can be defined as the 'systematic and critical analysis of the quality of care' – de Lacey, Hospital Update, June 1992, p.458. *Defining quality is difficult – we may recognise something is good quality but why is it good and how can you measure it?*

Usually a particular aspect of anaesthesia is chosen for an audit because something can be measured which is thought to be an indicator of good practice, i.e. a substitute marker for ‘quality’.

Within medicine, medical audit is performed by doctors, whereas clinical audit is carried out by all healthcare professionals. Audit can be divided into audits of structure (the availability and organisation of the resources, e.g. staff and equipment), process (the way the patient is received and managed by the service from the time of referral to the time of discharge), and outcome (the results of clinical intervention).

The audit cycle

Once you have chosen a topic, you should read about this and/or discuss this with colleagues. Decide what will be your set standard(s). Make sure you have a clear idea of these.

Measure your own practice and compare this to the set standard(s). As a result of your audit you may change your practice so that the standard of your practice is improved. Set new standards and re-audit.

If an audit cycle is repeated several times, and each time your own practice improves, this is referred to as the audit spiral, reflecting higher standards. *All the literature is very positive about audit. I have not read an article about audit measuring falling standards, and a downward spiral!*

Choose a topic that is important to you so that you feel involved. *A good source is the Royal College of Anaesthetists ‘recipe’ book for audits (ask the Audit Director for this). Remember sometimes a simple idea can generate the best audit(s). Do not be over-ambitious. It is better to do a small audit well (and possibly improve anaesthetic practice), rather than attempt a big audit which you cannot finish. Look at previous departmental audits and consider a re-audit or further development of an earlier audit.*

Find out more about your chosen topic and talk to colleagues to determine what is considered current best practice to set your standard. You must define this clearly so that you understand how you can compare your own practice to this set practice.

Decide what you need to do the audit (information, time, equipment, help from colleagues etc.) and produce a plan. You may want to do a small pilot to check whether your audit is feasible in terms of time and resources. Collect your data, analyse this and decide whether changes in clinical practice need to be made so that your own practice will be improved and should reach a higher standard, then prepare your presentation. Do not be disheartened if you have not reached the set standard the first time you audit something. *Learning from your audit is the most important part of it, and if you can ensure that changes will be made to improve practice and followed up and maintained, you will have done well. Your chances of discovering an earth shattering/novel/fantastic piece of research is remote, but as a conscientious, careful clinician you will have to audit your work to find out if you are doing as well as you hope, so audit is important.*

Keep your presentation as simple as possible. Start by stating your objectives (*what you hope to achieve/why you are doing this*) and defining your set standards. Follow the steps of the audit cycle. Finish with your conclusions, and how your audit can be followed up (a re-audit?).

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Self-experimentation — my unstructured training

Professor J G Jones, formerly Professor of Anaesthesia in Cambridge

The Holy Grail is not in the finding it is in the journey

How would you develop a life jacket that will keep an unconscious person’s face clear of the water? E A Pask, later Professor of Anaesthesia at Newcastle, found a solution by having himself anaesthetised, intubated then thrown into a swimming pool wearing different types of life jacket. Self-experimentation is sometimes a risky way of finding things out quickly and this essay outlines some of my research experiences up to the time that I became a FRCA in an era long before ethics committees, institutional review boards and structured training.

Cochrane and Cotes

In 1961, after house jobs, I joined the MRC Pneumoconiosis Research Unit in Cardiff. I was interviewed in the corridor by Archie Cochrane, posthumously famous for evidence based medicine (although I never heard him mention that term). Part of the job was breathing various dusts to study their effects on lung mechanics. I also worked with John Cotes who had developed the oxygen breathing systems used by Hillary and Tensing when they climbed Everest. John showed me how to insert a hefty Riley needle into a patient’s brachial artery for exercise studies. Later, when I was at the receiving end of this procedure, I discovered how prone my arteries to spasm. In those days arterial samples were very rare, were analysed by the Riley bubble method and were used only for research in a handful of centres because blood gas machines were not available. Respiratory failure was diagnosed by guesswork or, rarely, after struggling with the Campbell and Howell rebreathing method to measure PCO₂. There was no treatment other than Nikethamide or THAM.

Birmingham and the mass spectrometer

Following MRCP then a year of cardiology I became a research fellow in 1964 at Birmingham University’s Department of Medicine. This was a quasi senior registrar post where the RMO’s on-call room was equipped with a gas mask and military steel helmet. No guidelines for their use were given. My MD project was to measure alveolar gas mixing using a newly developed respiratory mass-spectrometer, which was as big as three filing cabinets. My trainers were Moses Nesarajah, then a physiologist from Colombo now an anaesthetist in New York, Gordon Cumming, lecturer in medicine, and Archie Pincock the superb chief technician (now an extinct species). Archie was a dour polymath who had developed the first accurate blood gas electrode system in the UK. He taught me all I know about vacuum pumps, gas sampling systems, calibration and response times. He greeted my ideas with either a withering look of loathing or a scornful ‘That’s utter tosh’. It took until 1966 before we got the mass spectrometer to produce reliable results but it then proved to be an excellent instrument to measure closing volume and regional \( V_{A}/Q \).

Cardiogenic Ripples, \( V_{A}/Q \) and JG Bourne

Today’s anaesthetists effortlessly monitor every patient’s expired \( CO₂ \), often including anaesthetic agents and expired \( O₂ \). Sometimes we see ripples on the expired gas trace which are synchronous with the heartbeat (note the different time bases on the gas and ECG traces). The \( CO₂ \) and \( O₂ \) ripples are caused by each heart beat interfering with gas flow from the lower lobe bronchi and are opposite in phase due to the vertical difference in \( V_{A}/Q \) due to gravity. The ripples increase in amplitude if the subject sits up (a test of awareness?) and decrease if there is hypoxic pulmonary vasoconstriction (HPV). Back in 1963 two Australians, Kemp Fowler and David Read suggested that ripple amplitude might measure both regional \( V_{A}/Q \) and HPV in man. Kemp Fowler, the designer of our mass spectrometer, magically appeared in our Birmingham lab and, desperate for him to help us to improve our instrument’s performance, I volunteered to be a subject in an experiment to show that \( O₂ \) and \( CO₂ \) ripple amplitude did in fact measure HPV.

At that time it was open season on staff or patients who could be diverted into a research lab for a few hours. Without pausing for lunch I had a pulmonary artery catheter inserted via a cut down and enjoyed runs of ectopics as I watched the catheter, under X-ray control, poking its way around my heart. A Riley needle was inserted into my brachial artery for indocyanine green cardiac outputs and blood gases. I then sat immobilised in the mass spectrometer room with my arms taped to an upright frame for a few hours of 10% \( O₂ \) breathing, expired gas analysis and arterial sampling. When the catheters were being removed at the end of this procedure I began to faint. At that time J.G. Bourne, an eminent London anaesthetist, had popularised the idea of severe brain damage due to fainting in the dental chair. Not being able to get out of the upright frame, I had a sudden dread of proving Bourne’s controversial hypothesis. As I lost consciousness, and to the amazement of the assembled throng, I flung myself sideways to the floor rambling about ‘fainting in the dental chair’.
Human guinea pigs

Every morning at 11:00, except Sunday, members of the department of medicine met the Professor, Sir Melville Arnott (also an expert on railways), on the ward for coffee and gossip. This pleasant activity was interrupted one day in 1967 by a bombshell in the shape of M H Pappworth's book on 'Human Guinea Pigs'. Pappworth, previously a scourge of the Royal College of Physicians because of the very low pass rate in the MRCP exam, now deplored 'the frequency with which extremely unpleasant and often dangerous experiments are performed on unsuspecting patients by teaching hospital doctors'. The doctors most often named were from the Departments of Medicine at Birmingham and the Royal Free. This was 'death' for our hypoxia/ripple study which had confirmed that ripple amplitude was in fact a measure of HPV. However, with Pappworth's finger pointing at us (but years before ethics committees) it was never submitted for publication.

Medical Research Society (MRS), D'Arcy Thompson

We presented our research at MRS meetings in London. After each meeting we adjourned to a nearby pub to meet Hammersmith people like J B West, Jon Glazier and J M B Hughes for a preview of their latest ideas on the effects of gravity on the lung. They were anaesthetising greyhounds (rejects from the nearby White City Stadium) in different positions then, after plunging them into liquid nitrogen they cut them lengthwise with a band saw to study the gravitationally induced gradient of alveolar size. There were no human volunteers. E J M (Moran) Campbell from Middlesex/Hammersmith and an expert on respiratory failure, would also appear at the pub arriving by motorcycle with his black leather Kangol 'skid lid'. He was very sharp and when he thought that he had better of the arguments he would, to our amusement, invite us to 'Go and crawl back under your provincial stone'.

My MD supervisor, Gordon Cumming, enjoyed these battles, giving as good as he got. He had previously worked with the Swiss pulmonary anatomist Ewald Weibel in New York and was now relating the mathematics of gaseous diffusion to the branching anatomy of the terminal airways. Gordon introduced me to D'Arcy Tompson's book on 'Growth and Form' which Peter Medawar described as 'beyond comparison the finest work of literature in all the annals of science that have been recorded in the English tongue'. Peter Hutton (then an electronic engineer) later joined Gordon Cumming's group.

Lecturer in anaesthesia, Fat in the fire

By now I had finished my MD and I became a lecturer in anaesthesia (my only previous experience was anaesthetising a cat with model aeroplane fuel to remove a fishhook from its mouth). I joined the new academic anaesthesia department in Birmingham headed by Professor John Robinson with Peter Tomlin and John Bushman as senior lecturers. Tom Healy and Colin Wise were senior registrars attached to the department, the former working with Mike Vickers. Selwyn Crawford was in charge of obstetric anaesthesia. Following a frightening experiment on myself when I developed very severe bronchospasm after inhaling smoke from burning fat I continued my lung research in the Birmingham Department of Medicine now with Stewart Clarke (later a physician at the Royal Free and Brompton). We had the time of our lives working out a fascinating story of gas flow through branching and liquid lined tubes as well as the effect of cough, expiratory flow rate, posture and acceleration on closing volume and regional ventilation.

RAF Institute of Aviation Medicine (IAM) Farnborough

The flow work was completed in Birmingham and was presented at the MRS where we met David Glaister, head of the acceleration section at the IAM. David invited us to Farnborough to do the posture and acceleration studies. The IAM had the menace of a torture chamber. Stewart and I would leave Birmingham at about 5am and, filled with dread, drive to Farnborough for a series of early morning starts. The posture studies were straightforward. We were strapped in a chair which rotated vertically through 360° so that we could breath tracer gas in any position. Before the more complicated acceleration studies however we each had to sign that 'In the event of my death Her Majesty the Queen would be absolved of any blame'. I first got some experience of riding in the human centrifuge by sitting at the Observer's console. This was located at the centre of the 60 ft long rotating tubular steel frame of the centrifuge with a gondola the size of a car pivoted at either end. David Glaister rode in one of the gondolas at up to +4Gz acceleration (four times gravity (G) acting in the head to toe vector). As we spun around his face appeared to age by 50-years in as many seconds but I suddenly realised that my safety belt was unfastened. When I fumbled and looked down from my rotating seat my semicircular canals told my brain that I was rocketing out through the roof of the centrifuge and I grasped desperately at the top of the steel console. (I found my finger marks still indenting the top of the Observer’s console when, 30-years later, I took a coach load of the Cambridge region anaesthetic registrars to visit Farnborough).
Blacking out in the centrifuge

Following a splendid lunch enjoyed in the ambience of the Officers Mess of the Empire Test Pilots School, it was my turn to carry out ‘closing volume manoeuvres’ at different accelerations but now strapped into the gondola itself. No anti-G suit was used so as to avoid abdominal pressure. The gondola, like an aircraft cockpit with perspex windows, was painted matt black and had a smell of cellulose, oil, paint and stale vomit. An intercom crackled messages from the controller. I couldn’t reply because I was breathing an argon-oxygen mixture through a mouthpiece.

Nausea began as the gondola rotated and I realised why there were RAF men scuttling about outside the centrifuge with bags of sawdust. An intense light illuminated the equipment in the gondola but as the centrifuge speeded up blood drained from my retina and brain while the glare from the filament diminished to a faint red glow. After completing the +2Gz runs, the +3Gz run was exerting an unpleasant compressing force on my vertebral column. As I breathed out to RV to promote airway closure, I began to lose consciousness as if in a Valsalva manoeuvre but with no venous return. My arm, three times heavier than normal, slipped down off the armrest. I had inadvertently given the ‘Emergency Stop’ signal. The centrifuge braked rapidly to a standstill, which was bad news for my vestibular system.

I became completely disorientated and when I looked out of the window of the gondola, my eyes and semicircular canals were telling my brain different stories. The Observer had left his seat at the central console and appeared to be walking upside down towards me – he asked me what was wrong. My mouth opened and closed like a goldfish and I had a nominal aphasia lasting 12 hours. I later explained this to my wife as ‘a migraine’ because she didn’t know about the centrifuge experiment. However, she was suspicious because I was six foot, five inches tall before going to Farnborough and only five foot, six inches when I came back.

The study showed a linear increase in closing volume with increasing acceleration. Interestingly, there was no airway closure when these data were extrapolated back to 0 Gz. Does this mean that a good place for patients with dependent lung collapse might be in an ICU with zero gravity?

The body plethysmograph and delusions of grandeur

At this time I began to work with Janti Shah and Peter Tomlin in Birmingham to test the idea that anaesthesia reduced FRC into the closing volume. We decided to examine the effect of N₂ anaesthesia on ourselves. I had an arterial line which came out through the side of a whole body plethysmograph (calibrated using half of a Norton motor cycle engine). Locked in the body box like Houdini I breathed air then 80% N₂,0 and oxygen. Loss of consciousness was preceded by a modicum of anxiety – if I slumped down would the arterial line come out and fill the box with blood? Would my airway obstruct? Happily this was quickly followed by the invariable delusions of grandeur which, for me, is a cardinal feature of nitrous oxide breathing (but not with any other general anaesthetic. Why?). I wasn’t too bothered about dying when I was having so much fun running the universe. It was the only study which showed a fall in FRC in the upright position breathing N₂,0. This was almost certainly spurious because we were all anxious about being shut in a box and losing consciousness.

California and the High Court

About this time in 1970 I had two offers of fellowships in California, one with John West now in San Diego and the other with Julius Comroe in San Francisco. I didn’t know which to accept and I asked the advice of X, a distinguished academic anaesthetist. He told me to stay in England. Shortly afterwards I passed the final FRCA and left Birmingham for the CVRI in San Francisco. As I left England, Mr Drummond Jackson was drawing my boss, John Robinson, the then Professor of Anaesthesia in Birmingham, together with the BMA, into the most remarkable legal action in the history of British Anaesthesia. I never regretted ignoring X’s career advice.

Abbreviations

BMA (British Medical Association), CVRI (Cardiovascular Research Institute), FRC (Functional Residual Capacity), FRCA (Fellow, Royal College of Anaesthetists), Gz (Acceleration due to Gravity), ICU (Intensive care unit), MD (Doctor of Medicine), MRC (Medical Research Council), MRCP (Member, Royal College of Physicians), UK (United Kingdom), RAF (Royal Air Force), RV (Residual Volume), RMO (Resident Medical Officer), THAM (Tri-Hydroxy-methyl-Amino-Methane), V₂/O (Ratio of Ventilation to Perfusion)
High fidelity simulator teaching for novice anaesthetists in their first three months of training
Dr F Forrest and Dr M Oram, Bristol Medical Simulation Centre and the Bristol Royal Infirmary

Introduction
Between August and November 2000 we ran a new course for six novice anaesthetists at the BMSC. All of the candidates began their anaesthetic training in August 2000. The course was designed to augment the teaching that trainees received in their base hospital during the first three months. We also included training in BLS, RSI and the management of critical incidents before trainees undertook on-call duties under distant supervision.

Background
The main feature of BMSC is the simulation suite (see below). This contains a high fidelity adult patient manikin, ancillary anaesthetic and operating equipment similar to that described by Gaba in 1988. Anaesthetists can use this equipment for a variety of learning purposes summarised below:

- To promote understanding of cardiovascular and respiratory physiology.
- To teach routine or emergency anaesthesia.
- To demonstrate different anaesthetic drugs or techniques.
- To practice emergency protocols or how to handle critical incidents.
- To provide team training.

The simulation suite, BMSC

In Bristol we have experience in using the simulator for teaching and assessing novice anaesthetists. In 1998 and 1999 we undertook two research projects using the simulator to observe and score learning progress in the first three months of training.

As a consequence of these repeated observations on individuals (an average of five hours videotape per trainee) we noticed some common learning problems. These were borne out by debriefing information at the end of each study. Some of the observations and feedback are summarised below:

The problem of too many trainers
- Trainees were confused by too many different anaesthetic techniques.
- Persistent errors in practice may not have been recognised because too many trainers were involved in basic training, e.g. one SHO continued to pre-oxygenate with a Hudson mask and oxygen flowing at 4l/min for a RSI for the whole three month period.

The problems that arise from rota patterns in the base hospitals
- Trainees were assigned to a variety of surgical lists; trainees found it hard to consolidate what they had learned when the type of surgery and approach to anaesthesia kept changing.
- Trainees were rostered to ITU blocks in their first three months of training! This meant they ‘forgot’ what they had learned in theatre and felt they performed less well when they returned to anaesthesia.

The 'cushion effect' of senior staff in the real theatre environment
We had documented evidence that trainees had received teaching about anaesthetic equipment. However, they still failed to check equipment even when they were responsible for the case but under supervision.

As a result of our observations and feedback from trainees we wanted to put together a simulator-based course designed to augment teaching in the base hospitals. At about the time we were designing the course the guidelines for competency-based training and assessment of SHO’s were produced by the Royal College of Anaesthetists. Thus, we felt that there was an opportunity to review the role of the simulator for the three-month assessment exercise.

The course
Funding was made available by grants via the Royal College of Anaesthetists (Folkard Educational Fund £1000) and the Postgraduate Dean for the South West region £2000. SHO’s
were recruited on a voluntary basis from the hospital that had previously been involved in the research projects.

The course was arranged over five days. Days one and two took place after one week in anaesthesia, day three after six weeks and days four and five after three months. The course covered a wide range of topics including basic pharmacology, physiology, physics and equipment. However the emphasis was on 'hands-on' anaesthesia with the SHOs all anaesthetising the simulator numerous times. An outline of the course content is given below.

Day one
- Airway equipment.
- Basic machine checks.
- Pre-induction monitoring.
- Patient checks: induction-maintenance-wake up-recovery handover (simulator).

Day two
- Comprehensive machine check and intentional fault diagnosis.
- Pharmacodynamic effects of common anaesthetic drugs on fit patients (simulator).
- Anaesthetic cases practice (simulator).
- Log book instruction.

Day three
- Critical incident review.
- Indications for rapid sequence induction.
- Airway management – what to do if can’t ventilate or can’t intubate (simulator).
- Central neuraxial blockade – concepts and indications.

Day four
- BLS training and certification.
- Rapid sequence induction test-simulator.
- Basic critical incidents – bradycardia, desaturation etc (simulator).

Day five
- Critical incident training (simulator).
- Failed intubation, poor oxygenation, common arrhythmias, common equipment failures, malignant hyperthermia and anaphylaxis.

The impact of the course
The course was designed to have an emphasis on training rather than assessment. However, we needed to ascertain the impact of simulator training at this stage and as previously stated we wanted to review the role of the simulator in the three month assessment.

Did the course aid training in the base hospital?
A comprehensive questionnaire was sent to the participants one month after completion. Despite appropriate reminders only five of the six novices returned their questionnaires. Reflective statements made by the novices were universally positive. In particular they liked the opportunity to work at their own speed in a non-threatening environment with the ability to practice different aspects of general anaesthesia on the simulator.

Could we demonstrate better performance by novices undertaking the course?
It would be most helpful for the funding of future projects to be able to demonstrate the benefit of early simulator training. We had developed a scoring system for technical performance in RSI for the previous two research projects. For assessment purposes we scored and compared these novices who had been specifically trained in RSI (Day three at six weeks) with those who had not in our first research group in 1998. Assessments of RSI were made at three months in both groups. Our data showed that technical performance was significantly better in the course group than the previous research group.

This difference related to better ability to check equipment, patients and sequence procedures.

Could the simulator be used for three-month assessments?
The three-month assessments are comprehensive and we only included two aspects of the assessment. BLS was scored and certified easily on the manikins. We also scored RSI using the College assessment format rather than our own technical rating form and found that all aspects of the assessment could be performed in the simulator.

Novice feedback
Feedback was generally enthusiastic. Days one and five proved most popular with the opportunity to get to grips with equipment and principles away from the stress of the operating theatre and real patients. We specifically asked if they would like to have had their own trainers present. Uniformly the answer was ‘no’ which we felt reflected the feeling on the critical incident training day!
Conclusions
A considerable extra workload has been generated for trainers by the College recommendations for assessment of SHO’s. At a time when most anaesthetic departments are struggling to provide the service, training can become a secondary issue despite the best intentions. Similarly finding appropriately timed assessment lists in a hospital where elective operating may be diminished during the extensive winter bed crisis is difficult. One solution to ensure that appropriate teaching and assessment goals have been satisfied is to use simulators.

It is not entirely necessary to send trainees to a high fidelity institution. Basic training (including critical incident practice) and assessments can be performed using the excellent ACCESS system or new Sim Man (Laerdal) launched in April 2001 – the start up costs for purchasing and running these systems being a fraction of the price!

From our experience we would like to introduce the two-day teaching/assessment programme based on Day one and five of our initial course into the South West region. Whether we do will depend on finding the funds to support such a venture.

Acknowledgement
We are grateful for the support of the Royal College of Anaesthetists in awarding us the Folkard Fund in order to develop and run this course.

References
2 The CCST in Anaesthesia II. Competency based SHO training and assessment. A manual for trainees and trainers. The Royal College of Anaesthetists (www.rcoa.ac.uk).

Abbreviations
ACCESS (Anaesthetic Computer Controlled Emergency Situation Simulator), BLS (Basic Life Support), BMSC (Bristol Medical Simulation Centre), ITU (Intensive Therapy Unit), RSI (Rapid Sequence Induction), SHO (Senior House Officer)

The senior Fellows club
Professor D J Hatch, Chairman, Senior Fellows Steering Group

As regular readers of the Bulletin will know, Council has for some time wished to encourage the development of a group that would be of interest to those Senior Fellows who wished to maintain links with the College. They recently asked me to Chair a Steering Group to take this idea forward, the other members being John Nunn, Tony Rubin and Alastair Spence. I am glad to be able to report that our proposals to establish a Senior Fellows Club as outlined below have now been approved by Council.

The club will be open to anyone retired from full-time anaesthetic practice who has been associated with the College including Fellows, Members and those whose contribution to anaesthesia has been recognised in any way by the College. There will be a nominal annual fee (substantially less than the current retired Fellows subscription) for which members of the club will be entitled to use the facilities of the College, receive the Bulletin and CEPD Review and attend meetings of the club. Those wishing to receive the BJA will pay a small additional sum as yet to be confirmed.

The aims of the club will be entirely social, the Steering Group being unanimous in their wish to avoid any suggestion that club members should seek to influence College policy. We would welcome any ideas or suggestions for future activities of the club and in particular would like to hear from anyone who might be interested in becoming involved in its running, since the Steering Group will cease to exist after the inaugural meeting.

The first meeting of the club will be held on 24 October 2001 at the College, starting at 11:30. We are extremely fortunate in having persuaded John Nunn to be principal speaker at this inaugural meeting, as those who have heard his fascinating talks on ancient Egyptian medicine will readily agree. On this occasion he will talk on ‘Climate change and extinction’, a fascinating topic which I am sure will be new to all of us. The President has kindly agreed to give a brief update on the work of the College and the meeting will end with a buffet lunch (including wine), though members will be free to stay and chat afterwards. John Nunn has agreed to accompany anyone interested around parts of the British Museum in the afternoon. Those attending the meeting will be asked to meet the cost of refreshments, though the College has offered the use of its premises and administrative support for the club, without charge.
Small group teaching

Dr M C Holt, Consultant Anaesthetists, University Hospitals, Coventry and Warwickshire NHS Trust, Coventry

One problem with small group teaching is that not all teachers are trained in small group teaching and this can present problems especially for new teachers. One way to overcome this is by producing tutor guides for new teachers. For this article I have produced by way of an example of what a tutor guide entails.

Tutor guide for small group teaching

This tutor guide is designed to help instruct a new teacher in how to run a small group teaching session for medical students learning about the relevance of high and low blood pressure as part of their anaesthetic teaching programme. I have split the tutor guide up into several headings as following:

• The rationale for adopting small group methods.
• The methods to be adopted with a clear explanation.
• The objectives of the sessions.
• The expected tutor role.
• The student role.
• Resources required, including stimulus material.
• Assessment and evaluation.

The rationale for adopting small group methods

Students view small group teaching as beneficial for many reasons. These reasons include having the ability to influence what is being discussed rather than being told information in a lecture. Students are able to find out other people’s ideas and queries, which can be discussed and sorted out. With this approach students remember more and understand what is discussed. Students find the environment less intimidating and can ask questions and receive individual attention. Small group teaching helps develop ones power of analysing problems and arriving at solutions. Students also feel part of the group as opposed to a face in a lecture.

Small group teaching is of benefit over other types of teaching in several regards. These include stimulating active student participation, self-direction and the promotion of deep learning. This deep learning approach enables the students to question and evaluate what is being learnt and leads to better knowledge retention. Students also have the opportunity to apply ideas and consider potential outcomes. A functioning group will help clarify concepts and theories. Small group teaching encourages problem solving abilities such as analysing, evaluating evidence, logical reasoning and synthesising which is hard to achieve in the didactic lecture setting.

Small group teaching sessions activate previously acquired understanding, helping identify any deficits and facilitating new comprehensions. It also encourages reflection upon and control of learning activities and development of self-regulatory skills conducive to lifelong learning. Small group teaching promotes intellectual independence and maturity can be developed through interaction with other students. It develops self-esteem, increases confidence, provides mutual support and lays the foundation for future teamwork. Students can observe the effect they have on other members of the group. Increased involvement motivates people to learn and allows them to learn more effectively and increases student satisfaction.

Students also acquire group skills, which are an important feature for general employment. It provides understanding of the difficulties that can arise in groups and develops self-confidence through expressing and defending one’s ideas. Group skills also develop the ability to communicate effectively along with the prioritising of tasks, the management of time and the exercise of interpersonal skills.

Communication skills that small group teaching encourages include those of explaining, listening, discussing, questioning, presenting and defending a position and giving feedback. The opportunity to express oneself and listen to colleagues will increase communication skills and confidence in public speaking. It also allows collaboration and co-operation to be expressed and developed, both between staff and students.

The methods to be adopted with a clear explanation

The methods I have chosen are designed to provide active participation using specific tasks, which are then reflected upon.

For the first small group teaching session ask the students to read about the causes, physiological response to, diagnosis and management of low and high blood pressure. Ask a student to present this information in the maximum time of 20 minutes and produce a handout for the others. The presentation is useful as it can be used to further develop student presentation skills by involving the other students in giving feedback to the presenter. To identify deficits in the students understanding ask the other students to prepare questions related to the topic for their colleagues to answer during the tutorial. The answers to these questions should then be discussed in the session so as to seek greater understanding. This approach will promote research ability, presentation skills and critical discussion. It will also allow students to critically probe the subject matter, which they can then clarify and expand.

The second linked teaching session is designed to reinforce and further knowledge acquired by using a snowballing
The students self divide themselves into pairs (four pairs of two students). These pairs are then given a prepared stimulus material on the topic of hypotension. This can be a written prompt such as:

*Mr Smith arrives back on the ward post operatively after having a trans-urethral resection of his prostate. As the house officer for this patient you are called by a nurse because his blood pressure is 80/30. What would you do?*

The four pairs of two students receive the same stimulus material. The pairs discuss the problem for ten minutes. Each pair then joins with another pair into groups of four to compare and contrast differences in their understanding. You (the teacher) can facilitate the final group discussion when the two groups of four will then combine. This allows students to exchange views and ideas in a very direct manner. It generates ideas that are well integrated and will result in a lively final whole-group discussion. The initial interactions between two students are non-threatening. Their discussions as a pair will give them confidence to discuss with another pair. Covering the topic with other members of the group allows further ideas to be expressed and the introduction of new ideas to be expressed and the introduction of new ideas or views. This also lends itself to problem – based learning and the students will establish the learning needs raised by the problem. The problem will also identify key deficits in their understanding of the problem. After identifying learning needs, the students undertake self-directed research and critique of the learning needs.

**The objectives of the sessions**

**Knowledge**
- To stimulate the student to learn the causes, physiological responses to and diagnosis of high and low blood pressure.
- Management of high and low blood pressure including appropriate fluids and drugs that can be used.

**Skills and attitudes**
- To develop team working skills.
- To develop presentation skills.
- To communicate well.
- Be professional.
- To develop problem solving abilities and make decisions.
- Promote learning of knowledge by reflection.

**The expected tutor role**

The tutor has the responsibility to prepare for the teaching sessions. This includes providing references and ensuring the availability of reading material required in the preparation for the first teaching session. It also involves writing problem solving scenarios and the formulation of questions for the second teaching session. Preparation also involves ensuring adequate resources are available such as accommodation and equipment.

The expected tutor role in the small group teaching setting is that of facilitating the student groups. Ideally he/she should have expertise both in content and in small-group facilitation. It is important that the tutorial does not become a mini lecture but that the content expert is there to clarify or address points of content error. The role is detailed further in the following:

**Introduction**

This can be done using icebreakers such asking each student to introduce themselves.

**Ground rules**

Clearly define objectives to avoid student and teacher frustration. Ensure the students know what they are doing, why they are doing it and how they should achieve the objectives.

**Maintaining the function of the group and ensuring the task is completed**

This is of relevance especially for the first small group teaching session where the students have prepared questions and at the end of the snowballing session where the last two groups openly debate their views. To maintain group function you need to:

- Encouraging participation and contributions from quiet members.
- Listen.
- Ensure that no one member dominates the discussions.
- Promote cohesion within the group.
- Relieve tension or conflict.
- Encourage group members to speak by using open ended questions.
- Help communication by ensuring clarity.
- Comment on group progress.
- Ask about members feelings about the group.
- Build up trust between members.

To ensure the task is achieved involves the following tasks:

- Open discussion.
- Giving information and opinions.
- Asking for information and opinions.
- Putting ideas together and clarifying points.
- Diagnosing difficulties in group’s progress.
- Summarising.
- Questioning false or unclear contributions.
Debrief

Debrief by summarising or clarifying what has been learnt. It may tie up loose ends and make sense of the experience. It may also set the scene for further learning. During debriefing constructive feedback may be given.

The student role

The students should be self-reliant and independent as much as is possible. As such the students have the responsibility to prepare for the small group tutorial and determine which aspects require clarification. In this way students are able to focus their learning on areas they wish and actively participate in the small group session to enhance the likelihood of deep rather than surface learning. They also have the chance to evaluate presentation skills by constructively giving feedback on the presentation during the first teaching session. During the teaching sessions the students should express their assumptions and ideas, wrong or right in order to facilitate their development and help identify areas for further clarification.

The small group teaching along with promoting students to further their knowledge will develop team working and group communication by communicating with other group members. The students also reflect on the teaching to help identify areas that need further study.

Resources required, including stimulus material

- Suitable accommodation, ideally chairs should be set out in a circle to maximise interactions among the students. Presentations may require the use of overhead projectors, flipcharts or PowerPoint facilities.
- Problem solving material pre prepared for the second small group teaching session, which should be realistic and relevant.
- The teacher must ensure that availability of recommended reading prior to the first teaching session, e.g. books, journals, and internet access.

Assessment and evaluation

Students

After the session it is important to evaluate the success of the session. There are two aspects, achievement and quality. Achievement can be evaluated by how successful the student’s assessment is. Assessment of what has been learnt can be done later by formal examination.

The quality of the educational experience can be evaluated by asking the students to complete an evaluation questionnaire, which includes the following questions:

- Did you understand the objectives of the session?
- Did you find the group setting a supportive environment?
- Were you motivated to learn?
- Did you feel that the session met the objectives?
- What did you like and dislike about the session?
- What would you change?

Facilitator

You should consciously self-evaluate the session by using a formal checklist like that described below. Reflect on events, as this will promote better practice in future. Competent evaluation, no matter how favourable, will always identify areas for improvement. Take time to consider what changes need be made. Also, consider the introduction of new methods or ideas. Reflection should be ongoing, and an integral part of teaching practice. Self-evaluation checklist:

- Are all the contributions directed to you? Are you considered as the main focus?
- Is there little or no cross-group discussion? Do eyes tend to be fixed on you?
- Do you contribute to ease an awkward silence?
- Do you often interrupt members while they are speaking? What is the effect of your interruption?
- Do you inadvertently move the group towards consensus? e.g. do we all agree?
- Do you habitually confirm member’s contributions?
- Are the members looking to you for rewards rather than to the task?
- To what extent do you ask questions where you know the answer?
- Did you say when you agreed with a suggestion made by someone else?
- Did you criticise what someone said?
- Do you correct errors of information on the part of the members?
- Did you agree with what the rest of the group said?
- If you felt you disagreed with something that was said did you tell the group?
- Did you make suggestions?
- Did you defend what you said when someone criticised you?
- Did you explain something that the rest of the group did not seem to understand?

Finally, you also need to consider if you need to seek any further training.
At a meeting of Council held on **Wednesday, 25 April 2001**, Dr H O’Beirne, Dr A G Jappie and Professor M K Leuwer were admitted to the Fellowship ad eundem. Dr K-L Kong, Dr A C Pearce and Dr D W Green were admitted to the Board of Examiners for the Primary Examination. The following was appointed **Deputy Regional Adviser**:

**South East Scotland**
Dr C H Young, Royal Hospital for Sick Children, Edinburgh (in succession to Dr C J Sinclair)

The following were appointed/re-appointed **College Tutors (re-appointments are marked with an asterisk)**:

**Anglia Region**
Dr S Oosthuysen, James Paget Hospital, Great Yarmouth (in succession to Dr D L Millican)

**Northern Region**
Dr F M E McMenemie, Wansbeck General Hospital, Ashington (in succession to Dr L Edmondson)  
Dr Y Tzabar, Cumberland Infirmary, Carlisle (in succession to Dr J Harrison)  
Dr C F Kotur, Darlington Memorial Hospital (in succession to Dr R J Hargreaves)

**North Thames (Central)**
Dr C Hamilton-Davies, University College London Hospitals (in succession to Dr M J Barnard)  
Dr S V Mallett, Royal Free Hospital (new appointment)  
*Dr A-F Chan, North Middlesex Hospital

**Mersey Region**
Dr A A Leach, Royal Liverpool University Hospital (in succession to Dr S J Harper)  
*Dr A N Twist, Halton General Hospital

**West of Scotland**
*Dr P G Wylie, Ayr Hospital

The following have satisfactorily completed the full period of higher specialist training in anaesthesia and have been recommended to the Specialist Training Authority for the award of a **Certificate of Completion of Specialist Training**:

**East Anglia**
Dr Brid Mary McGrath  
Dr Mark Robert Stoker  
Dr Inge Falk Van Rooyen  
Dr Helen Leisa Smith  
Dr Sarah Jane Clarke  
Dr Deborah Jayne O’Hare

**Oxford**
Dr Beshish Dutta  
Dr Mark Jonathan Bennett  
Dr Pitabas Mishra  
Dr Sally-Anne Wheatley  
Dr Anil Kumar Gupta

**Mersey**
Dr William Edward Bickerstaffe  
Dr Lawrence Francis Azavedo  
Dr Arpan Kumar Guha  
Dr Yick Meng Andrew Wong

**North Western**
Dr David Douglas Hume  
Nicholas Mark Hacking  
Dr Daniel Harry Conway  
Dr Kieran James Davis  
Dr Daljit Kaur Saroya

**Northern**
Dr Edmund David Carver  
Dr Iain George Johnston  
Dr Bruce Malcolm Gibson  
Dr David Patrick Laws  
Dr Michael Jonathan Fish

**Yorkshire**
Dr Patrick Neil Colling  
Dr James Cowtan Musson  
Dr Alan Paul Davey-Quinn  
Dr Abdul Dayum Dar  
Dr Fauzia Mubashir  
Dr Mark Anthony Simenac

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**Wales**
*Dr D C Jerwood, Morriston Hospital, Swansea

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**South and West Region**
Dr A J Smith, Weston General Hospital, Weston-super-Mare (in succession to Dr J Dixon)  
Dr F A Donald, Southmead Hospital (in succession to Dr N Koehli)  
Dr A B McCririck, Gloucestershire Royal Hospital (in succession to Dr E A Thornberry)  
*Dr M J Richards, Cheltenham General Hospital (Term extended until 31 December 2001; Dr J Francis to succeed Dr Richards from 1 January 2002)

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**Thames – South East**
Dr J Radcliffe, King’s College Hospital (in succession to Dr J B Broadfield)  
Dr J A Jooste, King’s College Hospital (new appointment)

**South Trent**
Dr D G Bland, Leicester General Hospital (in succession to Dr I Jeyapalan)

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**Wessex**
Dr K J Torlot, Queen Alexandra Hospital, Portsmouth (in succession to Dr J J Nightingale)  
Dr A M McEwen, St Mary’s Hospital, Newport, Isle of Wight (in succession to Dr G T Taylor)
Trent
Dr Nicholas Patrick Plunkett
Dr Bolaji Taofiq Ayorinde
Dr Victoria Jayne Webster
Dr Michelle Susan Dawson

Northern Ireland
Dr Ann Carmel Gallagher

Thames – North West
Dr Jane Elizabeth Herod
Dr Paris Anne Hills-Wright
Dr Dejan Markovic
Dr Louise Harding
Dr Andrew David Seagrave Shaw
Dr John Steven Nelson
Dr Su Mallory

Thames – North Central
Dr Robert Andrew Smith
Dr Andrew Hamon Presland
Dr Carmel Cecilia Miranda
Dr Mark David Sacks
Dr Uditha Indrajith Bopitiya

Thames – North East
Dr David Phillip Stansfield

Thames – South East
Dr Drinka Uzeirbegovic
Dr Munna Baruya
Dr Joanna Mary Davies
Dr Susanne Comelia Krone
Dr Tina Mei Lin Chan
Dr Huw Rhys Williams
Dr Helen Lesley Ashworth
Dr Elspeth Kathleen Reid
Dr Kenneth Adedeji Adetokunbo Adegoke

Thames – South West
Dr Mary Imelda Siobhan Carroll
Dr Syed Muhammad Ali
Dr David Anthony Houlton De Beer
Dr Una Patricia Bradley

Wales
Dr Nosakhare Alexander Uwubamwen
Dr Viraj Susarla
Dr Harvey Caesar
Dr Cyprian Mendonca
Dr Robert John Abel
Dr Carsten Eickmann
Dr Edward Mark Farley-Hills

Dr John Edgar Thompson
Dr Jonathan James Griffiths
Dr Duraiswamy Muthuswamy

South Western
Dr Paul John Youngs
Dr Emma Louise Hartsilver
Dr Eric Philip Segar
Dr John Bernard Carlisle

Wessex
Dr Aileen Margaret Sced
Dr Edward Joseph Hammond
Dr David Andrew Jones
Dr Alison Jane Allan
West Midlands
Dr Oscar Domingo-Bosch
Dr Sandeep Walia
Dr Helen Louise Ellwood
Dr Philip Andrew Somers Moore
Dr Juan Jose Echebarria
Dr Nemesha Nagappa Avatgare

Scotland – North
Dr Ratnasabapathy Nanda Kumar

Scotland – East
Dr Justine Katherine Nanson
Dr Philip William Bolton

Scotland – South East
Dr Alexandra Vivienne Geraldine Stewart
Dr Anne Deborah Morley

Scotland – West
Dr John Mackay Crawford
Dr Barbara Anne Crooks
Dr Simon Stewart Edgar
Dr Ines Christina Boyne
Dr Pauline Cameron Stuart
Correspondence

Please make your views known to us via email (preferred option) to: bulletin@rcoa.ac.uk, or by post (accompanied by an electronic version on floppy PC disk, preferably written in Microsoft Word), to: The Editor, c/o Mrs M Kelly, The Royal College of Anaesthetists, 48/49 Russell Square, London WC1B 4JY. Please include your full name, grade and address. All contributions will receive an acknowledgement and the Editor reserves the right to edit letters for reasons of space or clarity.

On not polishing the image

Sirs,—I hope readers enjoyed the Royal College of Anaesthetists’ reception at the British Museum last month. I am sorry not to have seen you but most of the folk that I usually meet at the College dinner did not grace this year’s annual event, and some for the same reason as me.

For more years than I care to remember, my wife and I have been invited to the annual dinner by virtue of my being an ex-member of the Board of Faculty. This generous gesture only costs us about £250, once hotel and fares have been paid, and we always tried to show our continuing support for the College by attending, even though the surrounding events were of little relevance. (I have to confess that after two uncomfortable experiences trying to get a post-dinner taxi at such out-of-the-way places as the Plazafer’s Hall, we got a bit choosy about some locations).

This year it was very different. The dinner was getting too expensive for the College, said the President (Bulletin 4, November 2000). I will have something to say about that in a minute. However, when I (and several others) enquired as to why the invitation to the Address and Reception appeared to exclude our wives, the reason given was lack of space. Whoever imagined that we would travel across the breadth of the country only to leave our other halves to cool their heels whilst we indulged in a champagne reception, does not live in the real world. When it is then revealed that the College had a surplus of over £500,000 for the year (see the annual accounts), it also looks like an act of unparalleled meanness.

That, however, is not the main point: it was also an act of folly. The specialty has recently been going through one of its ‘nobody loves me’ phases. Image, it seems, is all. But image held by whom? Will the specialty be better off if every medical TV soap watcher is on the lookout for the anaesthetist, whether reading the paper while the patient is on bypass or not? Or is it ministers, MPs, senior civil servants and the administrators of the big charities who need to be aware of the vital role of anaesthesia in the system? The annual Royal College dinner is the best, perhaps the only, occasion to do something positive in that direction. Not only is it an opportunity to repay hospitality but a chance to feed and wine a selection of the great and the good. Once they have accepted the College’s hospitality, social convention requires them to give a polite hearing to the President who, in welcoming them and thanking some for appropriate contributions, will also explain what the College has been doing, what needs doing and what more we could do with their help. If, in addition, it can be done with wit and some apposite jokes, that is a bonus.

A little bird tells me the idea of dropping the dinner was not original. The Royal College of Physicians did it first. Apart from the inherent likelihood that copying them is going to be a mistake, do they have a problem with their image? In general, no. They can afford to take risks with it. But not us. The other buzz is that this was ‘just an experiment’. No doubt we shall soon hear that, as is customary, ‘the evening was a great success’. If so, I hope we shall also be told against what yardstick. Enhancing the image of the specialty it was not.

MD Vickers, retired Consultant Anaesthetist, Cardiff
The BJA Concise

Sir, – I have restrained myself from commenting upon the change to the BJA content for the past five months. I wondered to myself whether I was just being old fashioned; at a certain age one gets resistant to change. I now feel that I have clarified my opinion to the point where I would like to comment in your letters page.

I have discussed this with a wide range of consultant colleagues, both older and younger! The BJA Concise is quite useless. I am unable to judge the merit of a research paper from an abstract; I do not believe this is possible. The academic merit or scientific rigour of a paper may well be judged by whomever you ask to assess the paper for publication, but unless I can read the paper, I cannot form an opinion on whether the author(s) and your referee(s) have got it right. I am never going to apply the findings of research – as reported only in an abstract – to the care of patients in the real world.

I do have internet access at home, and I can peruse the OUP website, but I find it tedious to do so. I can predict that I will rarely be moved to check the full text of an article in this way. I would contend that I will be the norm – not the exception – in taking this attitude. There is no point in sending this shadow of a research journal to Fellows. You should either send the full text Journal, or admit this is not possible and rethink your strategy.

If you cannot afford to send a proper full text Journal to Fellows, then you should put the abstracts in the Bulletin. Editorial and reviews of general interest should be published in the CECP Review in full. All of this – BJA full text and the CECP Reviews etc. – should be accessible on the website for those with the inclination to visit, and downloadable in a choice of PDF or plain text formats. This facility should be free for all Fellows.

By the way, I find it bizarre that I can only access the full text of the BJA online, but I could not submit this letter for publication to the BJA by email.

N Pickford Mercer, Consultant Anaesthetist, Liverpool

Fellows are asked to see Professor G Smith’s article on page 349.

Application of evidence based anaesthesia

Sir, – I was very impressed by the article written by Dr M Daniel about ‘Critical appraisal of the anaesthesia literature’ (Bulletin 7, May 2001).

Nowadays trainees like me have access to lots of literature in the form of Journals, internet searches, Medline, books, notes, protocols and guidelines. This all-existing facility should make us capable of coming to rational decisions on clinical problems. On the contrary, however, I feel this has led to information pollution and dilution of literature. Articles of this nature are therefore very much needed to make best use of the resources and time. I am sure many will agree with me. How frustrating is it to spend hours in front of a computer and yet get no any reasonable solutions? I am waiting eagerly for the other articles of the series to be published and make me efficient in literature search.

M Kinagi, Specialist Registrar, Manchester

Hanging offences

Sir, – Following on from the President’s Statement (Bulletin 7, May 2001), I would not be surprised to learn that Council is considering matters relating to ‘the suspension of Fellows and retraining’. As someone about to undergo retraining, I wonder if my experience will be relevant. I am not sure that ‘retraining’ is the best descriptor, so perhaps a new term will emerge.

I was fortunate perhaps not to have been suspended following the death of a patient. At the present time, my employing Trust and the external reviewers are both of the opinion that I am satisfactorily placed to recognise what is required, organise it and complete it with no given timetable. Whilst this relaxed approach is welcome, I doubt that that those who represent public interest would be reassured by this style in general.

I have contacted a University Trust who, whilst not averse to retraining errant individuals, has asked whether it will be required to accept legal responsibility for deeming me to have been satisfactorily retrained. (Parallel consideration of the MOT status of one’s motor car might be useful here, i.e. the vehicle was of the specified standard on the day, but no guarantee is given for the following 364 days). Is a period of probation appropriate afterwards, if so, how long should this be?

My activity within theatre, critical care and out-patient pain management have not been specifically scrutinised: the retraining is to focus on in-patient pain management. Is this enough?

I did consider spending three months in San Diego, but have opted for a UK setting. Joking aside, the question of who pays for the retraining expenses/locum cover etc. arises. Obviously the flagellants will pay for themselves as part of their penance! I reiterate that I have not been suspended, but as a consequence of related matters that came to light during the internal review, a colleague has been. The public rightly must be protected from poorly-performing doctors. Now, as a consequence of clinical governance, suspended doctors are also barred from working in the private sector. The loss of associated income means that suspension is no longer a financially-neutral act, so Trusts now have the threat of loss of livelihood (to those who engage in significant independent practice), with which to club individuals who inconvenience the Trust by dint of their principles or personalities.

As anaesthetists, by the very nature of our role, we will often be on the scene when unexpected death or major harm comes to a patient = smoking-gun scenario.

A wise man learns from the mistakes of others A fool fails to learn from his own

Taking a literary quotation (I am ignorant of the source of this aphorism), I tried to report my adverse event to the national scheme, but was told that it was only a pilot scheme that ran in 1999 and was no longer active. The recent birth of the NHS Safety Authority suggests to me that this view deserves revisiting.

The President’s Statement made mention of human error and systems failure with individual culpability being discouraged. Can we be confident that the
important safety messages are being disseminated in anaesthesia, critical care and pain management, when the episodes of intrathecal vincristine are still occurring.

If the press are looking for something to sell newspapers on National Anaesthesia Day, they may unfortunately focus on our propensity to cause harm rather than good to patients, and ‘What is being done about it?’ by the regulatory bodies.

The lessons that I have assimilated as a consequence of the death of a patient following my administration of 100mg lignocaine via an unrecognised subarachnoid catheter, have been valuable in teaching me to not allow my clinical vigilance to be deflected by time-pressure where one is tempted to abbreviate safe practice. Also, if it looks like a duck and sounds like a duck, one should still beware lest it is a drake!

I am keen that my retraining is seen to be more than simply a paper exercise, so I feel it is important that it is worth the paper it is written on! I thought that it would be worth airing my experiences in the correspondence section of the Bulletin, in order that others will have the opportunity to ponder on this subject before they have to!

**JW Mackenzie, Consultant Anaesthetist, Berkshire**

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**Support for an NHS drug factory**

Sir, – On behalf of the anaesthetic department, of which I am Vice-Chairman, I would like to wholeheartedly disagree with Professor B J Pollard in his recent Guest Editorial (Bulletin 7, May 2001), when he pours cold water over the idea of an NHS manufacturing facility and supply service for key drugs that are off patent.

Our department has suffered from the withdrawal of drugs outlined in the editorial (Methohexitone, Droperidol etc. and a shortage of Suxamethonium, also mentioned by Professor Pollard), but also we have been and are experiencing, shortages of fundamental agents such as Lignocaine, Glycopyrrolate and Glycopyrrolate and Neostigmine.

I have also been informed by the hospital pharmacy that the UK is currently having supply problems with water for injection, sodium chloride 0.9%, Midazolam, Frenulamide, Digoxin injection and Salbutamol Nebules to name but a few.

Surely, the above situation cannot be solved by simply ‘cosying up’ to the pharmaceutical industry as this very same industry has allowed the current drug withdrawals and shortages to develop, no doubt as a result of ‘market forces’.

An NHS drug manufacture and supply facility could guarantee supplies of these basic tools of our anaesthetic practice, and avoid the current parlous state of the contents of our drug cupboards.

I would suggest that further reliance on the very rich giants of the pharmaceutical industry is not in the best interests of our profession, and that the establishment of an NHS factory should be given a high priority by the government.

**A J Thacker, Consultant Anaesthetist, Coventry**

**********

**Hello! Is anybody out there?**

Sir, – I am replying to Mr D Bowman’s article (Bulletin 7, May 2001).

The costs of meetings are ever increasing – much higher than inflation. Study leave budgets in all the Deaneries are inadequate to keep up-to-date with the courses required to collect CEFD points. This is reflected in Dr T Cook’s correspondence (Bulletin 7, May 2001).

It seems that rather than increasing in line with inflation, study budgets are actually decreasing!

There is a growing need in this era of ‘Blame Culture’ to document that we are attending all the relevant meetings. Considering this, it is vital that the costs of courses, meetings and symposia are kept as low as possible enabling us to attend more. I think the College should continue to publicise on its website and in the Bulletin. I suggest the other alternative is to maintain a database of email addresses of all its Fellows, Members and trainees and regularly email the details of meetings may be three or four times a year.

It is the responsibility of each individual anaesthetist to visit the College website at least once a week and find out what new information has been added. After all, the College is our professional body and it is our duty to help to keep costs low. It is high time that we all learnt new IT skills. Every anaesthetic department should have 24-hour internet access for trainees and consultants, and the College should stress this point while inspecting the department for training purposes. We should re-educate ourselves to use this facility regularly but it will take time. A return to twice yearly mailings and a separate application form will be very comfortable for those lazy people who do not want to learn new internet skills.

I suggest that all anaesthetic related meetings should be publicised by relevant bodies on the College website so there is centralisation of information, as well as reduced administrative costs. The application forms should be easily downloadable. This should make anaesthetic meetings cheaper to attend.

Come on folks let’s move to ‘paperless communication’ in the new millennium!

**A Gulve, Specialist Registrar, Sunderland**

*The above is just one of several emails in a similar vein received in response to Mr David Bowman’s article.*

**Abbreviations**

BJA (British Journal of Anaesthesia), CEFD (Continuing Education and Professional Development), IT (Information Technology), MTO (Ministry of Transport), NHS (National Health Service), MP (Member of Parliament), DUP (Oxford University Press), PDF (Portable Document Format)
**Appointment of Fellows to consultant posts**

The Royal College of Anaesthetists would like to congratulate the following Fellows on their consultant appointments:

- Dr Aamer B Ahmed, Glenfield Hospital, Leicester
- Dr Ursula Dickson, Birmingham Children’s Hospital
- Dr Doris T Doberenz, Charing Cross Hospital, London
- Dr Ritchie J Marcus, Birmingham Children’s Hospital
- Dr Alastair R Moye, Queen Elizabeth II Hospital, London
- Dr Durai Muthuswamy, University Hospital of Wales, Cardiff
- Dr Leena Pardeshi, Freeman Hospital, Newcastle

**Deaths**

The College regretfully records the deaths of the following Fellows:

- Dr Margaret D W Hamilton, London
- Dr Jill Hargreaves, Sale Cheshire
- Dr Michael T Moles, Hong Kong
- Dr Gerald N Mulliner, Weymouth, Dorset
- Dr Norman Tate, Salisbury, Wiltshire
- Dr Roderick D Unkles, Bearsden, Glasgow
- Dr Gerald A Weston, Hope Valley, Derbyshire

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**Election to the Scottish Board 2001**

Notice is hereby given that an election of three Fellows to vacancies on the Scottish Board will take place on Monday, 3 December 2001.

One vacancy arises from the retirement of Dr D C Miller who will have served six years by the end of December 2001 and is therefore not eligible for re-election. The other two vacancies are caused by the retirement of Dr J C Howie and Dr W A Chambers, both of whom will have served three years by that date and are eligible for re-election for a further three years.

The following will be eligible for election in this category: all Fellows of the Royal College of Anaesthetists who are resident in Scotland.

The constitution prescribes that those elected to the Scottish Board may not serve beyond the date of election next following their 67th birthday.

Nomination forms, which must be signed by the candidate and three Fellows of the College, may be obtained from Dr J L A Meek, Honorary Secretary, Scottish Board, c/o Department of Anaesthesia, Victoria Hospital, Kirkcaldy, Fife KY2 SAH, and must be returned to her duly completed by not later than **Friday, 7 September 2001** along with an election statement of less than 150 words.

Fellows are requested to give notice to the Membership Services Officer of the Royal College of Anaesthetists (48/49 Russell Square, London WC1B 4JY **tel** 020 7813 1900 **email** info@rcoa.ac.uk) without delay if they have changed their address or have recently moved to Scotland. The result of the election will be published in the College Bulletin and on the College **website** (www.rcoa.ac.uk).
Mersey School
Anaesthesia and Perioperative Medicine

The Mersey Selective
Primary FRCA Examination
Winter 2001

3 – 7 September 2001

A ‘designer course’ specifically for candidates sitting the Winter Primary, UK and Eire

This five-day course has been designed to cover only those areas of the syllabus considered to require special attention and elucidation.

The format is one of discussion, didactic or interactive, as appropriate, the aim being to explain and to demystify. However, some insight will be presumed and thus the course will only be of benefit to trainees who are seriously approaching the threshold of the examination.

Registration fee: £300

For further information, please contact:
The Secretary, MSAPM, Postgraduate Medical Centre, Broadgreen Hospital, Liverpool L14 3LB
tel 0151 282 6609 fax 0151 282 6935
e-mail MSA@rlbuh-tr.nwest.nhs.uk

International Scientific Symposium

Ventilation through the ages from neonates to adulthood

Everything you ever wanted to know but were afraid to ask

10 to 12 September 2001
at Hull Royal Infirmary, Anlaby Road,
Hull HU3 2JZ

Special topics: conventional and non-conventional ventilation, non-invasive ventilation, alternative gases, hyperbaric ventilation, field ventilation, graphics, monitoring, cardio-respiratory interactions, weaning, HIV, enterovirus, bronchoscopy in intensive care, the difficult airway, bronchopulmonary dysplasia, pulmonary hypertension, surfactant therapy and intensive care in developing countries and war zones.

Meeting objectives: Good respiratory support is central to the care of the critically ill of all ages. As medical practice improves the field is becoming complex with new modes, strategies and ideas arriving at an increasing rate:

- This conference aims to pull all this together by providing basic and state of the art clinical information on all aspects of respiratory support.
- A forum for exchange of information and ideas with faculty and participants throughout the world with lively presentations including lectures, panel discussions, meet the experts sessions and workshops.

To be placed on the list for registration details, please contact: Ms S Hubbard, ERMEC, Hull Royal Infirmary, Anlaby Road, Hull HU3 2JZ tel 01482 674007 fax 01482 586587 email suehermec@hotmail.com

website www.christurner.co.uk/ventilation

The Association of Anaesthetists of Great Britain and Ireland

12–14 September 2001  Annual Scientific Meeting (Belfast)
18–19 January 2002  Winter Scientific Meeting (London)
11–14 June 2002  GAT Annual Scientific Meeting (Keele)

Detailed information can be obtained from:
Ms J Barnes, Association of Anaesthetists of Great Britain and Ireland, 9 Bedford Square, London WC1B 3RA tel 020 7631 1650 fax 020 7631 4352
e-mail meetings@aagbi.org  website www.aagbi.org
2001–2002 EDUCATION PROGRAMME

Final FRCA Course
10 – 28 September 2001 [code: A79]
College Management Centre, University of London, WC1
This course is intended for those studying for the Final FRCA Examination and consists of three weeks of full time lectures on anaesthesia, intensive care and pain relief. The lectures run throughout the day between 0900 and 1615. Tutorials will also be held during the course and each participant will be entitled to attend one week of tutorials from 1630 to 1800 at the College. A separate application form for this course is available from the Courses and Meetings Department. Please do not use the generic application form. Registration fee: £670 (lunch is not provided)

How to Teach - Clinical Teaching
1 October 2001 [code: A37]
Royal College of Anaesthetists, WC1
An intensive one day workshop for consultants and senior SpRs. This workshop is limited to 36 places. 
Registration fee: £180

Non-Consultant Career Grades – A College Day
18 October 2001 [code: C63]
Royal College of Anaesthetists, WC1
A whole day of discussion and debate aimed at non-consultant career grades within the specialty.
Registration fee: £150

Meeting for Newly Appointed Consultants
19 October 2001 [code: C40]
Royal College of Anaesthetists, WC1
This meeting is aimed at those in the early years of a consultant appointment. SpRs close to obtaining their CCST can also apply. Registration fee: £170

College Symposium – Cardiopulmonary Disease and Anaesthesia
1 – 2 November 2001 [code: B05]
Institution of Electrical Engineers, WC2
In addition to the two-day programme, there is an opportunity to meet with colleagues and friends at an informal reception on the evening of 1 November. The registration fee includes lunch for both days as well as the reception. Registration fee: £320 or £250 for anaesthetic trainees registered with the College

CME Day
3 November 2001
Institution of Electrical Engineers, WC2
A one-day meeting organised jointly by the AAGBI and the College. The meeting will consist of 18 lectures held in three different lecture theatres, enabling participants to attend a total of six presentations during the day. Application forms are available from the College or AAGBI. Registration fee to be advised

How to Teach - Helping Anaesthetic Trainees to Learn More Effectively
19 November 2001 [code: C79]
Royal College of Anaesthetists, WC1
An intensive one day workshop for consultants and senior SpRs. This workshop is limited to 36 places. 
Registration fee: £180

Course on Current Topics in Anaesthesia
26 – 30 November 2001 [code: C11]
Royal College of Anaesthetists, WC1
Please note this course was originally advertised as taking place between 19 – 23 November 2001 Consisting of lectures and discussion, this is intended both as a refresher course and update on the latest techniques for consultants. Lunch throughout the course is included in the registration fee. Registration fee: £450

Primary FRCA Course
7 – 18 January 2002 [code: A78]
Birkbeck College, University of London, WC1
This course is intended to complement study for the primary examination and consists of two weeks of full time lectures on those aspects of physiology, pharmacology and statistics that are of relevance to anaesthetists. Lectures will take place between 0900 and 1630 Monday to Friday. Tutorials will also be held during the course and each participant will be entitled to attend four tutorials. A separate application form is available from the Courses and Meetings Department. Please do not use the generic application form. Registration fee: £520 (lunch is not provided)

Airway Day
23 January 2002 [code: C49]
London (venue to be announced)
A one-day meeting covering core topics of airway management. Registration fee: £170

Final FRCA Course
18 February – 8 March 2002
Birkbeck College, University of London, WC1
As course in September 2001.

Intensive Care Meeting
21 – 22 February 2002
Institution of Electrical Engineers, WC2
Full programme and registration fee to be announced.

Anaesthetic Emergencies – A Core Topic Course
13 March 2002 [code: C77]
London (venue to be announced)
A meeting covering core topics of anaesthetic emergencies. Registration fee: £170

College Anniversary Meeting – Problems on your list
20 – 21 March 2002
Institution of Electrical Engineers, WC2
Full programme and registration fee to be announced.

How to Teach – Assessment and Appraisal
15 April 2002 [code: C80]
Royal College of Anaesthetists, WC1
An intensive one-day workshop for consultants and senior SpRs. This workshop is limited to 36 places. 
Registration fee: £180

Review day for NCCGs
22 April 2002 [code: A12]
Royal College of Anaesthetists, WC1
This is This is a clinical study day for NCCGs such as staff grades, associate specialists, and those doing a significant number of clinical assistant sessions who would like to update their knowledge on common areas of practice. The seminar is designed to allow time for discussion and group work around a number of anaesthetic and resuscitation scenarios. Those who have not had a recent opportunity to review anaesthetic practice are particularly welcome. Registration fee: £170

Training Paramedic Trainees
13 May 2002 [code: A74]
Royal College of Anaesthetists, WC1
A one day seminar. Registration fee: £160

Course on Current Topics in Anaesthesia
10 – 14 June 2002 [code: A32]
Royal College of Anaesthetists, WC1
As course in November 2001.

Primary FRCA Course
1 – 12 July 2002 [code: C12]
Birkbeck College, University of London, WC1
As course in January 2002.
Courses and Meetings

Booking procedures

- A generic application form for all events, except FRCA courses, is contained in every edition of the Bulletin. This is also available on the College website.

- Application forms for the Final FRCA course and Basic Sciences course for the Primary FRCA are available separately from the Courses and Meetings Department.

- Once a course or meeting and the relevant fee have been publicised, bookings on the generic application form will be accepted at any time. The appropriate fee must be paid at the time that the booking is made. (Bookings will not be accepted for events that do not show a fee.)

- To ensure that bookings are processed correctly, it is essential that the booking form shows the code number, title and date of the event being booked, e.g. C68 – How to Teach: An introduction for SpRs – 5 July 2001.

- Applications are only processed if payment is included. If your Hospital/Trust is paying your registration fee, please pass the completed application form to the relevant person for forwarding with payment.

- Bookings will be accepted on a first come first served basis. When a course or meeting is full this will be publicised on the College website. For several weeks before major meetings, details of vacancies will be available on the Courses and Meetings Department ansaphone (020 7813 1888).

CEPD approval

All meetings, except the Final and Basic Sciences courses, have CEPD approval on the basis of five points for a full day and three points for half-a-day.

Catering

Morning coffee and afternoon tea are included in the registration fee. If lunch is not included in the price, it will be shown as an optional extra (NB: on the Final, Basic Science and Current Topics courses, lunch is not available).

Fees and cancellations

Payment for all College courses and meetings can be made by Sterling cheque, payable to ‘The Royal College of Anaesthetists’, Switch, or Credit Card (Mastercard/Visa/Delta).

Notice of cancellations must be given to the Courses and Meetings Department at the Royal College of Anaesthetists, at least ten working days before the course or meeting commences, in order to qualify for a refund. All refunds are made at the discretion of the Royal College of Anaesthetists and are subject to a £25 administration fee.

Retired Fellows, continuing to subscribe to the College, are entitled to attend meetings at half price.

Accommodation

Local hotel information will be sent to you on receipt of your application.

For any further information about all the meetings and courses listed in this section, please contact:

The Training and Examination Directorate (Courses and Meetings Department)
The Royal College of Anaesthetists
48/49 Russell Square
London WC1B 4JY
switchboard 020 7813 1900
ansaphone 020 7813 1888
fax 020 7636 8280
email educ@rcoa.ac.uk
Clinical Teaching for Anaesthetists

1 October 2001 [code: A37]
Royal College of Anaesthetists, WC1

This workshop on clinical teaching for anaesthetists will explore the problems of teaching in the operating theatre. Teaching trainees one to one whilst working in theatre is the traditional basis of education in anaesthesia. Most consultants are very familiar with teaching in this way yet at the same time they are concerned as to the exact role of such teaching and also as to the best way to teach in this situation. Topics covered will include:

- Learning by apprenticeship.
- The place of clinical teaching in anaesthetic education.
- Role models and forming the habits of good practice.
- Making the best of opportunities for clinical teaching.
- Developing a personal portfolio of lessons for clinical teaching.
- Giving a structure to clinical teaching.

Helping anaesthetic trainees to learn more effectively

26 November 2001 [code: C79]
Royal College of Anaesthetists, WC1

This workshop on clinical teaching for anaesthetists is intended to explore ways in which consultants can help trainees identify and formulate their own learning needs and encourage them to use the appropriate resources to realise these needs. Topics covered will include:

- Goal setting.
- New roles for teachers.
- Principles of adult learning.
- Departmental organisation.
- Managing documentation.
- Providing effective feedback.

Assessment and Appraisal

15 April 2002 [code: C80]
Royal College of Anaesthetists, WC1

Assessment and appraisal feature prominently in the new training programme leading to a CCST in anaesthesia. Progression through various stages of training will depend upon satisfactory assessment so it is essential that trainers know how to do it correctly. This workshop will provide an introduction to assessment and appraisal. Topics covered will include:

- What is meant by assessment and appraisal.
- Appraisal in action.
- Professional portfolios.
- Assessment and professionalism.
- A practical assessment system.
- The legitimacy of assessment during training.

Small Group Teaching

20 June 2002 [code: C81]
Royal College of Anaesthetists, WC1

One to one teaching in the operating theatre and small group teaching are two of the cornerstones of training in anaesthesia. This workshop will examine the strengths and weaknesses of small group teaching and provide practical guidance for maximising the benefit of small group teaching for both trainees and Trainers. Topics covered will include:

- Background to small group teaching.
- Choosing appropriate topics.
- Dealing with different personalities.
- Acting as group leader.
- Convergent V divergent discussions.
- Seminar V free discussion.

The workshops are limited to a maximum of 36 participants, with three or four facilitators. The format will be a combination of small group work and general discussions. Delegates will have ample opportunity to exchange views and discuss different approaches to teaching.

Registration fee: £180 (including refreshments and lunch)

Please return completed application forms to the Training and Examination Directorate (Courses and Meetings Department) at the Royal College of Anaesthetists.

Each meeting is approved for CEPD purposes.
College Symposium –
Cardiopulmonary Disease
and Anaesthesia

1–2 November 2001 [code: B05]
Institution of Electrical Engineers, Savoy Place, London WC2

This year’s Symposium will include presentations on the following subjects:

- Hypertension.
- Valvular heart disease.
- The adult with congenital heart disease.
- Newer drugs/indications for cardiac patients.
- Coronary heart disease.
- The cardiothoracic patient.
- Pace-makers and temporary pacing.

A full programme for the meeting will be available in September’s edition of the Bulletin.

Registration fee: £320 or £250 for anaesthetic trainees registered with The Royal College of Anaesthetists. The registration fee includes lunch on both days of the meeting and also a reception, which will be held at the Institution of Electrical Engineers on the evening of Thursday, 1 November 2001.

Please return completed application forms to the Training and Examination Directorate (Courses and Meetings Department), The Royal College of Anaesthetists, 48/49 Russell Square, London WC1B 4JY Switchboard 020 7908 7300 ansaphone 020 7813 1888 fax 020 7636 8280 email educ@rcoa.ac.uk

This meeting is approved for CE PD purposes.

The Royal College of Anaesthetists
and the
Association of Anaesthetists of Great Britain and Ireland

Continuing Medical Education Day

3 November 2001
Institution of Electrical Engineers, London WC2

This year’s CME Day will include the following topics:

- The hour after surgery.
- Acute pain management.
- Asthma.
- Paediatric resuscitation.
- Management of head injuries.
- Anaphylaxis.
- Regional blocks and DVT prophylaxis.
- Neuromuscular blockade.
- Anaesthesia for vascular surgery.
- Airway disease.
- Stridor in a child.
- Anaesthesia and risk: informing patients.
- Fluid management.
- An anaesthetist’s guide to coagulation.
- Hypertension and pregnancy.
- Keep your patient warm.
- Day Case Anaesthesia.

Application forms for the meeting will be available in August 2001
Please complete this form in BLOCK CAPITALS using BLACK INK
This form is to be completed in conjunction with the programme for Courses and Meetings. If you wish to apply for more than one meeting, please photocopy this form and use one form per application. Please state below the name and code of the meeting. If the meeting you are applying for has additional options, such as lunch, please include these in your booking with the appropriate code. This form should be returned to: The Training and Examinations Directorate, (Courses and Meetings Department), The Royal College of Anaesthetists, 48/49 Russell Square, London WC1B 4JY switchboard 020 7813 1900 ansaphone 020 7813 1888 fax 020 7636 8280 email educ@rcoa.ac.uk

Name of meeting

Registration Fee: ** £ CODE: __________

Lunch (if applicable): £ CODE: __________

Lunch (if applicable): £ CODE: __________

Total cost: £

Surname: ______________________ Forename 1: ______________________

Forename 2: ______________________ College Reference No (if issued): ______________________

Address line 1: ______________________

line 2: ______________________

line 3: ______________________

Town/City: ______________________ Country: ______________________

Postcode: __________ This address is (tick ONE only): [ ] Temporary  [ ] Permanent

Date of birth: __________

Telephone number (including STD code): __________

Fax number (including STD code): __________

email address: ______________________

Present appointment and Hospital: ______________________

Payment can be made by Sterling cheque, made payable to The Royal College of Anaesthetists, or by credit card below:

Please charge my credit card: [ ] Visa  [ ] Delta  [ ] MasterCard  [ ] Switch  Total Remittance: ______________________

Card number: __________

Expiry date: __________ Issue No (Switch only): __________ Start date (Switch only): __________

Cardholder’s signature: ______________________ Cardholder’s name: ______________________

** Retired Fellows, paying the retired Fellows subscription rate, are permitted to attend College meetings at half-price.
What's left is the positive effect

Chirocaine has a lower potential for cardiovascular¹ and CNS² toxicity than bupivacaine

- Consists only of the S(-)-enantiomer of bupivacaine (levobupivacaine)
- Equivalent efficacy to bupivacaine when used for local infiltration and peripheral and central nerve blocks
- Proven efficacy in paediatric,¹⁰ obstetric¹⁰ and post-operative pain management
- Unlike bupivacaine, Chirocaine is also licensed for post-operative pain management¹⁴,¹⁵

¹ for ilioinguinal/iliohypogastric blocks

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Chirocaine (Levobupivacaine Hydrochloride)

Precautions, Information, Presentation: Three strengths are available: 2.5mg/ml, 5mg/ml, 10mg/ml of levobupivacaine hydrochloride. Each strength is available in 3ml pre-filled syringes in packs of 10.

Indications: Adults: Surgical anesthesia—Nervous system, epidural (including for caesarean section), interscalene, peripheral nerve block, intercostal, etc. local infiltrations, paravertebral blocks in orthopedic surgery. Pain management—Controal of skeletal muscle, single or multiple blocks as indicated for the management of pain especially post-operative pain or failure analgesics. Children: analgesic (intravenous/intrathecal block) Dose and Administration: The precise technique will depend upon the procedure and individual patient concerned. General anesthesia before and during surgery is recommended prior to intravenous injection. When a local dose is to be injected, e.g., a subcutaneous, a test dose of 3-5 ml bilateral injection (not in the same area) is recommended. No intravenous injection should be given by a patient who has evidence of allergy to choline or amines. The recommended maximum dose is 150mg. For postoperative pain management, the dose should not exceed 150mg/day. For severe postoperative action, higher doses than the 5mg/ml solution should not be used. For local anesthesia by epidural space, the dose should not exceed 25mg/ml. In children, the maximum recommended dose for poliosis (intravenous/intrathecal block) is 1.15mg/ml/kg. Contra-indications: Patients with a known hypersensitivity to local anesthetic drugs of the same type, intramuscular injection site (not to exceed 25mg/ml). Patients with severe hypertension such as cardiogenic or hypertensive shock, and on parenteral block in obstetrics. The 7.5mg/ml solution is contraindicated for obstetric use in the first trimester of pregnancy. Chirocaine is to be administered as a single dose not more than once per 24-hour period in hospital. Patients with severe hypertension such as cardiogenic or hypertensive shock, and on parenteral block in obstetrics. The 7.5mg/ml solution is contraindicated for obstetric use in the first trimester of pregnancy.

Precautions: Epidual anesthesia with or local anesthetic may cause hypotension and bradycardia. At present there is no intravenous access established. The availability of appropriate flax, vasopressors, amphetamines with cardiovascular properties, myocardial, instillation, medication and do not expect to be desired. Depression should be used with caution in patients with known cardiovascular disease e.g. pre-eclampsia, cardiac arrhythmias, and patients with lung disease or who are maintained on beta-blocker and may be anesthetics. Levobupivacaine should be used with caution in patients receiving anticoagulants with local anesthetic activity e.g. aspirin, oral anticoagulants and who may have a reduced capacity to respond to local anesthetic agents since their toxic effects may be additive. This clinical advice has been compiled to ensure safe administration in conjunction with Patient Information: This leaflet is for use by patients and health professionals. It is also available in translation in the languages of the European Union. The full prescribing information is available from the manufacturers. For more information or a copy of this leaflet please contact the manufacturer.
Is he as strong as she thinks?

51% of patients over 60, undergoing general anaesthesia in the UK, have cardiac problems

Sevoflurane does not significantly alter the heart rate

Sevoflurane Prescribing Information: Presentation: Amber glass bottle containing 500ml sevoflurane. Indications: For induction and maintenance of general anaesthesia in adult and paediatric patients for inpatient and outpatient surgery. Dose: MAC values decrease with age and the addition of nitrous oxide. Summary of Product Characteristics: Induction: In adults up to 5% sevoflurane usually produces surgical anaesthesia in less than 2 minutes; in children up to 7% sevoflurane usually produces surgical anaesthesia in less than 2 minutes. Up to 8% sevoflurane can be used for induction in unpremedicated patients. Maintenance concentrations range from 0.5-3%. Elderly: Lower concentrations normally required. Administration: Deliver via a vaporizer specifically calibrated for use with sevoflurane. Induction can be achieved and maintenance sustained in oxygen or nitrous oxide mixtures. Contraindications: Sensitivity to sevoflurane, known or suspected genetic susceptibility to malignant hyperthermia. Precautions: For use only by trained anaesthetists. Hypotension and respiratory depression increase as anaesthesia is deepened. Malignant hyperthermia. Experience with repeat exposure is very limited. Until further data are obtained, sevoflurane should be used with caution in patients with renal insufficiency. Levels of Compound A produced by direct contact with CO2 are usually lower than normal. Increase with: - increase in anesthetic concentration; decrease in gas flow rates and increase more with the use of halothane rather than isoflurane. Interactions: Potentiation of non-depolarizing muscle relaxants. Similar to enflurane in the sensitization of the myocardium to the arrhythmogenic effect of adrenaline. Lower concentrations may be required following use of an IV anaesthetic. Sevoflurane metabolism may be induced by CYP2E1 inducers, but not by barbiturates. Side-Effects: Dose-dependent cardio-respiratory depression. The type, severity and frequency of adverse events are comparable to those seen with other inhalation anaesthetics. Most adverse events are mild to moderate and transient: nausea, vomiting, increased cough, hypotension, agitation and tachypnoea. Hepatitis has been reported rarely. Conversions may occur extremely rarely, particularly in children. There have been very rare reports of pulmonary oedema. As with other anaesthetics, twitching and jerking movements, with spontaneous resolution have been reported, in children during induction. Patients should not be allowed to drive for a suitable period after sevoflurane anaesthesia. Use in Pregnancy and Lactation: Use during pregnancy only if clearly needed. It is not known whether sevoflurane is excreted in human milk - caution in nursing women. Overdose: Stop sevoflurane administration, establish a clear airway and initiate assisted or controlled ventilation with pure oxygen and maintain adequate cardiovascular function. Special Storage Conditions: Do not store above 30°C. Do not refrigerate. Keep out of the sight and reach of children. Legal Category: POM. Marketing Authorisation Number: PL 000700526. Basic NHS Price: £23.50.

Further information is available on request from Abbott Laboratories Ltd, Abbott House, Yorden Road, Maidenhead, Berkshire SL6 4HE. Ref. P3321/009.


Date of Preparation: February 2001. (AGEV200101).

Responsive and Reliable

Sevoflurane